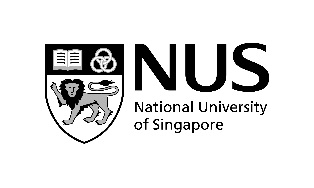
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STRATEGIC ASSET ALLOCATION DURING GLOBAL UNCERTAINTY[[1]](#footnote-1)

Weina Zhang, Man Zhang, Ruth Tan, and Zsuzsa Huszar wrote this exercise solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In the early morning of January 23, 2017, you sat in front of your computer at home in Singapore to check the performance of your investment portfolio. It has not been doing well in the past year, with a mere return of 2 per cent.

Over breakfast, you opened the *Wall Street Journal* (Asia edition), and your attention was drawn to the settling in of the new U.S. president, and discussion of the mixed economic outlook for the United States and Europe, together with some expected U.S. policy changes related to taxes, health care, and infrastructure investments. You had switched to zero weight on the U.S. market since 2009, after the global financial crisis. You still vividly remembered that many of your friends had lost most of their investments during the crisis.

Yesterday, your broker sent you the latest information on a selection of 10 exchange-traded funds (ETFs) listed and traded on the Singapore stock exchange, Singapore Exchange Limited (SGX) (see Exhibit 1). The funds included six equity ETFs based in the United States, Europe, and emerging markets China, India, and Russia, in addition to four bond ETFs—two based in Asia, and one each in the United States and Europe. You are now considering whether to reshuffle your portfolio to put more weights into the U.S. securities. Given the changes in the global scene, should you adjust your investment portfolio? Before deciding to revise your investments, you need to consider the expected returns and risks of these ETFs.

In addition, you also need to prepare for your family’s growing financial needs. You are married with two daughters who are both in secondary school. They will likely attend college in one year and two years, respectively. The expected college tuition and accompanying additional expenses for each daughter would total approximately S$30,000[[2]](#footnote-2) per year for three years. You would be able to save approximately $10,000 per year from your salary as an engineer after deducting all household expenses for the next five years. Hence, you also need to prepare for the education of your two daughters.

PAST INVESTMENT EXPERIENCE

You started investing about 20 years ago, after attending an investment class when you were a university undergraduate. Over the years, your investment capital has grown from an initial sum of $100,000 to approximately $500,000.

You are keenly aware of the importance of strategic asset allocation and diversification. You understand that strategic asset allocation is based on (1) the long-term expected returns and risks of different asset classes, (2) the investor’s return and risk preferences, and (3) consumption needs and other considerations.[[3]](#footnote-3)

In addition, you understand that you may need to do a bit of active tactical asset allocation for a short-term horizon of one year, which would also allow your portfolio to gain additional returns.

Diversification is an investment principle that you have rigorously followed. You know that the risk of a portfolio is determined by the co-movement between the returns of the component assets. You aim to achieve maximum diversification benefits.

market outlook in 2017

The geopolitical surprises in the United States in November 2016 had a significant impact on the global financial markets. Many observers widely expected that President Trump would use more fiscal stimulus and fewer regulations to stimulate the U.S. economy.[[4]](#footnote-4) As such, the U.S. equity market had started to rally after November 2016 (see Exhibit 2, panel A). Similar trends were also observed in the U.S. Treasury yields (see Exhibit 2, panel B) and in the exchange rates between the U.S. dollar and the Singapore dollar (see Exhibit 2, panel C).

In Europe, the British pound had taken quite a beating after the Brexit vote.[[5]](#footnote-5) The future of the euro was still uncertain, as France, the Netherlands, Italy, and Germany would be holding their elections in 2017.

In emerging economies such as Mexico and Turkey, the economic outlook seemed to be pessimistic.[[6]](#footnote-6) The outlook for Russia seemed firm, due in part to the warm relationship between President Donald Trump and President Vladimir Putin.[[7]](#footnote-7) China and India had experienced capital flights for different reasons. The Chinese government was implementing more and tighter capital controls,[[8]](#footnote-8) while the Indian government had created quite a stir over the removal of its country’s largest banknotes.[[9]](#footnote-9)

INVESTMENT DECISIONS TO BE MADE

You would like to perform a thorough analysis of the available investment opportunities before reshuffling your portfolio investments. Specifically, you want to perform the following tasks:

1. Analyze the expected return from your investment after taking into account your family’s financial needs in the next five years.
2. Conduct a Markowitz portfolio analysis on the 10 ETFs recommended by your broker, using annual historical returns and risks to determine the optimal portfolio allocation. Discuss the diversification benefit by comparing the performance of individual ETFs with the efficient frontier. (Hint: The one-year risk-free rate was 0.87 per cent in December 2016 using the one-year Treasury bill rate, as shown in Exhibit 2, panel B).
3. Conduct a Markowitz portfolio analysis on the recommended 10 ETFs from your broker using annualized three-year historical returns and risks to determine the new efficient frontier. Discuss the long-term investing benefit by comparing this efficient frontier with the efficient frontier determined in point 2.
4. Based on the market risk premium forecasted by J. P. Morgan (see Exhibit 3), you wonder whether you can perform a tactical asset allocation that might allow you to earn a higher return in the following year. This would mean that you could adjust the allocation made in point 2 for the following year.
5. Analyze the quantitative and qualitative advantages and disadvantages of adding two alternative investment vehicles into the optimal portfolio. The two alternative asset classes included gold and real estate investment trusts that are traded in the US market and denominated in US dollars. The historical annual index levels of the two ETFs are available in Exhibit 4.
6. Make a final optimal investment decision after taking into account of all the above analyses.
7. Discuss the weakness and vulnerabilities of applying the Markowitz portfolio theory in practice.

Exhibit 1: Index-level Historical Total Returns of 10 Exchange-Traded Funds Traded on the Singapore stock EXchange, December 2011 to December 2016

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Lyxor UCITS ETF DJ Industrial Average FCP -USD (JC6-SG)** | **Lyxor UCITS ETF MSCI Europe USD (JC5-SG)** | **db x-trackers MSCI Emerging Markets Index UCITS ETF -2C (J0M-SG)** | **db x-trackers MSCI China Index UCITS ETF (DR) 1C (LG9-SG)** | **db x-trackers MSCI India TRN Index UCITS ETF (LG8-SG)** | **db x-trackers MSCI Russia Capped Index UCITS ETF -2D (J0R-SG)** | **iShares JPMorgan USD Asia Credit Bond Index ETF (N6M-SG)** | **iShares Barclays USD Asia High Yield Bond Index ETF (O9P-SG)** | **db x-trackers II IBOXX USD TREASURIES INFLATION-LINKED UCITS ETF (DR) (KF5-SG)** | **db x-trackers II Eurozone Government Bond UCITS ETF (DR) 1C (KF6-SG)** |
| Dec-2011 | 12.34 | 10.85 | 3.52 | 10.20 | 7.18 | 2.69 | 9.78 | 9.93 | 268.00 | 216.38 |
| Jan-2012 | 12.75 | 10.85 | 3.90 | 11.23 | 8.52 | 3.13 | 9.99 | 10.25 | 272.25 | 216.38 |
| Feb-2012 | 13.16 | 12.29 | 4.19 | 11.74 | 9.06 | 3.43 | 10.09 | 10.43 | 276.25 | 216.38 |
| Mar-2012 | 13.38 | 12.29 | 4.05 | 11.04 | 8.35 | 3.22 | 10.11 | 10.45 | 273.04 | 235.88 |
| Apr-2012 | 13.38 | 12.03 | 3.94 | 11.35 | 8.10 | 3.15 | 10.25 | 10.59 | 278.62 | 233.77 |
| May-2012 | 12.54 | 10.72 | 3.57 | 10.15 | 7.09 | 2.65 | 10.08 | 10.39 | 279.68 | 225.62 |
| Jun-2012 | 13.09 | 11.10 | 3.53 | 10.47 | 7.45 | 2.72 | 10.27 | 10.43 | 283.48 | 223.36 |
| Jul-2012 | 12.90 | 10.80 | 3.52 | 10.66 | 7.59 | 2.88 | 10.57 | 10.77 | 285.70 | 218.20 |
| Aug-2012 | 12.90 | 11.74 | 3.71 | 10.27 | 7.77 | 2.94 | 10.65 | 10.96 | 284.00 | 229.06 |
| Sep-2012 | 13.53 | 12.46 | 3.87 | 10.96 | 8.91 | 3.06 | 10.66 | 10.93 | 285.34 | 236.93 |
| Oct-2012 | 13.33 | 11.96 | 3.90 | 11.50 | 8.60 | 2.93 | 10.75 | 11.14 | 288.50 | 240.70 |
| Nov-2012 | 13.32 | 12.36 | 3.90 | 11.82 | 8.83 | 2.90 | 10.87 | 11.32 | 289.57 | 237.39 |
| Dec-2012 | 13.32 | 12.62 | 4.08 | 12.25 | 8.96 | 3.07 | 10.70 | 11.14 | 289.60 | 250.29 |
| Jan-2013 | 13.35 | 13.38 | 4.18 | 12.76 | 9.34 | 3.26 | 10.74 | 11.29 | 286.53 | 255.42 |
| Feb-2013 | 14.13 | 12.95 | 4.11 | 12.17 | 8.90 | 3.26 | 10.73 | 11.30 | 286.20 | 247.86 |
| Mar-2013 | 14.62 | 13.19 | 4.02 | 11.81 | 8.50 | 2.99 | 10.73 | 11.18 | 286.67 | 242.86 |
| Apr-2013 | 14.96 | 13.09 | 4.04 | 11.85 | 8.88 | 2.87 | 10.81 | 11.24 | 287.62 | 254.80 |
| May-2013 | 15.30 | 13.65 | 3.94 | 11.71 | 8.93 | 2.91 | 10.60 | 11.18 | 283.55 | 249.91 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Jun-2013 | 15.40 | 13.51 | 3.50 | 10.65 | 7.71 | 2.64 | 9.92 | 10.35 | 283.55 | 249.91 |
| Jul-2013 | 15.73 | 13.11 | 3.78 | 11.45 | 7.91 | 2.76 | 10.20 | 10.63 | 265.82 | 253.53 |
| Aug-2013 | 15.14 | 13.85 | 3.58 | 11.58 | 6.67 | 2.85 | 9.87 | 10.45 | 269.18 | 251.88 |
| Sep-2013 | 15.63 | 14.61 | 3.94 | 12.51 | 7.89 | 3.18 | 10.17 | 10.57 | 267.20 | 258.37 |
| Oct-2013 | 15.54 | 15.29 | 4.12 | 12.21 | 8.45 | 3.25 | 10.22 | 10.70 | 269.50 | 265.67 |
| Nov-2013 | 16.50 | 15.37 | 4.01 | 13.06 | 8.19 | 3.08 | 10.11 | 10.72 | 269.50 | 265.22 |
| Dec-2013 | 16.59 | 15.43 | 3.95 | 12.66 | 8.23 | 3.01 | 9.95 | 10.56 | 261.10 | 266.93 |
| Jan-2014 | 16.00 | 14.97 | 3.69 | 11.89 | 8.48 | 2.96 | 10.24 | 10.52 | 266.36 | 268.98 |
| Feb-2014 | 15.89 | 15.49 | 3.77 | 11.78 | 8.33 | 2.69 | 10.26 | 10.72 | 267.11 | 272.88 |
| Mar-2014 | 16.61 | 16.05 | 3.90 | 11.88 | 9.00 | 2.55 | 10.15 | 10.56 | 266.60 | 272.88 |

Exhibit 1 (continued)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Lyxor UCITS ETF DJ Industrial Average FCP -USD (JC6-SG)** | **Lyxor UCITS ETF MSCI Europe USD (JC5-SG)** | **db x-trackers MSCI Emerging Markets Index UCITS ETF -2C (J0M-SG)** | **db x-trackers MSCI China Index UCITS ETF (DR) 1C (LG9-SG)** | **db x-trackers MSCI India TRN Index UCITS ETF (LG8-SG)** | **db x-trackers MSCI Russia Capped Index UCITS ETF -2D (J0R-SG)** | **iShares JPMorgan USD Asia Credit Bond Index ETF (N6M-SG)** | **iShares Barclays USD Asia High Yield Bond Index ETF (O9P-SG)** | **db x-trackers II IBOXX USD TREASURIES INFLATION-LINKED UCITS ETF (DR) (KF5-SG)** | **db x-trackers II Eurozone Government Bond UCITS ETF (DR) 1C (KF6-SG)** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Apr-2014 | 16.73 | 15.84 | 3.94 | 11.61 | 9.09 | 2.42 | 10.42 | 10.80 | 270.12 | 282.15 |
| May-2014 | 16.75 | 16.22 | 4.12 | 12.17 | 9.93 | 2.78 | 10.53 | 10.96 | 271.30 | 282.15 |
| Jun-2014 | 17.09 | 16.53 | 4.18 | 12.45 | 10.20 | 2.92 | 10.50 | 10.84 | 277.55 | 282.35 |
| Jul-2014 | 17.05 | 15.50 | 4.30 | 13.59 | 10.49 | 2.68 | 10.56 | 11.03 | 277.45 | 284.72 |
| Aug-2014 | 17.22 | 15.53 | 4.37 | 13.71 | 10.65 | 2.68 | 10.60 | 11.04 | 279.54 | 281.49 |
| Sep-2014 | 17.58 | 14.80 | 4.08 | 12.92 | 10.39 | 2.45 | 10.48 | 10.88 | 272.01 | 273.64 |
| Oct-2014 | 17.40 | 14.44 | 4.06 | 13.21 | 10.39 | 2.45 | 10.63 | 10.88 | 274.67 | 268.80 |
| Nov-2014 | 18.04 | 14.86 | 4.06 | 13.40 | 11.01 | 2.19 | 10.61 | 10.90 | 275.33 | 267.78 |
| Dec-2014 | 18.02 | 14.22 | 3.84 | 13.45 | 10.26 | 1.76 | 10.56 | 10.53 | 271.90 | 265.75 |
| Jan-2015 | 17.67 | 14.16 | 3.83 | 13.82 | 11.20 | 1.66 | 10.78 | 10.59 | 279.30 | 264.99 |
| Feb-2015 | 18.40 | 15.00 | 3.96 | 14.31 | 11.32 | 1.99 | 10.60 | 10.79 | 279.30 | 256.50 |
| Mar-2015 | 18.40 | 14.88 | 3.90 | 14.62 | 10.70 | 1.94 | 10.62 | 10.62 | 276.36 | 246.45 |
| Apr-2015 | 18.33 | 15.17 | 4.29 | 17.26 | 10.12 | 2.20 | 10.67 | 10.73 | 278.35 | 251.90 |
| May-2015 | 18.50 | 15.35 | 4.09 | 16.45 | 10.28 | 2.13 | 10.63 | 10.79 | 274.34 | 242.11 |
| Jun-2015 | 18.08 | 14.85 | 3.89 | 15.49 | 10.34 | 1.99 | 10.47 | 10.66 | 275.00 | 239.64 |
| Jul-2015 | 18.08 | 14.56 | 3.73 | 13.67 | 10.47 | 1.90 | 10.45 | 10.70 | 271.67 | 241.14 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Aug-2015 | 16.79 | 13.61 | 3.32 | 12.19 | 9.65 | 1.80 | 10.29 | 10.32 | 271.95 | 245.25 |
| Sep-2015 | 16.20 | 13.07 | 3.20 | 11.96 | 9.44 | 1.75 | 10.22 | 10.25 | 271.95 | 247.79 |
| Oct-2015 | 17.45 | 13.73 | 3.53 | 13.14 | 9.88 | 1.83 | 10.46 | 10.75 | 269.95 | 246.16 |
| Nov-2015 | 17.45 | 13.51 | 3.32 | 12.61 | 9.31 | 1.83 | 10.43 | 10.55 | 267.57 | 237.30 |
| Dec-2015 | 17.68 | 13.53 | 3.23 | 12.41 | 9.39 | 1.65 | 10.25 | 10.20 | 266.64 | 242.27 |
| Jan-2016 | 16.25 | 12.44 | 2.95 | 10.76 | 8.79 | 1.59 | 10.29 | 10.29 | 268.68 | 246.14 |
| Feb-2016 | 16.66 | 12.09 | 3.00 | 10.56 | 8.29 | 1.62 | 10.46 | 10.28 | 271.51 | 248.72 |
| Mar-2016 | 17.86 | 12.99 | 3.43 | 11.80 | 9.27 | 1.85 | 10.47 | 10.37 | 279.99 | 260.71 |
| Apr-2016 | 18.02 | 13.35 | 3.45 | 11.83 | 9.22 | 2.05 | 10.67 | 10.58 | 280.79 | 258.55 |
| May-2016 | 18.12 | 13.26 | 3.32 | 11.74 | 9.46 | 1.94 | 10.66 | 10.66 | 279.21 | 254.70 |
| Jun-2016 | 18.00 | 12.52 | 3.44 | 11.72 | 9.55 | 1.94 | 10.85 | 10.69 | 284.60 | 259.64 |
| Jul-2016 | 18.45 | 12.59 | 3.61 | 12.23 | 10.10 | 1.95 | 11.02 | 10.95 | 286.98 | 261.25 |

Exhibit 1 (continued)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | **Lyxor UCITS ETF DJ Industrial Average FCP -USD (JC6-SG)** | **Lyxor UCITS ETF MSCI Europe USD (JC5-SG)** | **db x-trackers MSCI Emerging Markets Index UCITS ETF -2C (J0M-SG)** | **db x-trackers MSCI China Index UCITS ETF (DR) 1C (LG9-SG)** | **db x-trackers MSCI India TRN Index UCITS ETF (LG8-SG)** | **db x-trackers MSCI Russia Capped Index UCITS ETF -2D (J0R-SG)** | **iShares JPMorgan USD Asia Credit Bond Index ETF (N6M-SG)** | **iShares Barclays USD Asia High Yield Bond Index ETF (O9P-SG)** | **db x-trackers II IBOXX USD TREASURIES INFLATION-LINKED UCITS ETF (DR) (KF5-SG)** | **db x-trackers II Eurozone Government Bond UCITS ETF (DR) 1C (KF6-SG)** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Aug-2016 | 18.53 | 12.78 | 3.73 | 13.14 | 10.21 | 2.05 | 11.07 | 10.96 | 287.00 | 262.98 |
| Sep-2016 | 18.25 | 12.61 | 3.72 | 13.54 | 10.06 | 2.12 | 10.97 | 10.87 | 288.66 | 263.83 |
| Oct-2016 | 18.32 | 12.56 | 3.74 | 13.23 | 10.02 | 2.12 | 10.93 | 10.96 | 286.04 | 259.19 |
| Nov-2016 | 19.42 | 12.24 | 3.55 | 13.05 | 9.30 | 2.19 | 10.63 | 10.82 | 280.68 | 242.21 |
| Dec-2016 | 19.87 | 12.67 | 3.56 | 12.47 | 9.22 | 2.48 | 10.44 | 10.70 | 279.33 | 241.94 |

Note: UCITS = undertakings for the collective investment of transferable securities; ETF = exchange-traded fund; DJ = Dow Jones; FCP = collective investment scheme domiciled in France; USD = U.S. dollars; MSCI = Morgan Stanley Capital International; TRN = Total Return Net Basis

Source: Information downloaded by the exercise authors using “Lyxor UCITS ETF DJ Industrial Average FCP -USD (JC6-SG),” “Lyxor UCITS ETF MSCI Europe USD (JC5-SG),” “db x-trackers MSCI Emerging Markets Index UCITS ETF -2C (J0M-SG),” “db x-trackers MSCI China Index UCITS ETF (DR) 1C (LG9-SG),” “db x-trackers MSCI India TRN Index UCITS ETF (LG8-SG),” “db x-trackers MSCI Russia Capped Index UCITS ETF-2D (J0R-SG),” “iShares JPMorgan USD Asia Credit Bond Index ETF (N6M-SG),” “iShares Barclays USD Asia High Yield Bond Index ETF (O9P-SG),” “db x-trackers II IBOXX USD TREASURIES INFLATION-LINKED UCITS ETF (DR) (KF5-SG),” and “db x-trackers II Eurozone Government Bond UCITS ETF (DR) 1C (KF6-SG),” accessed January 26, 2017, from the FactSet research database.

Exhibit 2: The Performance of the U.S. S&P 500, U.S. Treasury YIELDS, and the U.S. Dollar versus the Singapore Dollar, 1996–2016

Panel A: S&P 500 Cumulative Returns from January 1996 to January 2017

Note: S&P = Standard & Poor’s.

Source: Created by the exercise authors using information from Yahoo Finance, “S&P 500 (^GSPC),” accessed January 20, 2017, https://finance.yahoo.com/chart/%5EGSPC.

Panel B: U.S. Treasury Yields from January 1996 to December 2016

Source: Created by exercise authors using “GS1” for one-year Treasury yields, Federal Reserve Bank at St. Louis, accessed January 20, 2017, https://fred.stlouisfed.org/series/GS1, and using “GS10” for 10-year Treasury yields, Federal Reserve Bank at St. Louis, accessed January 20, 2017, https://fred.stlouisfed.org/series/GS10.

exhibit 2 (continued)

Panel C: Singapore Dollar to US Dollar from January 1996 to January 2017

Source: Created by the exercise authors using “USDSGD,” FactSet Financial database, accessed January 23, 2017.

Exhibit 3: Economic outlooks and Market Risk Premiums Forecasted, based on 2016 and 2017 assumptions

Panel A: Economic Outlook

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2016 Assumptions** | | **2017 Assumptions** | |
|  | **Core Inflation** | **Real GDP** | **Core Inflation** | **Real GDP** |
| **Developed Markets** | **2.00** | **1.75** | **1.75** | **1.50** |
| United States | 2.25 | 2.25 | 2.25 | 1.75 |
| Eurozone | 1.50 | 1.50 | 1.50 | 1.25 |
| United Kingdom | 2.25 | 1.50 | 2.00 | 1.25 |
| **Emerging Markets** | **3.75** | **5.00** | **3.75** | **4.50** |
| China | 3.00 | 6.00 | 3.00 | 5.25 |
| India | 5.00 | 7.25 | 5.00 | 7.00 |
| Russia | 5.50 | 2.75 | 5.50 | 2.25 |

Note: GDP = gross domestic product

exhibit 3 (continued)

Panel B: Market Risk Premium Assumptions

|  |  |  |
| --- | --- | --- |
|  | **2016** | **2017** |
| High-Yield Premium | 2.50 | 2.50 |
| Investment-Grade Premium | 1.25 | 1.00 |
| Private-Equity Premium | 1.25 | 1.00 |
| Small-Cap Premium | 0.25 | 0.75 |
| Equity-Risk Premium | 4.00 | 4.00 |
| Duration Premium | 0.75 | 0.25 |

Source: J.P. Morgan Asset Management, “2017 Long-Term Capital Market Assumptions: 21st Annual Edition,” accessed January 26, 2017, www.jpmorganassetmanagement.lu/en/dms/LTCMA\_2017\_ONLINE.PDF.

Exhibit 4: Yearly Total Return Index Level of Two Alternative Investments,

2004–2016

|  |  |  |
| --- | --- | --- |
| Year | Vanguard REIT Index Fund (VNQ-US) | SPDR Gold Trust (GLD-US) |
| 2004 | 57.82 | 43.80 |
| 2005 | 64.72 | 51.58 |
| 2006 | 87.56 | 63.21 |
| 2007 | 73.11 | 82.46 |
| 2008 | 46.06 | 86.52 |
| 2009 | 59.92 | 107.31 |
| 2010 | 76.91 | 138.72 |
| 2011 | 83.54 | 151.99 |
| 2012 | 98.27 | 162.02 |
| 2013 | 100.54 | 116.12 |
| 2014 | 131.07 | 113.58 |
| 2015 | 134.23 | 101.46 |
| 2016 | 145.78 | 109.61 |

Note: REIT = real estate investment trust; SPDR = Standard & Poor’s Depository Receipts, which refers to any exchange-traded fund that tracks the S&P 500.

Source: Data downloaded by the exercise authors using “Vanguard REIT Index Fund (VNQ-US),” and “SPDR Gold Trust (GLD-US),” accessed January 26, 2017, from the FactSet financial database.

1. This exercise has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in this exercise are not necessarily those of the authors. [↑](#footnote-ref-1)
2. S$ = SGD = Singapore dollars; all currency amounts are in S$; S$1 = US$0.709 on January 31, 2017. [↑](#footnote-ref-2)
3. Investopedia, “6 Asset Allocation Strategies That Work,” April 6, 2018, accessed March 15, 2018, www.investopedia.com/articles/04/031704.asp. [↑](#footnote-ref-3)
4. “On Trump’s Agenda: Major Policy Shifts,” *Wall Street Journal* (Asia), January 23, 2017, accessed March 15, 2018, [www.wsj.com/public/page/archive-2017-1-23.html](http://www.wsj.com/public/page/archive-2017-1-23.html). [↑](#footnote-ref-4)
5. FT Reporters, “Markets Outlook: The Big Issues Facing Investors in 2017,” *Financial Times*, January 2, 2017, accessed January 26, 2017, www.ft.com/content/416e65ba-c82f-11e6-8f29-9445cac8966f. [↑](#footnote-ref-5)
6. Ibid. [↑](#footnote-ref-6)
7. Ibid. [↑](#footnote-ref-7)
8. Yuan Yang, “China Tightens Control of Personal Forex Purchases,” *Financial Times*, January 1, 2017, accessed January 26, 2017, www.ft.com/content/87d8a7e8-cfe8-11e6-b06b-680c49b4b4c0. [↑](#footnote-ref-8)
9. Raymond Zhong, “India to Replace Largest Bank Notes,” *Wall Street Journal*, November 9, 2016, accessed January 26, 2017, www.wsj.com/articles/india-to-phase-out-current-500-and-1000-rupee-bank-notes-1478619693. [↑](#footnote-ref-9)