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Journal of Investment Research

The Case for Global Asset Allocation

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Schwab believes in the merits of a globally diversified portfolio. We think asset allocation needs to evolve beyond U.S. stocks, bonds, and cash investments to include broader diversification across the globe and the inclusion of certain non-traditional asset classes. We believe that broad diversification across an array of global asset classes can help manage risk in client portfolios and provide a broader set of investment opportunities.

Investors often exhibit a *home-country bias*. We tend to invest in things that are comfortable and familiar. While this is human nature, it limits the opportunity set and may not be prudent given the nature of today's global markets. According to MSCI data, roughly one-half of all global companies are based outside of the U.S., which corresponds to global gross domestic product (GDP) ratios. Do you really want to limit your investment opportunities by one-half? How can we overcome this home-country bias?

In this paper

We will discuss why global asset allocation still makes sense and make the case for allocating to non-U.S. markets. Specifically, we will cover the following:

- Is Modern Portfolio Theory still relevant?
- What are the new market realities?
- How should investors respond to the new market realities?
- What is the case for allocating globally?

Revisiting Modern Portfolio Theory

The difference that a globally diversified portfolio can deliver beyond the sum of its parts is what Nobel Prize–winning economist Harry Markowitz once called “the only free lunch in investing.” In other words, diversification can deliver benefits over time at no additional cost.

The “free lunch” is made possible by the fact that individual asset classes typically aren’t perfectly correlated. If asset values do not move in perfect harmony, a diversified portfolio will have less risk than the weighted average risk of its constituent parts. Markowitz first introduced the concept of diversification in 1952. Markowitz’s work, which served as the foundation of Modern Portfolio Theory (MPT), concluded that an investor could reduce the overall risk of a portfolio by including investments that have low correlations to one another[1].

The markets have changed a great deal since Markowitz’s original work, however. We live in a more complex world with both an expanded number of asset classes and markets that are more intertwined than at any time in our history. Therefore, we believe that diversification needs to expand beyond merely allocating to U.S. stocks, bonds, and cash investments.

Unfortunately, as we’ve experienced increasing bouts of volatility around the globe, correlations have been rising over the last several years. We believe in diversification across equities and fixed income—as well as the inclusion of certain non-traditional asset classes—can help buffer volatility. Equity allocations should include domestic large- and small cap, and international and emerging markets, among others. Fixed income investments should be diversified across Treasuries, corporates, high yield, international and emerging markets debt among others.

As we examine the role of asset allocation in investors’ portfolios today, it’s important to understand that even during periods of market stress, when correlations tend to increase, diversification still provides benefits as long as assets don’t move in perfect lockstep. It’s important to recognize that asset allocation strategies can be dynamic—both in choosing which asset classes to include and in making tactical adjustments to reflect short- or long-term changes in the market or macroeconomic environment.

[1] Markowitz, Harry, “Portfolio Selection,” *Journal of Finance*, March 1952

New market realities

While we often look to history as a guide for the markets, we need to also be aware that markets evolve and certain factors change over time. We believe the next 20 years will likely be very different from the past 20 years. There are new market realities that we believe will persist for the foreseeable future:

- Globalization
- Increased bouts of volatility
- Lower bond yields
- Lower expected equity returns

The financial markets are more interconnected today than ever before. Nearly half the revenues of U.S. companies in the Standard & Poor’s 500® (S&P 500) Index come from international operations and more than half the world’s market capitalization now lies outside the United States. Those who don’t invest globally are significantly narrowing their opportunities and ignoring an important tool to help manage volatility.

While some investors assume that owning large multinationals is sufficient diversification, the data shows that the country of domicile matters. Apple performs like the S&P 500 because of its substantial impact: it is the largest holding in the index and has bellwether status. Country indexes are often dominated by individual sectors: for example, energy in Canada, financials in Japan, and technology in the U.S. To capture the dynamics within a country, you need diversification across sectors.

Globalization impacts opportunities and risks across the globe. One major repercussion of global interconnectivity is that markets are impacted by more external shocks. Major market-moving shocks have increased in number and intensity in recent years. Events like global central-bank intervention, the Brexit vote, China’s slowing economic growth, and the U.S. elections, can affect global markets.

Another factor contributing to this dynamic is the speed at which information spreads within and across markets. Investors now have access to information once available only to large institutional investors, but they have less time to digest and respond appropriately. Hedge

funds and high-frequency traders can often react to news immediately, creating large swings in individual stocks and market segments. This tendency to act quickly on breaking news contributes to market volatility during times of crisis or general unease.

Bond yields, both here and abroad, have remained at generational low levels since the 2008 financial crisis. While the Federal Reserve (Fed) raised rates in 2015, 2016, and 2017, rates remain significantly below historical norms, and the Fed has made it clear that it would like to keep rates "lower for longer." This has caused investors to seek alternative sources of income, including investments like high yield bonds, preferred securities, master limited partnerships (MLPs), and real estate investment trusts (REITs). These investments introduce additional risks.

Because of historically low interest rates, it's unlikely that equity returns will move toward their long-term historical averages. Expected equity returns (ER) can be derived by taking the risk-free rate (T-bills) plus inflation, dividends, and price earnings' (P/E) multiple expansion [ER = RF + I + D + P/E]. Based on this simple formula, equity returns are likely to be below their long-term historical averages.

Responding to the new market realities

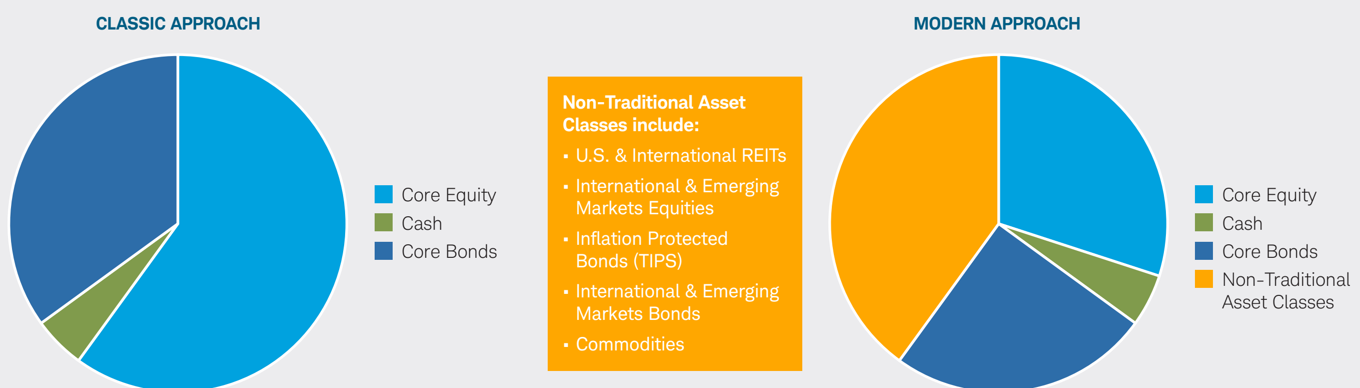
Merely extrapolating from the long-term historical results of stocks and bonds will be insufficient for asset allocation models going forward. We think stock market returns and bond yields are likely to remain below their historical averages for the next several years. Investors will need to look at other return opportunities and income streams.

We believe that broader diversification helps in responding to these new market realities. Diversification beyond core equity and fixed income holdings offers both risk reduction and the opportunity to participate in growing market segments. There is also merit to including non-traditional investments, such as—oil, precious metals, timber, and real estate, for example. Lastly, we believe in the value of incorporating a dynamic tactical asset allocation approach as a means of responding to the rapidly changing market environment—making subtle adjustments at the margin.

We believe that advisors need to respond to these new market realities in order to help their clients achieve their goals and aspirations. Advisors will need to identify alternative sources of return and income, while balancing the risks in the overall portfolio. Advisors will need to likely introduce a broader set of asset classes.

Given the anticipated lower-than-expected equity returns and lower bond yields, the classic 60/40 portfolio (60% S&P 500 Index/40% Barclays U.S. Aggregate Bond Index) will need to evolve. By expanding the number of asset classes, including certain non-traditional asset classes, advisors can provide diversification that will help mitigate risk and provide opportunities for increased return and income.

Exhibit 1
A Modern Approach to Strategic Asset Allocation



Source: Schwab Center for Financial Research. For illustrative purposes only.

While broader diversification can deliver many benefits, certain asset classes may be intimidating to investors, who naturally tend to gravitate to familiar investments such as U.S. stocks and bonds. Investments in emerging markets, high-yield bonds, and commodities may seem too risky when considered individually; but when combined in a diversified portfolio, they can actually help manage risk and provide enhanced return and income potential.

One way to address investors' concerns about some of these asset classes is to focus on the role of these investments in the overall portfolio.

Growth will come primarily from equities—large and small company stocks, developed and emerging markets, and even investments such as fundamental indexing, which is a form of smart beta.

Growth & Income will come from dividend-paying stocks, MLPs, and REITs.

Income will come mainly from fixed income allocations—corporate, treasuries, high-yield bonds, and emerging markets.

Inflation hedging will be provided by TIPS, REITs, and certain commodities.

Defensive assets, such as cash and gold, can help dampen volatility.

Some of these investments will serve multiple roles in the portfolio, but presenting them in terms of *what they are solving for* may make them easier for investors to understand. By approaching asset classes this way, investors and advisors can better evaluate their effectiveness.

Exhibit 2
Each asset class has a specific role in the portfolio

Growth	U.S. Large Company Stocks	U.S. Small Company Stocks	International Developed Large Company Stocks	International Developed Small Company Stocks	Fundamental Indexing	Emerging Market Stocks
Growth & Income	U.S. Large Company Stocks (High Dividend)		International Developed Large Company Stocks (High Dividend)		Master Limited Partnerships	U.S. & International REITs
Income	U.S. Investment Grade Corporate Bonds	U.S. Corporate High Yield Bonds	U.S. Securitized Bonds	International Emerging Markets Bonds	Preferred Stocks	Bank Loans & Other Floating Rate Notes
Inflation	U.S. Inflation Protected Bonds (TIPS)	U.S. REITs	International REITs	Energy	Industrial Metals	Agriculture
Defensive	Cash	Gold & Other Precious Metals	Treasuries	International Developed Country Bonds	U.S. Government Related Bonds	

Source: Schwab Center for Financial Research. For illustrative purposes only.

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Why allocate globally?

It is no longer prudent to allocate to a traditional 60/40 portfolio and then "set it and forget it." We must be more intelligent in allocating capital and able to respond when appropriate. The following chart shows the historical returns of a globally diversified portfolio compared with a 60/40 portfolio and the S&P 500 alone.

The diversified portfolio achieved substantially better results over the same time period, not because of the higher expected returns, but due to the broader diversification, which helped buffer two tumultuous events: the Tech Wreck and the Great Recession.

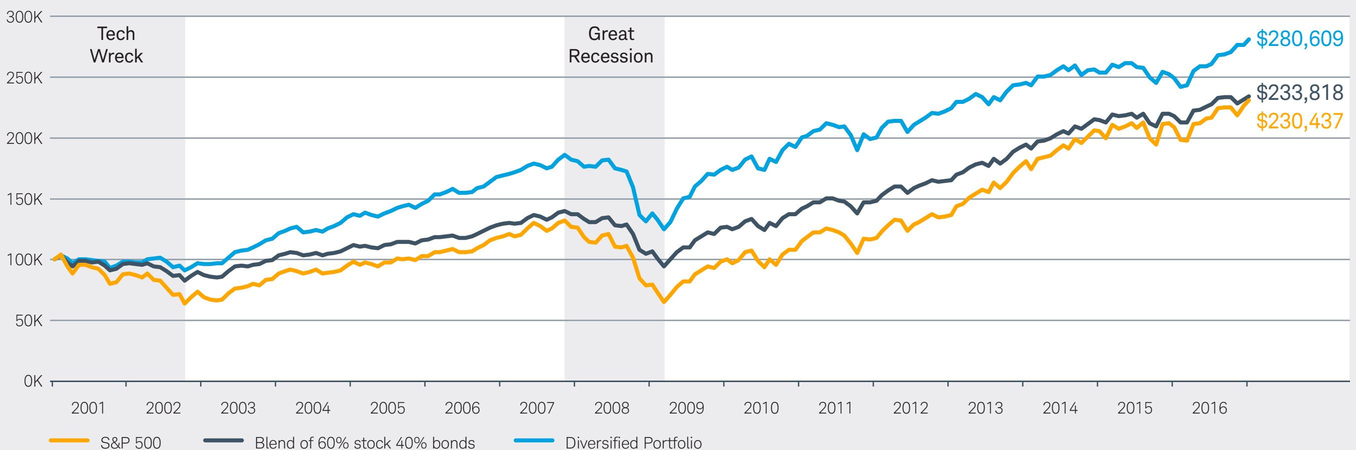
Diversification strategies do not guarantee capturing of profits or protection against losses in any market environment, but they have shown to provide a "smoother ride" over time. Rather than bearing the brunt of the Tech Wreck and the Great Recession, the diversified portfolio helped cushion the market drops, was able recoup its losses, and grew over time.

As mentioned earlier, because the markets are dynamic, we believe in the value of tactical asset allocation; that is, making subtle shifts in long-term strategic allocation to respond to changing market conditions. Investors shouldn't drive using the rearview mirror; but rather, they need to establish a long-term strategic allocation based on current Capital Market Expectations (CMEs) and a disciplined approach for incorporating forward-looking views of the financial markets. These tactical shifts can exploit investment opportunities in undervalued segments of the market and may help insulate portfolios from dramatic losses.

International and emerging markets are at different stages of economic development and growth, thus providing opportunities to achieve growth and diversification benefits. According to the International Monetary Fund (IMF), U.S. economic growth projections for 2017 will lag the developed and emerging markets by a healthy margin (2.5% vs. 4.6%). The economies of China and India are projected to grow 6.2% and

Exhibit 3
A diversified portfolio has helped reduce volatility and improve returns over time

JANUARY 1, 2001 - DECEMBER 31, 2016



Source: Schwab Center for Financial Research with data provided by Morningstar Direct. Data as of December 31, 2016. This chart represents a hypothetical investment and is for illustrative purposes only. Diversification strategies do not ensure a profit and do not protect against losses in declining markets. Data is from January 1, 2001 - December 31, 2016. Please see disclosures on page 10 for more information about the market indexes used for the Diversified Portfolio. The 60/40 Portfolio is consisting of 60% S&P 500, and 40% Barclays US Aggregate. Including fees and expenses in the Diversified portfolio would lower returns. The portfolio is rebalanced annually. Returns include reinvestment of dividends, interest, and capital gains. Indexes are unmanaged, do not incur fees or expenses, and cannot be invested in directly. **Past performance is no indication of future results.**

Exhibit 5
Sample Modern Portfolio

Equities	**61%**
U.S. Large Cap	18%
U.S. Small Cap	10%
U.S. Exchange-Traded REITs	3%
International Large Cap	12%
International Small Cap	8%
Emerging Markets	8%
International Exchange-Traded REITs	2%
Fixed Income	**29%**
U.S. Treasuries	1%
U.S. Government-Related	1%
U.S. Securitized Bonds	6%
U.S. Investment Grade Corporate Bonds	2%
U.S. Corporate High Yield Bonds	9%
International Developed Country Bonds	4%
Commodities	**5%**
Gold & Other Precious Metals	2%
Energy	1%
Industrial Metals	1%
Agriculture	1%
Cash Investments	**5%**

Source: Schwab Center for Financial Research. For illustrative purposes only. Not representative of any specific investment or account.

7.4%, respectively. The Eurozone is projected to trail U.S. economic growth largely based on the potential impact of the Brexit vote, with a 1.4% growth rate, but individual companies and markets may provide better opportunities. According to FactSet (as of August 30, 2016), the expected earnings growth rate for the U.S. is 20%; for the Eurozone, 22%; and for Japan, 18%.

The sample modern portfolio above provides a long-term strategic allocation across multiple market segments. It is designed to respond to the new market realities through broader diversification and allocations to asset classes that have historically delivered lower correlations and/or higher return potential.

We recognize that, in certain market environments, a global asset-allocation approach can be challenging. However, it's important to revisit the merits of global diversification over longer intervals.

The following chart (Exhibit 6) helps to illustrate the value of global diversification. It shows the natural rotation of the best- and worst-performing asset classes on a year-over-year basis. U.S. large caps (S&P 500) performed near the top from 2013 to 2016 and emerging markets were near the bottom. In 2016, we began to see a rotation, with emerging markets delivering strong results. Due to the recent performance of U.S. large caps, valuations are getting stretched, and international and emerging markets' underperformance may reverse course yet again.

Asset classes such as emerging markets often have been close to the best- or worst-performing asset class. Investors could have benefited from exposure to emerging markets in the best performing years, but likely would be uncomfortable with a large allocation to this volatile asset class.

The diversified portfolio owns a portion of all of the ranked asset classes, consequently eliminating the peaks and valleys associated with owning individual asset classes. The returns of the diversified portfolio are typically in the middle of the pack, which is associated with lower risk and, thus, a smoother ride. The reality is no one has a crystal ball and can accurately predict the best-performing market on a year-over-year basis, it is best to be prudent by having investments across multiple market segments.

For those with the foresight, you can tactically overweight or underweight segments of the market depending upon the prevailing market conditions. This isn't to suggest that you can be successful "timing the market," but rather providing value by making subtle shifts to take advantage of undervalued segments of the market or by avoiding expensive and/or risky segments of the market.

Exhibit 6
Schwab Asset Class Quilt™

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Annualized return	Standard deviation
EM 34.0%	REITs 39.3%	EM 39.4%	Core Bonds 5.2%	EM 78.5%	U.S. Sm Cap 26.9%	TIPS 13.6%	REITs 24.1%	U.S. Sm Cap 38.8%	REITs 22.7%	U.S. Lg Cap 1.4%	U.S. Sm Cap 21.3%	U.S. Sm Cap 7.5%	Comm. 23.6%
Comm. 25.6%	EM 32.1%	Comm. 32.7%	Int’l Dev Bonds 4.4%	High Yield Bonds 63.5%	REITs 24.6%	Core Bonds 7.8%	EM 18.2%	U.S. Lg Cap 32.4%	U.S. Lg Cap 13.7%	EM Bonds 1.3%	High Yield Bonds 16.6%	U.S. Lg Cap 7.5%	EM 22.8%
Int’l Dev 13.5%	Int’l Dev 26.3%	TIPS 11.6%	T-bills 1.8%	EM Bonds 34.2%	EM 18.9%	EM Bonds 7.0%	EM Bonds 17.9%	Int’l Dev 22.8%	Core Bonds 6.0%	REITs 0.6%	U.S. Lg Cap 12.0%	EM Bonds 7.4%	REITs 20.1%
EM Bonds 12.3%	U.S. Sm Cap 18.4%	Int’l Dev 11.2%	TIPS -2.4%	REITs 34.0%	Diversified Portfolio 15.4%	High Yield Bonds 6.1%	Int’l Dev 17.3%	Diversified Portfolio 12.9%	U.S. Sm Cap 4.9%	Core Bonds 0.5%	Comm. 11.4%	High Yield Bonds 7.3%	U.S. Sm Cap 19.2%
Diversified Portfolio 10.3%	Diversified Portfolio 17.4%	Int’l Dev Bonds 11.0%	EM Bonds -14.7%	Diversified Portfolio 33.0%	High Yield Bonds 15.1%	Int’l Dev Bonds 4.4%	U.S. Sm Cap 16.3%	High Yield Bonds 6.6%	EM Bonds 4.8%	T-bills 0.0%	EM 11.2%	REITs 6.7%	Int’l Dev 17.5%
REITs 10.1%	U.S. Lg Cap 15.8%	Diversified Portfolio 7.7%	High Yield Bonds -28.4%	Int’l Dev 31.8%	U.S. Lg Cap 15.1%	U.S. Lg Cap 2.1%	U.S. Lg Cap 16.0%	REITs 2.8%	TIPS 3.6%	Int’l Dev -0.8%	EM Bonds 9.9%	EM 6.5%	U.S. Lg Cap 14.2%
U.S. Lg Cap 4.9%	High Yield Bonds 12.0%	Core Bonds 7.0%	Diversified Portfolio -30.8%	U.S. Sm Cap 27.2%	EM Bonds 12.8%	REITs 1.8%	High Yield Bonds 15.4%	T-bills 0.1%	Diversified Portfolio 3.0%	TIPS -1.4%	Diversified Portfolio 9.0%	Diversified Portfolio 6.2%	Diversified Portfolio 12.0%
U.S. Sm Cap 4.6%	EM Bonds 10.0%	U.S. Lg Cap 5.5%	U.S. Sm Cap -33.8%	U.S. Lg Cap 26.5%	Comm. 9.0%	T-bills 0.1%	Diversified Portfolio 14.%	Comm. -1.2%	High Yield Bonds 2.1%	Diversified Portfolio -2.2%	REITs 6.8%	Core Bonds 4.2%	High Yield Bonds 11.7%
High Yield Bonds 3.1%	Int’l Dev Bonds 8.2%	EM Bonds 5.2%	U.S. Lg Cap -37.0%	Comm. 13.5%	Int’l Dev 7.8%	Comm. -1.2%	TIPS 7.0%	Core Bonds -2.0%	T-bills 0.0%	U.S. Sm Cap -4.4%	TIPS 4.7%	TIPS 3.9%	EM Bonds 9.1%
T-bills 3.0%	T-bills 4.8%	T-bills 4.7%	Int’l Dev -43.4%	TIPS 11.4%	Core Bonds 6.5%	Diversified Portfolio -2.5%	Core Bonds 4.2%	EM -2.6%	EM -2.2%	High Yield Bonds -5.3%	Core Bonds 2.6%	Int’l Dev 3.7%	Int’l Dev Bonds 8.1%
TIPS 2.8%	Core Bonds 4.3%	High Yield Bonds 2.1%	REITs -43.4%	Int’l Dev Bonds 7.5%	TIPS 6.3%	U.S. Sm Cap -4.2%	Int’l Dev Bonds 4.1%	Int’l Dev Bonds -3.1%	Int’l Dev Bonds -3.1%	Int’l Dev Bonds -6.0%	Int’l Dev Bonds 1.5%	Int’l Dev Bonds 1.9%	TIPS 6.0%
Core Bonds 2.4%	TIPS 0.4%	U.S. Sm Cap -1.6%	Comm. -46.5%	Core Bonds 5.9%	Int’l Dev Bonds 4.9%	Int’l Dev -12.1%	Comm. 0.1%	EM Bonds -4.1%	Int’l Dev -4.9%	EM -14.9%	Int’l Dev 1.0%	T-bills 1.2%	Core Bonds 3.2%
Int’l Dev Bonds -8.6%	Comm. -15.1%	REITs -12.2	EM -53.3%	T-bills 0.2%	T-bills 0.1%	EM -18.4%	T-bills 0.1%	TIPS -8.6%	Comm. -33.1%	Comm. -32.9%	T-bills 0.3%	Comm. -6.3%	T-bills 0.5%

Source: Schwab Center for Financial Research. This chart represents a hypothetical investment and is for illustrative purposes only. Please see disclosures on page 10 for more information about the market indexes used for the asset classes and the Diversified Portfolio. Including fees and expenses in the Diversified Portfolio would lower returns. The portfolio is rebalanced annually. Returns include reinvestment of dividends, interest, and capital gains. Indexes are unmanaged, do not incur fees or expenses, and cannot be invested in directly. **Past performance is not a guarantee of future results.**

Exhibit 7
Schwab Asset Class Quilt™

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Emerging Markets 34.54%	Spain 50.17%	Emerging Markets 39.82%	Japan -29.11%	Emerging Markets 79.02%	Nordic Countries 26.04%	United States 1.99%	Germany 32.10%	United States 32.61%	United States 13.36%	Japan 9.90%	Canada 25.49%
Canada 28.86%	Nordic Countries 40.41%	Germany 35.93%	Switzerland -29.90%	Australia 76.77%	Canada 21.21%	United Kingdom -2.52%	Nordic Countries 23.38%	Germany 32.40%	World 4.71%	Nordic Countries 3.01%	Australia 11.67%
Japan 25.63%	Germany 36.79%	Canada 30.24%	United States -37.14%	Canada 57.36%	Emerging Markets 19.20%	Switzerland -6.05%	France 22.82%	Spain 32.30%	Canada 2.22%	United States 1.32%	United States 11.61%
Australia 17.54%	France 35.42%	Australia 29.79%	Spain -40.06%	Nordic Countries 48.53%	Japan 15.59%	World -6.86%	Australia 22.30%	France 27.66%	Switzerland 0.66%	Switzerland 1.20%	Emerging Markets 11.60%
Switzerland 17.13%	Emerging Markets 32.55%	Spain 24.69%	World -41.85%	Spain 45.07%	United States 15.45%	Australia -10.79%	Switzerland 21.47%	Switzerland 27.56%	Emerging Markets -1.82%	France 0.78%	World 8.48%
Nordic Countries 16.67%	Australia 32.51%	Nordic Countries 22.22%	France -42.71%	United Kingdom 43.37%	Australia 14.73%	Spain -11.16%	Emerging Markets 18.63%	Japan 27.35%	Australia -3.24%	Germany -1.27%	France 6.02%
World 11.37%	United Kingdom 30.66%	France 14.03%	Canada -45.15%	World 35.41%	World 13.21%	Canada -12.16%	World 16.80%	Nordic Countries 26.46%	Japan -3.72%	World -1.84%	Germany 3.50%
France 10.59%	Switzerland 28.23%	World 12.18%	Germany -45.50%	France 33.26%	Switzerland 12.86%	Japan -14.19%	United States 16.13%	World 23.44%	Spain -4.35%	United Kingdom -7.51%	Japan 2.73%
Germany 10.52%	World 21.53%	United Kingdom 8.39%	United Kingdom -48.32%	United States 27.14%	Germany 9.32%	France -16.00%	United Kingdom 15.30%	United Kingdom 20.71%	Nordic Countries -4.75%	Australia -9.77%	United Kingdom -0.04%
United Kingdom 7.38%	Canada 18.35%	Switzerland 6.06%	Australia -49.96%	Switzerland 26.61%	United Kingdom 8.80%	Nordic Countries -17.11%	Canada 9.90%	Canada 6.44%	United Kingdom -5.35%	Emerging Markets -14.60%	Spain -0.48%
United States 5.72%	United States 15.32%	United States 6.03%	Nordic Countries -53.01%	Germany 26.56%	France -3.23%	Germany -17.45%	Japan 8.36%	Australia 4.34%	France -8.99%	Spain -15.39%	Nordic Countries -3.08%
Spain 4.92%	Japan 6.33%	Japan -4.14%	Emerging Markets -53.18%	Japan 6.39%	Spain -21.13%	Emerging Markets -18.17%	Spain 4.73%	Emerging Markets -2.27%	Germany -9.76%	Canada -23.59%	Switzerland -4.04%

Source: Schwab Center for Financial Research. This chart represents a hypothetical investment and is for illustrative purposes only. The portfolio is rebalanced annually. Returns include reinvestment of dividends, interest, and capital gains. Indexes are unmanaged, do not incur fees or expenses, and cannot be invested in directly. Please see disclosures section on page 10 for indexes used to represent asset classes. **Past performance is not a guarantee of future results.**

The preceding chart (Exhibit 7) demonstrates an alternative method for evaluating world markets. It shows the 10 largest developed markets, plus the emerging markets, and compares the results to the MSCI World Index (a composite of multiple markets). Similar to our diversified portfolio above, the returns of the MSCI World Index are typically ranked in the middle of the pack. There was a rotation of leadership from the emerging markets to the U.S., from Japan to Germany, and others. While U.S. markets have performed well recently, they lagged many other markets in the early part of the decade. The MSCI World Index provided a smoother ride since it captured the broad-based exposure to the world's markets.

Although some of these countries may seem "foreign" to investors, clients are likely acquainted with some of the underlying companies and products. Here's just a few of the well-known companies and their home bases: Toyota (Japan), Nestlé (Switzerland), GlaxoSmithKline (UK), Daimler (Germany), Royal Dutch Shell (the Netherlands), Sanofi (France), TD (Canada), Siemens (Germany), and BP (UK). Clients consume many of the goods and services from these companies without realizing that they are foreign-domiciled.

Conclusion

Modern Portfolio Theory is still relevant, but we believe it needs to evolve to incorporate an expanded set of investment options. We believe that there is a set of new market realities that investors need to respond to in order to meet their goals and objectives. We shouldn't ignore the lessons learned, but rather evolve our thinking beyond traditional approaches. While global asset allocation has been questioned recently, we should evaluate results over longer intervals. Owning large multinationals doesn't necessarily provide the diversification advantages of owning securities based in foreign markets.

The world offers a large and diverse set of opportunities. Should we limit our portfolio's exposure merely because of familiarity, or should we try and learn more about the opportunities abroad? With so much of the world's GDP—and many of the best companies—outside the U.S., the answer is clear: Global diversification presents significant opportunities now and in the future.

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Important disclosures

Past performance is no guarantee of future results. The opinions presented should not be viewed as an indicator of future performance.

The Diversified Portfolio is a hypothetical portfolio consisting of 18% S&P 500, 10% Russell 2000, 3% S&P United States REIT, 12% MSCI EAFE, 8% MSCI EAFE Small Cap, 8% MSCI EM, 2% S&P Global Ex US REIT, 1% Barclays US Treasury, 1% Barclays Agency, 6% Barclays Securitized, 2% Barclays US Credit, 4% Barclays Global Agg EX USD, 9% Barclays VLI High Yield, 6% Barclays EM, 2% S&P GSCI Precious Metals, 1% S&P GSCI Energy, 1% S&P GSCI Industrial Metals, 1% S&P GSCI Agricultural, 5% Barclays US Treasury 3-7 Yr.

The asset classes in the chart on page 7 are represented by the following indexes; U.S. Large Cap – S&P 500, U.S. Small Cap – Russell 2000, U.S. Exchange Traded REITs – S&P United States REITs and S&P Global ex U.S REITs, International Developed – MSCI EAFE, EM – MSCI EM, High Yield Bonds – Bloomberg Barclays VLI High Yield, EM Bonds – Bloomberg Barclays EM, Core Bonds – Bloomberg Barclays U.S. Aggregate, International Developed Bonds – Bloomberg Barclays Global Aggregate ex-U.S., TIPS – Bloomberg Barclays US Treasury TIPS, T-Bills – Bloomberg Barclays Short Treasury 1-3 Month, Commodities – S&P GSCI.

The asset classes in the chart on page 8 are represented by the following indexes; World – MSCI AC World, United States – MSCI USA, Japan – MSCI Japan, United Kingdom – MSCI United Kingdom, Switzerland – MSCI Switzerland, Germany – MSCI Germany, France – MSCI France, Canada – MSCI Canada, Australia - MSCI Australia, Nordic Countries – MSCI Nordic Countries, Spain – MSCI Spain, Emerging Markets – MSCI EM.

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Diversification strategies do not ensure a profit and do not protect against losses in declining markets.

Performance may be affected by risks associated with investments in specific countries or sectors. Additional risks may also include, but are not limited to, investments in foreign securities, especially emerging markets, real estate investment trusts (REITs), MLPs, commodities, real assets, fixed income, and small-capitalization securities. Each individual investor should consider these risks carefully before investing in a particular security or strategy.

International investments involve additional risks, which include differences in financial accounting standards, currency fluctuations, geopolitical risk, foreign taxes and regulations, and the potential for illiquid markets. Investing in emerging markets may accentuate this risk.

Fixed income securities are subject to increased loss of principal during periods of rising interest rates. Fixed-income investments are subject to various other risks including changes in credit quality, market valuations, liquidity, prepayments, early redemption, corporate events, tax ramifications and other factors. Lower rated securities are subject to greater credit risk, default risk, and liquidity risk.

Preferred stocks: (1) Generally have lower credit ratings than the firm's individual bonds (2) They generally have a lower claim to assets than the firm's individual bonds (3) Often have higher yields than the firm's individual bonds due to these risk characteristics. (4) Are often callable, meaning the issuing company may redeem the stock at a certain price after a certain date.

While the market value of a floating-rate note is relatively insensitive to changes in interest rates, the income received is highly dependent upon the level of the reference rate over the life of the investment. Total return may be less than anticipated if future interest rate expectations are not met.

Treasury Inflation Protected Securities (TIPS) are inflation-linked securities issued by the US Government whose principal value is adjusted periodically in accordance with the rise and fall in the inflation rate. Thus, the interest amount payable is also impacted by variations in the inflation rate as it is based upon the principal value of the bond. It may fluctuate up or down. Repayment at maturity is guaranteed by the US Government and may be adjusted for inflation to become the greater of either the original face amount at issuance or that face amount plus an adjustment for inflation.

Commodity-related products, including futures, carry a high level of risk and are not suitable for all investors. Commodity-related products may be extremely volatile, illiquid, and can be significantly affected by underlying commodity prices, world events, import controls, worldwide competition, government regulations, and economic conditions, regardless of the length of time shares are held. Investments in commodity-related products may subject the fund to significantly greater volatility than investments in traditional securities, and involve substantial risks, including risk of loss of a significant portion of their principal value.

Investing in REITs may pose additional risks such as real-estate industry risk, interest-rate risk, and liquidity risk.

Real Estate Investment Trusts (REITs) - Risks of REITs are similar to those associated with direct ownership of real estate, such as changes in real estate values and property taxes, interest rates, cash flow of underlying real estate assets, supply and demand, and the management skill and creditworthiness of the issuer. Investing in REITs may pose additional risks, such as real estate industry risk, interest-rate risk, and liquidity risk.

Investments in securities of MLPs involve risks that differ from an investment in common stock. MLPs are controlled by their general partners, which generally have conflicts of interest and limited fiduciary duties to the MLP, which may permit the general partner to favor its own interests over the MLPs.

Investing in dividend stocks carries some risk–the same as with any other type of stock investment. With dividend stocks, you can lose money; for example, share prices can drop (regardless of whether the company pays dividends), companies can reduce or eliminate dividend payments at any time and inflation can reduce savings.

All corporate names shown above are for illustrative purposes only and are not a recommendation, offer to sell, or a solicitation of an offer to buy any security.

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Anthony Davidow is responsible for providing Schwab's point of view on asset allocation and portfolio construction. He is also responsible for providing research and analysis on alternative beta strategies and how investors can incorporate them in their portfolios. Davidow is also a member of the firm's Asset Allocation Council.

Before joining Schwab, Davidow was a managing director, portfolio strategist, and head of the ETF Knowledge Center for Guggenheim Investments. Before joining Guggenheim, Davidow was executive vice president and head of distribution for IndexIQ. Previously, he spent 15 years at Morgan Stanley, where he served as managing director and head of sales and training for the Consulting Services Group. While at Morgan Stanley, he worked with many of the firm's largest clients in developing and implementing asset allocation strategies, incorporating active and passive strategies, and using alternative investments as risk management tools.

Davidow has authored several white papers and strategy pieces and has spoken at industry conferences on a range of topics, including: "The Merits of Core-Satellite Investing," "Asset Allocation and Manager Selection: Adaptive Allocation," "Alpha-Beta Separation," "Democratizing Alternative Investments," "The Role and Use of Alternative Investments," "Currency as an Asset Class," "An Evolutionary Approach to Portfolio Construction," and "Strategic Beta Strategies," among others. In 2015 he received the Steven L. Kessler IMCA Writing Award (Honorable Distinction) for "Alternative Beta Strategies", and in 2017 won the Steven L. Kessler IMCA Writing Award for "Strategic Beta Strategies: An Evaluation of Different Approaches".

Davidow holds a B.B.A. degree in finance and investments from Bernard M. Baruch College and has earned the Certified Investment Management Analyst (CIMA®) designation from the Investment Management Consultant's Association (IMCA) and the Wharton School of the University of Pennsylvania.

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(0317-VPB2)

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