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It's back to the drawing board on bonds in a 60/40 portfolio

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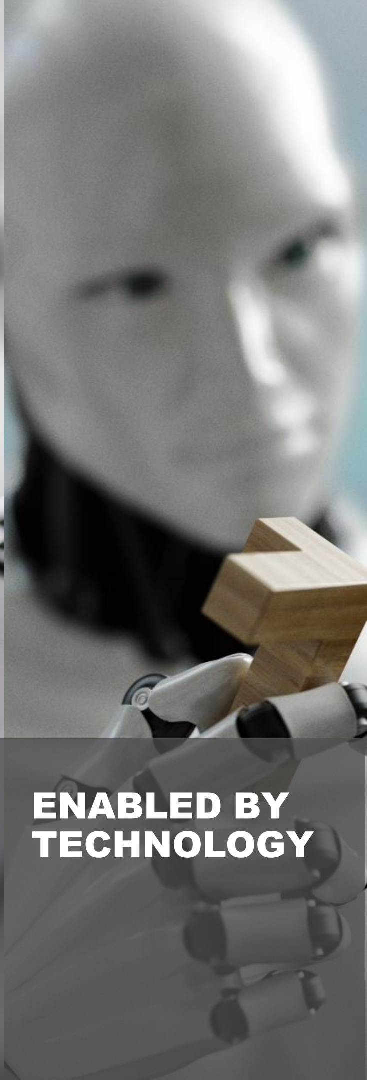
Portfolio Construction **Forum**

We are living in a low growth, high disruption world.



High Conviction Thesis

It’s back to the drawing board on bonds in a 60/40 portfolio

- Low yields are likely to persist in the foreseeable future
- The role of bonds in a traditional 60/40 balanced portfolio is challenged
- Investors need to make their equity allocation work harder and consider new diversifiers

The Problem

As of 31 December 2020

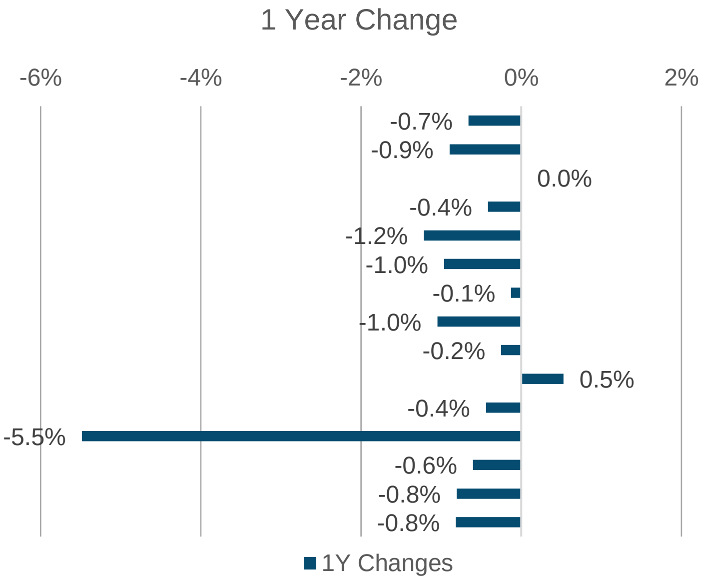
TOTAL SIZE OF NEGATIVE YIELDING DEBT MARKET VALUE IS AT A ALL TIME HIGH

Source: Analysis by T. Rowe Price using data from Bloomberg Finance L.P.

Lower Expected Returns To Be Assumed Due To Valuations And Low Yields

As of 31 December 2020

CAPITAL MARKET ASSUMPTIONS – LONG-TERM RETURNS



The information presented herein is shown for illustrative, informational purposes only. Forecasts are based on subjective estimates about market environments that may never occur. This material does not reflect the actual returns of any portfolio/strategy and does not guarantee future results. The historical returns used as a basis for this analysis are based on information gathered by T. Rowe Price and from third-party sources and have not been independently verified. The asset classes referenced in our capital market assumptions are represented by broad-based indices, which have been selected because they are well known and are easily recognizable by investors. Indices have limitations due to materially different characteristics from an actual investment portfolio in terms of security holdings, sector weightings, volatility, and asset allocation. Therefore, returns and volatility of a portfolio may differ from those of the index. Management fees, transaction costs, taxes, and potential expenses are not considered and would reduce returns. Expected returns for each asset class can be conditional on economic scenarios; in the event a particular scenario comes to pass, actual returns could be significantly higher or lower than forecast.
Source: T. Rowe Price Multi-Asset Division analysis using data from FactSet Research Systems Inc. All rights reserved.
Please see appendix for each asset class' representative benchmark.

The Challenge

Re-think your expected returns

Re-set your diversification expectations

Re-design your growth and defensive allocations

Low yields are challenging the role of bonds for their two key attributes

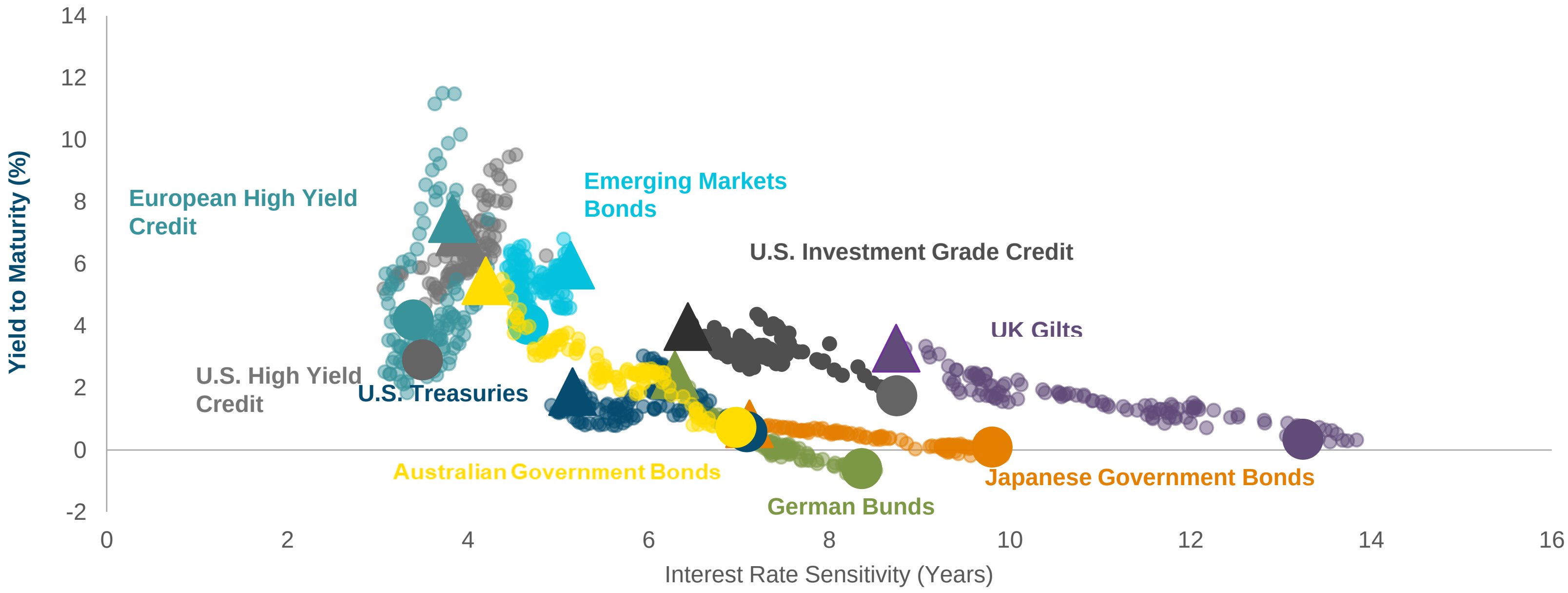
Income

Protection

Source: Analysis by T. Rowe Price.

Income Generation is Becoming More Challenging

For the Period of 31 January 2011 Through 31 December 2020



Note: Largest circle of each data series indicates most recent data point. The triangles represent the earliest data points.

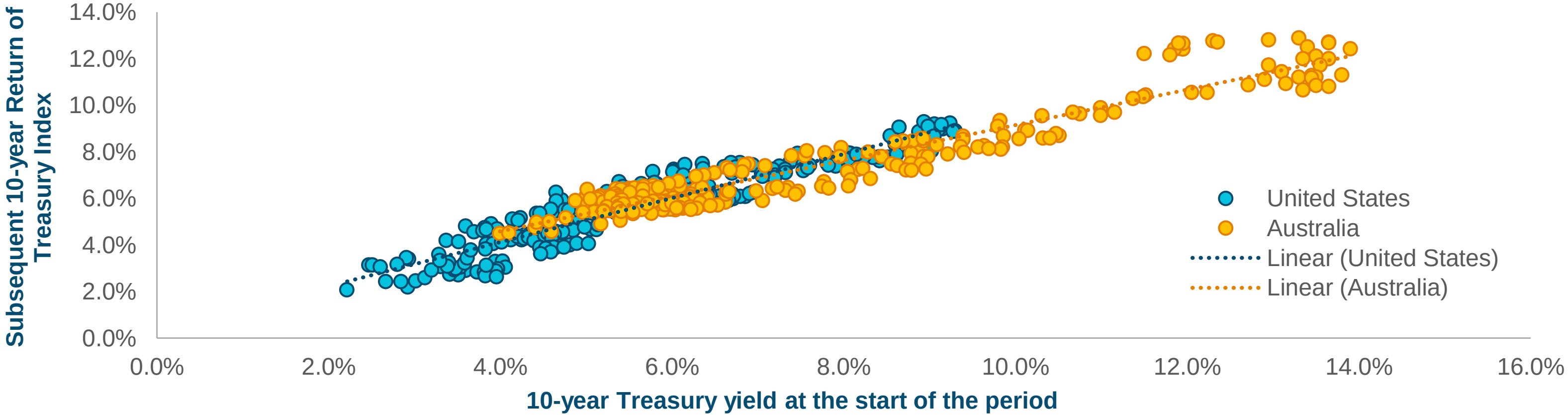
Past performance is not a reliable indicator of future performance.
Source for Bloomberg Barclays index data: Bloomberg Index Services Limited.
J.P. Morgan Chase & Co. Information has been obtained from sources believed to be reliable but J.P. Morgan does not warrant its completeness or accuracy. The index is used with permission. The Index may not be copied, used, or distributed without J.P. Morgan's prior written approval.
Analysis by T. Rowe Price.
Please see appendix for each asset class' representative benchmark.

Impact on Fixed Income Return Expectations

Data as of 31 December 2020

- The current 10-year yield level is a reasonable forecast for the future 10-year return from holding U.S. and Australian Treasuries.

10-YEAR TREASURY BOND YIELD VS. SUBSEQUENT 10-YEAR ANNUALISED TREASURY RETURN (AND INDICATIVE TREND LINE)
(Period from 03/31/1988 to 12/31/2020)

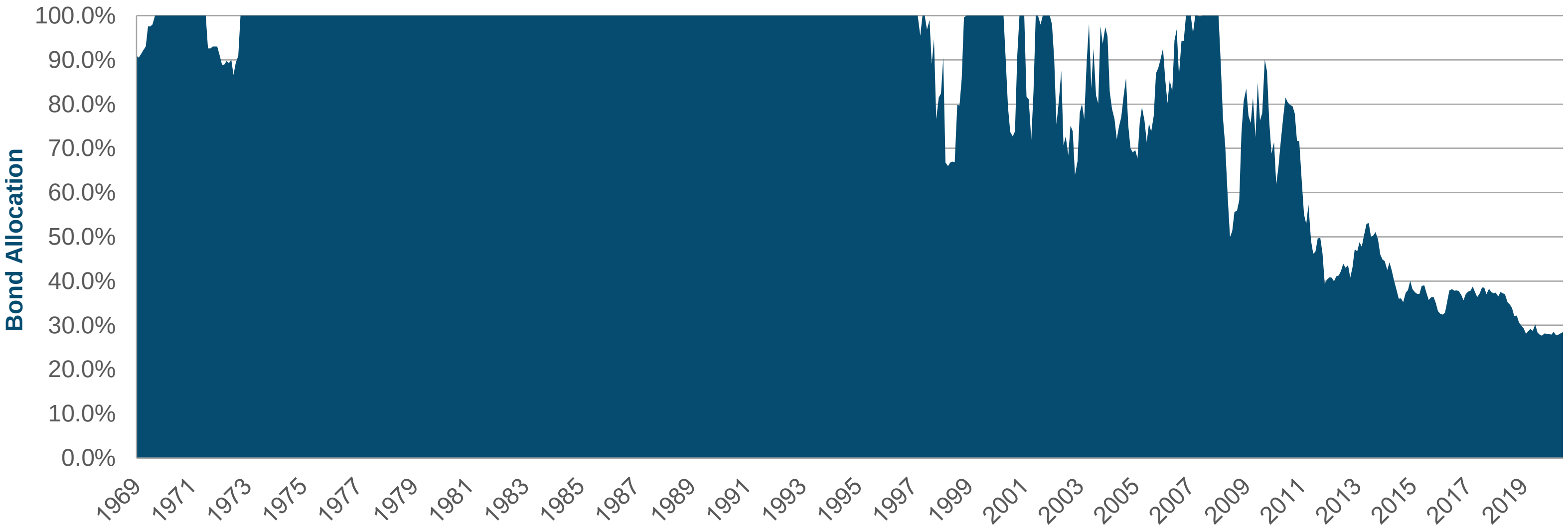


Past performance is not a reliable indicator of future performance.
Source: Analysis by T. Rowe Price using data from Bloomberg Finance L.P.
Based on month-end 10-year Treasury yields over the period 03/31/1988 through 12/31/2020 and annualized return of the US: Bloomberg Barclays US Treasury & Australian Government Bonds: Bloomberg Barclays Australian Government Bond Index over the corresponding subsequent 10-year period.

Need More Growth Assets, Less Defensive

Period 31/1/1969 through 31/12/2020.

BOND ALLOCATION REQUIRED TO ACHIEVE 6% PORTFOLIO RETURN, ASSUMING AN 8% RETURN ON EQUITY



Source: Analysis by T. Rowe Price using data from Bloomberg Finance L.P.
Analysis: Assuming future bond return at the yield level at that time and the expected equity return at 8% in line with long term equilibrium models, we need to reallocate more capital from bonds to equities to achieve the 6% return target. Today, one would need to allocate 28% to bonds and 72% to growth assets in order to achieve their nominal return target.
The hypothetical information presented is shown for illustrative, informational purposes only. This material does not reflect the actual returns/allocations of any portfolio and is not a reliable indicator of future results.
The historical yields used as part of the basis for this analysis are based on the end-month 10-year Australian Treasury yield. Management fees, transaction costs, taxes, and potential expenses are not considered and would reduce returns. Actual investment results and future required returns may differ significantly. Changing the assumptions may yield different results. The equity returns used as part of the basis for this analysis are based on historical long-term average returns (See Journal of Financial Markets, June 1998.)

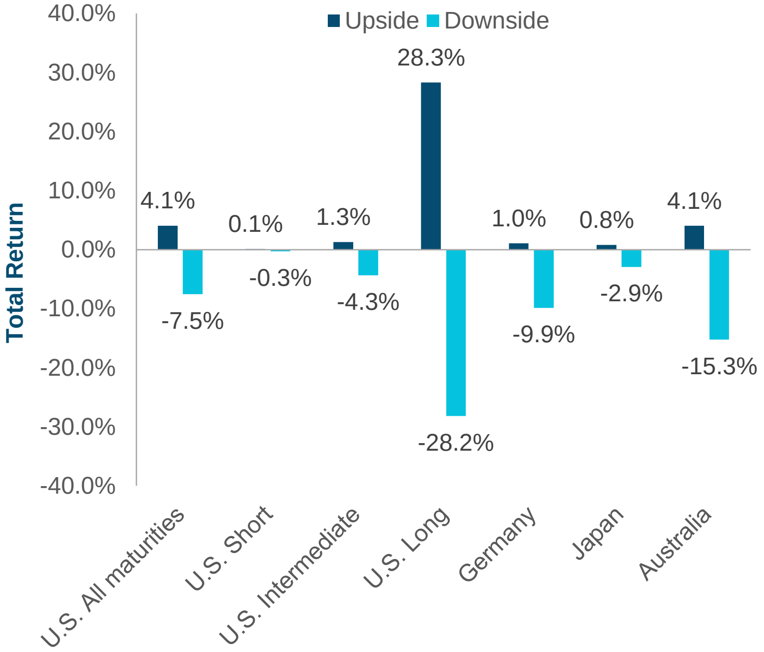
Asymmetric Return Profile for Government Bonds

As of 31 December 2020

The expected return of bond indices can be derived from their duration and yield levels

A simulated scenario of upside and downside returns for government bond shows an asymmetric return profile

Only long maturity government bonds still offer upside potential at times of crisis.



Source: Analysis by T. Rowe Price. Data from Bloomberg. As of Dec 31, 2020. We use the Bloomberg Barclays Government Bond index for each respective country and maturity. **U.S. All Maturities:** Bloomberg Barclays U.S. Treasury Bond Index , **U.S. Short:** Bloomberg Barclays U.S. 1-3 Year Treasury Bond Index, **U.S. Intermediate:** Bloomberg Barclays U.S. Intermediate Treasury Bond Index, **U.S. Long:** Bloomberg Barclays U.S. Long Treasury Bond Index, **Germany:** Bloomberg Barclays Euro Aggregate Treasury Germany Total Return Index, **Japan:** Bloomberg Barclays Asian-Pacific Japan Treasury Index, and **Australia:** Bloomberg Barclays Australia Government-related Index.

We simulate an upside and downside scenario for government bond returns. In the upside scenario, we expect current yields to go to the lowest between zero and their lowest level achieved over the period from January 2010 through December 2019. In the downside scenario, we assume current yields revert to their average levels over the same period.

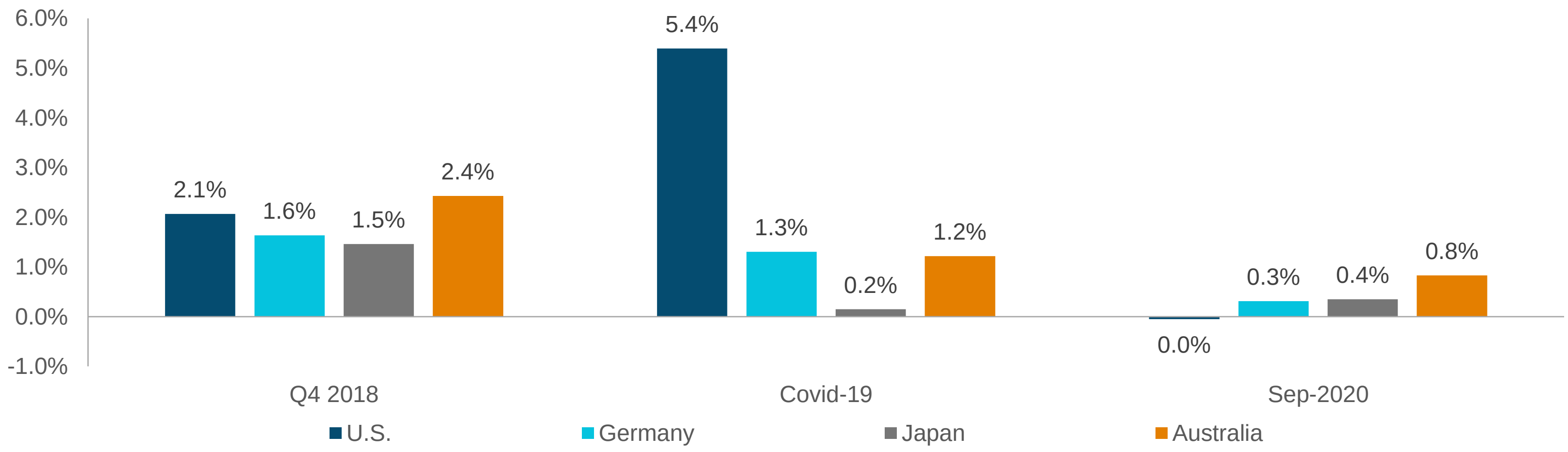
The information presented is hypothetical in nature and is shown for illustrative, informational purposes only. Actual results experienced may vary significantly from the hypothetical illustrations shown.

Recent Stress Periods Confirm The Lack Of Diversification

Data as of 30 September 2020

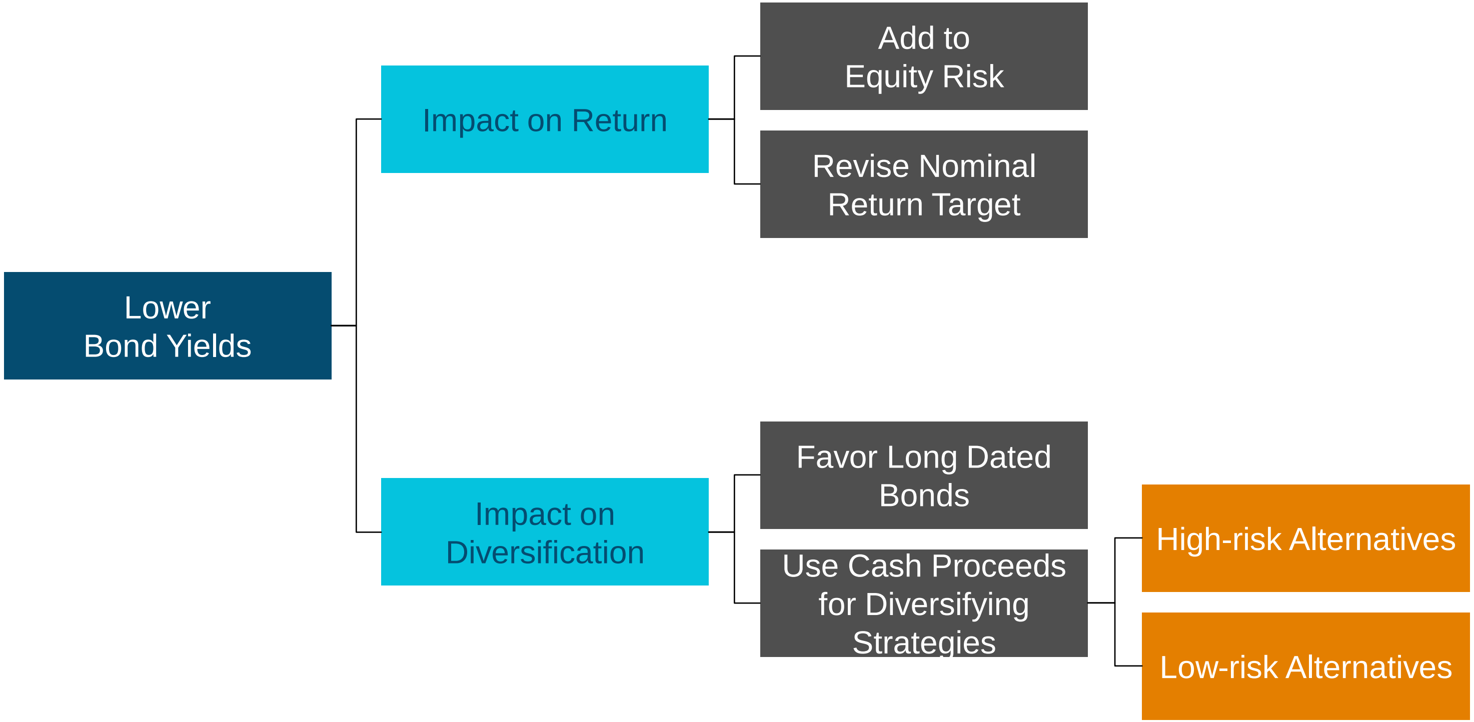
While low yields might be new to investors in the U.S. and Australia, it has been the norm for investors in Germany and Japan. Their modest return in recent crisis indicates what to expect going forward for Australian investors.

GOVERNMENT BOND PERFORMANCE DURING STRESS PERIODS



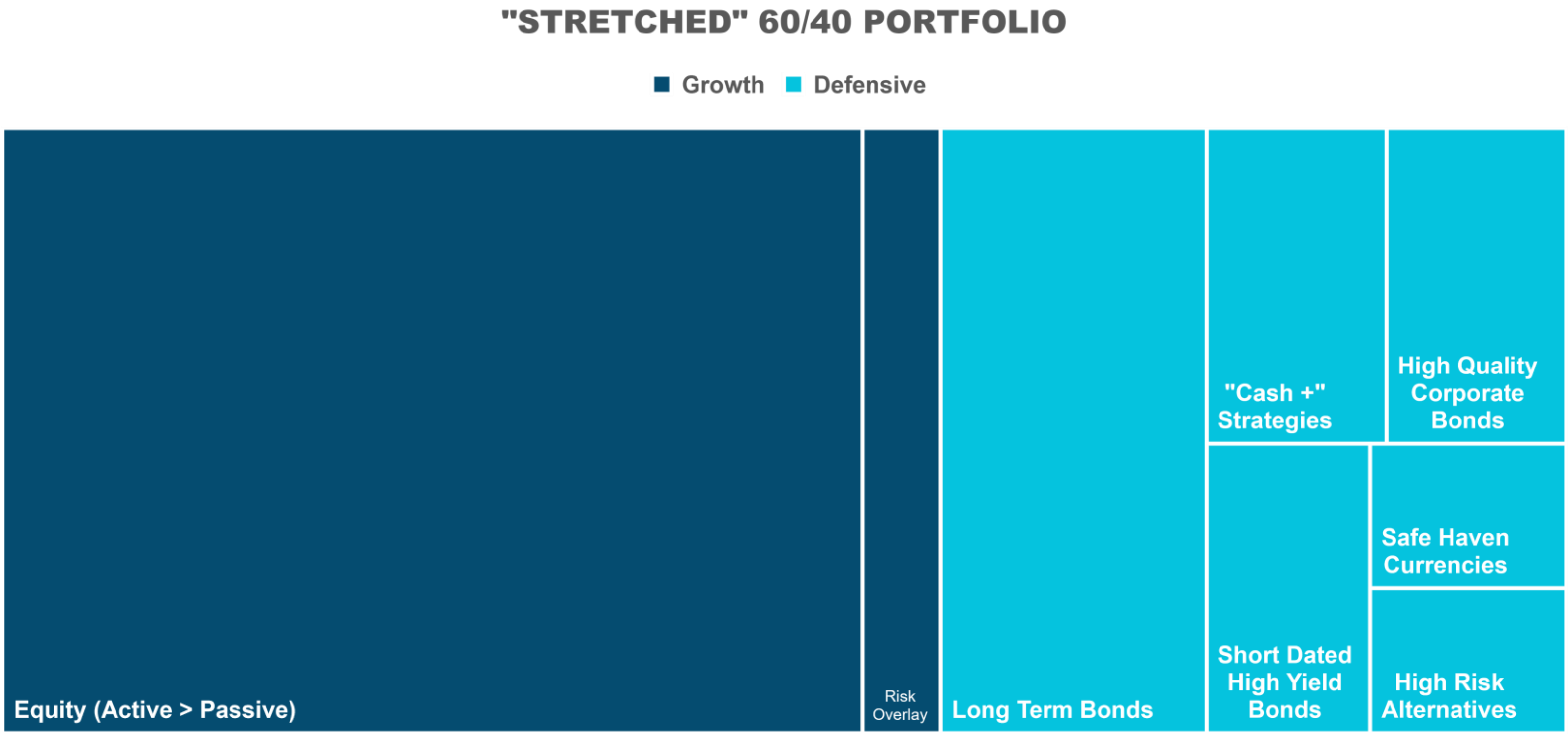
Past performance is not a reliable indicator of future performance.
Source: US: Bloomberg Barclays U.S. Treasury Index, Germany: Bloomberg Barclays Germany Government All Bonds Index, Japan: Bloomberg Barclays Japan Government Float Adjusted Bond Index, Australia: Bloomberg AusBond Treasury 0+ Yr Index. Periods are defined as follows: Q4 2018 is from 10/1/2018 through 12/27/2018 (market bottom). Covid-19 is from 2/19/2020 through 3/18/2020, Sep-2020 is from 09/02/2020 through 09/24/2020. Data analysis by T. Rowe Price.

The New Roadmap For Asset Allocators



Analysis by T. Rowe Price.
For illustrative purpose only. This is not intended to be investment advice or a recommendation to take any particular investment action.

Alternative 60/40 Portfolio Design



Source: Analysis by T. Rowe Price using data from Bloomberg Finance L.P.
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Conclusions

Re-think your expected returns

Re-set your diversification expectations

Re-design your growth and defensive allocations

Source: Analysis by T. Rowe Price.

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Homework

It's back to the drawing board on bonds in a 60/40 portfolio

- Read Thomas Poullaouec's paper "Role of Bonds in a 60/40 Portfolio".
- Read the book by "Beyond Diversification" by Sebastien Page, Head of Global Multi-Asset, T. Rowe Price. (10 copies to give away – See Jonathon Ross)
- Listen to Sebastien Page on Barry Ritholtz's podcast *Masters in Business* on Apple or Bloomberg
- Read "Three critical questions facing fixed income investors in 2021" by Arif Husain, Head of International Fixed Income, T. Rowe Price.

Asset Class Benchmark Representations

ASSET CLASS	ASSET CLASS REPRESENTATIVE BENCHMARK
Global Equity	MSCI ACWI
Australian Equity	S&P/ASX 200
EM Equity	MSCI Emerging Markets
Real Asset Equity	S&P Real Assets Index
Global Agg (Hdg)	Bloomberg Barclays Global Aggregate (AUD Hdg)
Global IG Corporate (Hdg)	Bloomberg Barclays Global-Aggregate Corporate (AUD Hdg)
Global High Yield	Bloomberg Barclays Corporate High Yield
Australian Cash	Bloomberg Ausbond Bank Bill
Australian Bond	Bloomberg Ausbond 0+ Composite
EM Sovereign Local	JP Morgan GBI – EM Global Diversified
EM Corporate	JP Morgan CEMBI Broad Diversified IR
Gold	S&P GSCI Gold Total Return
Hedge Funds	HRFX Global Hedge Fund
Private Equity	Cambridge Associates LLC Global Private Equity
US Treasuries	Bloomberg Barclays US Treasury
German Bunds	Bloomberg Barclays Euro-Aggregate Treasury Germany TR Index Value Unhedged EUR
Japan Government Bonds	Bloomberg Barclays Asian-Pacific Japan Treasury Total Return Index Value Unhedged JPY
UK Gilts	Bloomberg Barclays Sterling Gilts Total Return Index Value Unhedged GBP
US Investment Grade Credit	Bloomberg Barclays U.S. Corporate Investment Grade (USD) TR Index Unhedged USD
US High Yield Credit	Bloomberg Barclays US Corporate High Yield Total Return Index Value Unhedged USD
European High Yield Credit	Bloomberg Barclays Pan-European High Yield (Euro) TR Index Hedged USD
Emerging Market Global Diversified Bonds	JP Morgan GBI-EM Global DivTraded Index Modified Duration
Australian Government Bonds	Bloomberg Barclays Australian Government Bond Index

Additional Disclosures

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