



*ARUP Inc. Retirement and Employee Savings
Plans and 457 Employee Savings Plan*



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Second Quarter 2017
Participant Plan Review

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Market Review

GDP

U.S. gross domestic product (GDP) grew at an annualized rate of 3.0% during Q2:17, according to the second of three estimates provided by the Bureau of Economic Analysis. Strong readings in consumer spending and business investment underlined the rebound in economic growth over a tepid first quarter advance (1.2%).

Jobs

The unemployment rate slightly increased to 4.4% (from 4.3%) in June, as a number of workers re-entered the labor force. However, the current level of unemployment remains well below both the ten-year average of 7.0%, as well as below the level seen at the beginning of the year (4.8%).

Interest Rates

At their June meeting, the Federal Reserve voted to raise the benchmark Federal Funds Rate for the third consecutive quarter to 1.00-1.25%. The Fed maintained its outlook for one more rate hike in 2017 and provided an initial forecast for three additional rate hikes during 2018, while also providing guidance on how it will begin to reduce the size of its balance sheet.

Inflation

Price-based measures of inflation trended downward in June (CPI-U 1.6%), amidst commodity price declines – including a continued fall in oil prices – and steady wage growth.

Economic Indicators

Q2 2017 GDP

+3.0% vs. **+1.4%**
10-year quarterly average (annualized)

June Inflation Rate

1.6% vs. **1.8%**
10-year monthly average (YOY)

Unemployment Rate

4.4% vs. **7.0%**
10-year monthly average

Source: Federal Reserve Bank of St. Louis, Bureau of Labor Statistics, Bloomberg, and the Bureau of Economic Analysis.
Data as of June 30, 2017 unless otherwise noted.
Inflation measured as CPI-U (Consumer Price Index – All Urban Consumers).

Performance Review

- Following strong gains over the first three months of the year, U.S. equity markets continued to advance past record levels in Q2:17, as valuations inched higher and measures of volatility hit record lows.
- Falling long-term yields, a flattening yield curve, and tightening spreads all boosted fixed income markets in the second quarter.
- Continued declines in the U.S. dollar, concurrent with improving global economic and foreign earnings data, aided returns for U.S. investors in international markets.
- Despite modest gains, defensive sectors including real estate continued to underperform the broader market advance.

Index	3-Month	Year-to-Date	12-Month	3-Year*	5-Year*
Capital Preservation (US 3-Month T-Bill Index)	0.23	0.39	0.58	0.26	0.18
U.S. Fixed Income (Barclays US Agg Bond Index)	1.45	2.27	(0.31)	2.48	2.21
U.S. Large Cap Equity (S&P 500 Index)	3.09	9.34	17.90	9.61	14.63
U.S. Small Cap Equity (Russell 2000 Index)	2.46	4.99	24.60	7.36	13.70
International Equity (MSCI ACWI Ex USA Index)	5.78	14.10	20.45	0.80	7.22
Global Real Estate (FTSE EPRA/NAREIT Developed Index)	2.71	4.84	0.21	3.67	7.50

Best Performing Category for Time Period

Worst Performing Category for Time Period

Source: Morningstar Direct. Data as of June 30, 2017.

*Annualized returns. Descriptions for the indexes listed above provided in the Appendix.

Q2 2017 | Domestic Highlights



U.S. Financial Markets

- After a strong first quarter (+6.1%), the S&P 500 Index continued to advance in Q2:17 (+3.1%).
- Consistent with what investors experienced over the first quarter of 2017, growth-oriented areas of the market again outperformed more defensive sectors.
- Lower-rated credits and spread sectors continued to outpace more conservative areas of the fixed income market. Longer-dated bonds also outperformed, as issuers benefitted from falling yields and a flattening yield curve.
- Inflation-linked asset classes, including energy stocks, commodities, and Treasury Inflation-Protected Securities (TIPS), underperformed as measures of inflation began to weaken.

Figure 1. U.S. Equity Market Returns

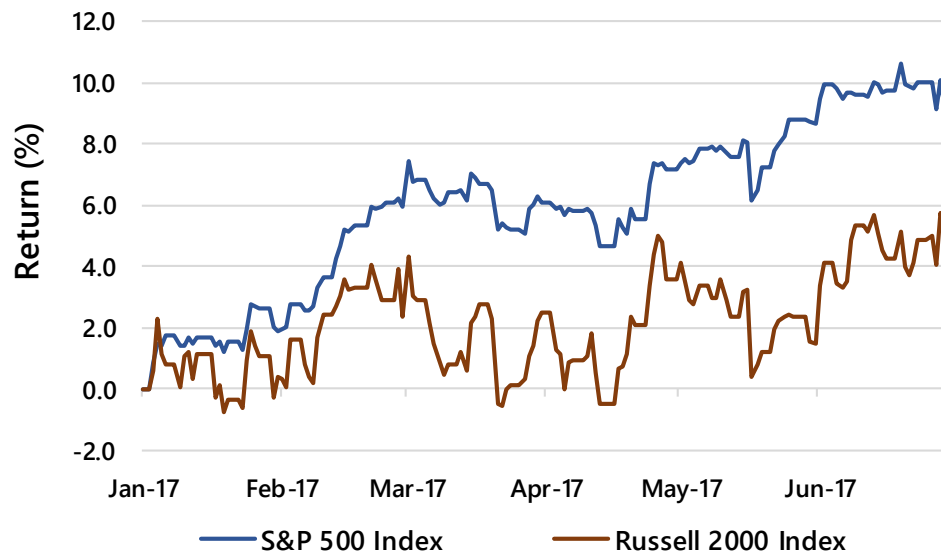


Figure 2. S&P Sector Returns

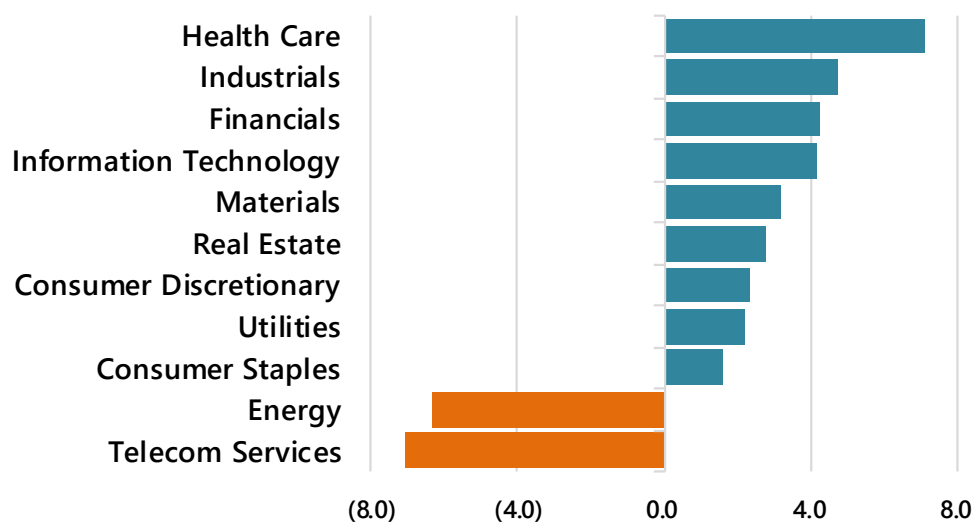
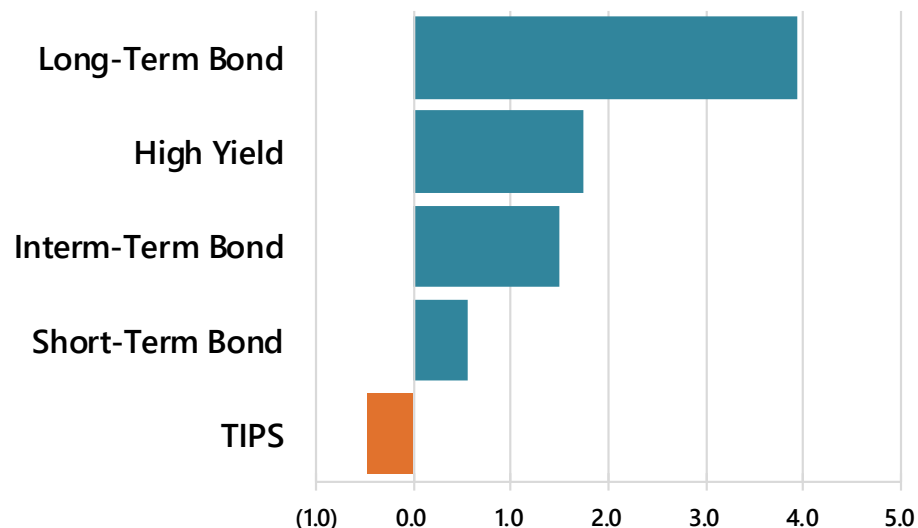


Figure 3. Bond Market Returns



Source: Morningstar Direct. Data as of June 30, 2017. Quarterly returns (%) listed above.

International Markets

- Improved earnings and a brightening economic and political outlook helped boost European equity market returns (+7.4%) during the second quarter.
- Robust corporate earnings growth, particularly in Asia, also positively impacted equity (+6.3%) and bond market returns in emerging economies.
- Commodity price weakness and lingering political crises negatively affected select economies (e.g. Brazil, Canada, Russia) in Q2:17.
- A declining U.S. dollar continued to aid U.S. investor returns in international markets over the past three months.

Figure 4. European Equity, Currency Gains

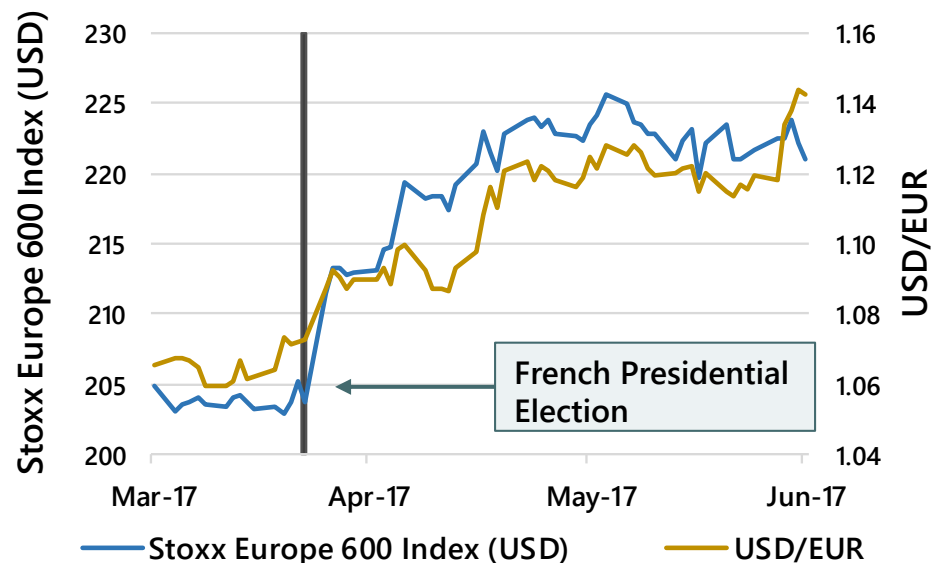


Figure 5. Developed Equity Markets

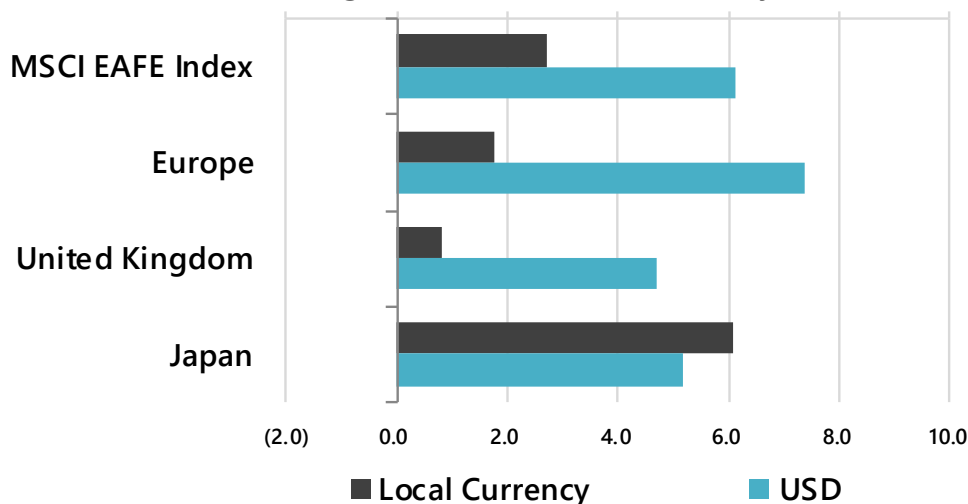
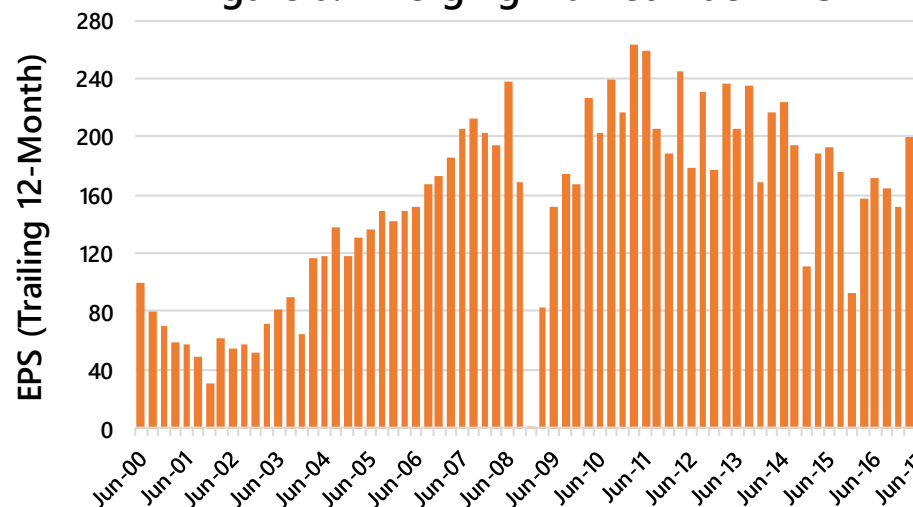


Figure 6. Emerging Market Index EPS



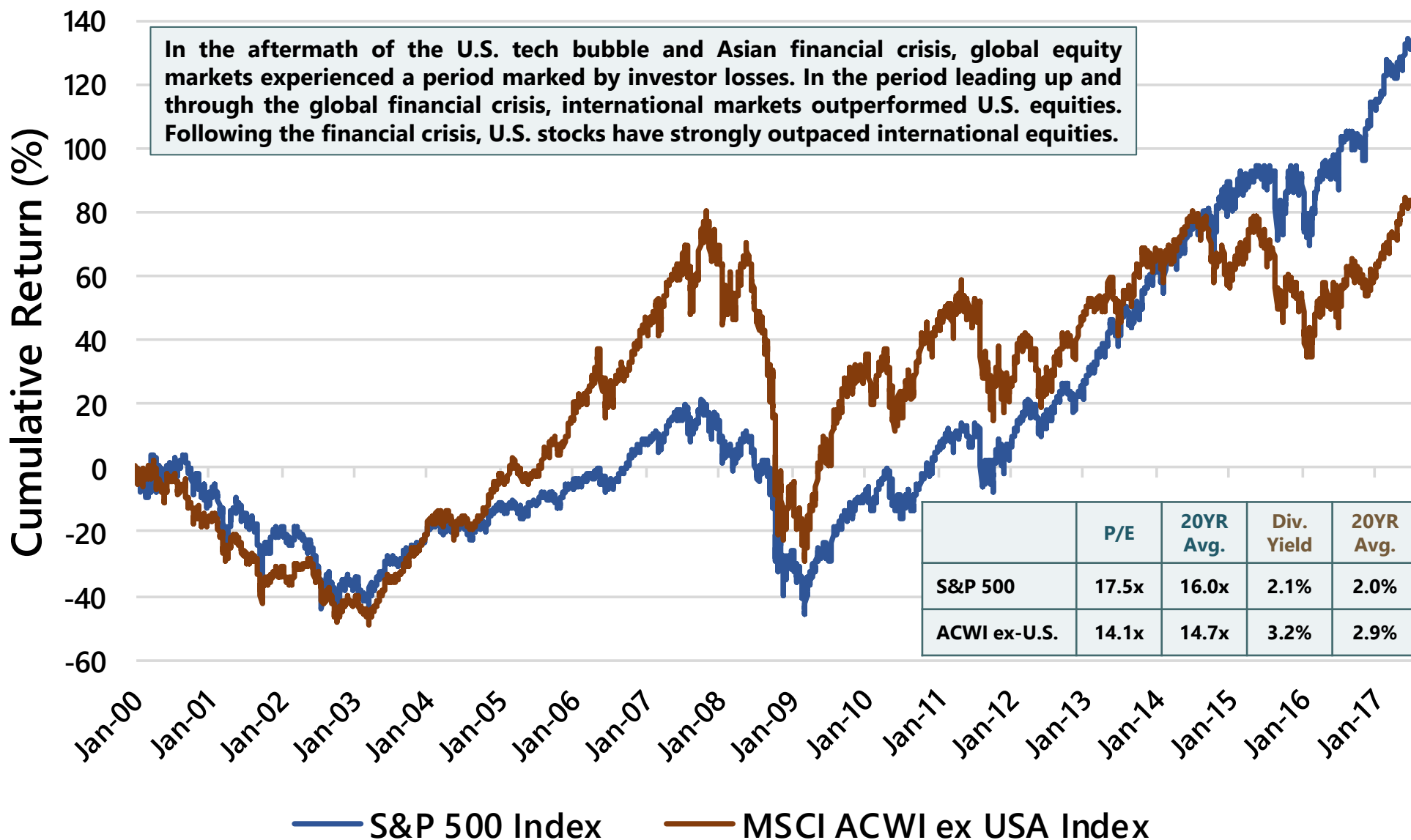
Source: Bloomberg, Morningstar Direct. Data as of June 30, 2017. Quarterly returns (%) listed above. Emerging market earnings listed in Figure 6 have been rebased to 100.

Figure 7. Cumulative U.S. Stock Market Sector Returns

Cumulative S&P Sector Return (%)	Market Peak (Oct 2007)	Market Low (Mar 2009)
Consumer Discretionary	180%	540%
Real Estate	63%	516%
Financials	5%	481%
Industrials	95%	429%
Information Technology	154%	416%
S&P 500 Index (Aggregate)	93%	323%
Healthcare	166%	322%
Materials	59%	267%
Consumer Staples	158%	255%
Utilities	88%	216%
Telecommunications	40%	157%
Energy	5%	89%

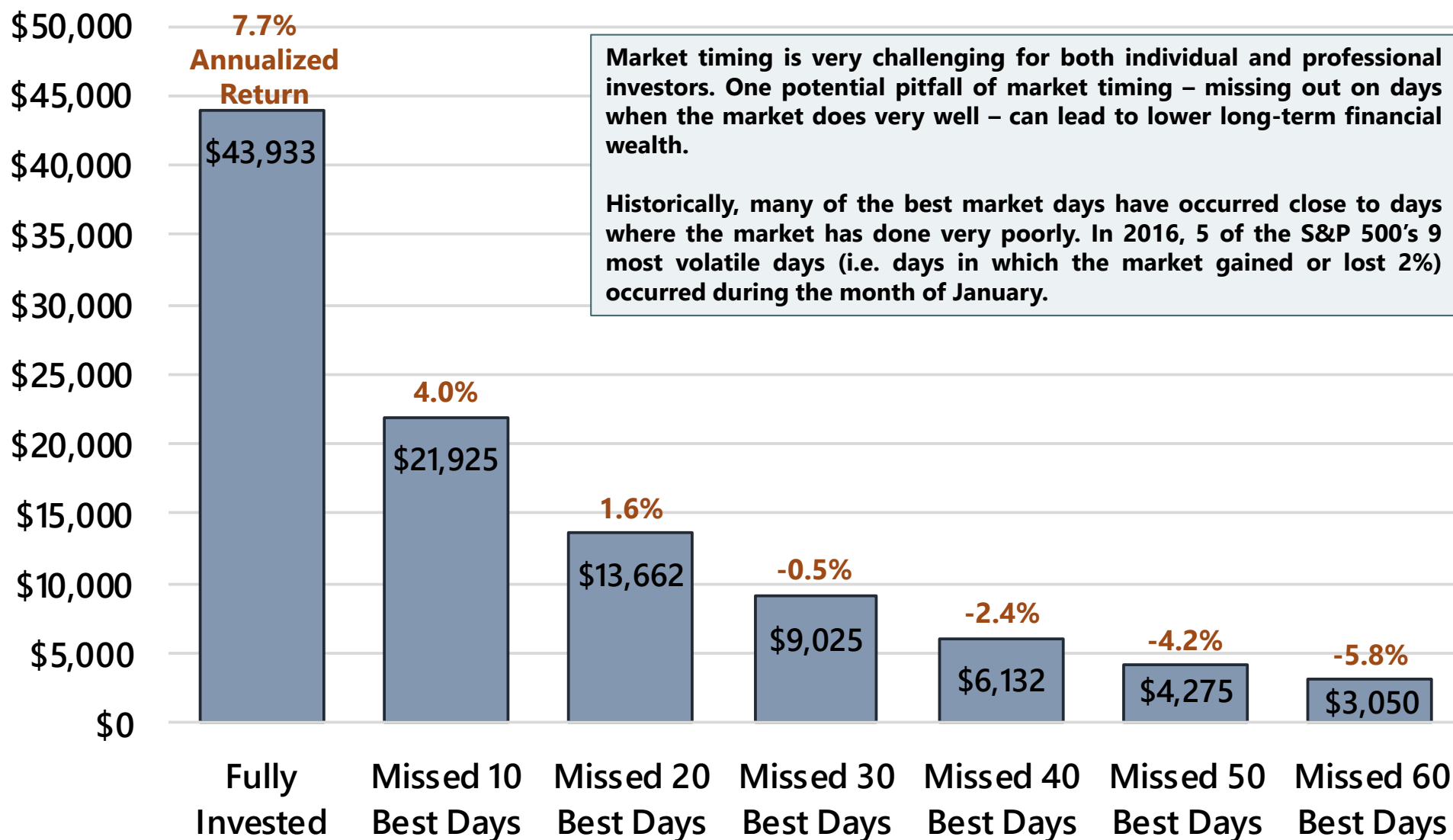
Source: Morningstar Direct. Data as of June 30, 2017.

Figure 8. U.S. vs. International Equity Market Returns (Since 2000)



Source: JPMorgan, Morningstar Direct. Data as of June 30, 2017.

Figure 9. S&P 500 Index Returns: Growth of \$10,000 Between 1997-2016



Source: Bloomberg, JPMorgan. Data as of June 30, 2017.

Q2 2017 | Median Mutual Fund Returns



Peer Group	Q2:2017	YTD	12 Mo	3 Yr*	5 Yr*	10 Yr*	20 Yr*	2016	2015	2014	2013
Money Market - Taxable	0.10	0.15	0.20	0.09	0.06	0.44	1.93	0.09	0.02	0.01	0.02
Short Government	0.24	0.51	(0.36)	0.51	0.38	2.02	3.27	0.55	0.17	0.96	(0.79)
Short-Term Bond	0.56	1.20	1.23	1.08	1.31	2.46	3.54	2.08	0.19	1.07	0.45
Intermediate Government	0.72	1.18	(1.24)	1.33	1.04	3.57	4.35	0.89	0.49	4.73	(2.72)
Intermediate-Term Bond	1.49	2.57	0.94	2.21	2.45	4.30	4.96	3.23	(0.26)	5.18	(1.42)
Inflation-Protected Bond	(0.49)	0.69	0.10	(0.01)	(0.17)	3.35	4.57	4.59	(2.36)	1.80	(7.85)
World Bond	2.08	4.42	1.89	0.31	1.72	4.02	4.77	3.63	(4.00)	1.72	(2.62)
High Yield Bond	1.74	4.09	10.78	3.02	5.70	6.04	5.77	13.30	(4.01)	1.11	6.90
Conservative Allocation	1.84	4.90	7.22	2.85	5.73	4.26	5.33	6.62	(2.32)	4.02	7.23
Moderate Allocation	2.35	6.30	10.67	4.00	7.97	4.89	6.24	7.34	(1.93)	6.21	16.48
Large Value	1.78	5.55	16.49	6.40	12.64	5.18	6.94	14.81	(4.05)	10.21	31.21
Large Blend	2.92	8.65	17.17	7.60	13.35	6.21	6.91	10.37	(1.07)	10.96	31.50
Large Growth	5.01	14.14	20.02	8.80	13.87	7.51	6.93	3.23	3.60	10.00	33.92
Small Value	0.26	0.52	21.15	5.18	12.47	5.97	9.19	25.99	(6.71)	3.34	36.22
Small Blend	1.53	3.24	20.96	5.70	12.75	6.12	8.83	20.78	(5.38)	3.79	37.39
Small Growth	4.33	10.15	23.12	6.67	12.81	7.05	8.35	11.20	(2.41)	2.44	40.91
Foreign Large Value	5.10	12.50	19.94	(0.26)	7.34	(0.02)	4.44	3.34	(3.10)	(6.32)	20.81
Foreign Large Blend	6.25	14.45	19.13	1.18	7.81	0.96	4.75	0.79	(1.59)	(4.98)	19.44
Foreign Large Growth	7.98	17.93	17.80	2.58	8.65	1.93	4.95	(2.14)	0.95	(3.92)	18.58
Foreign Small/Mid Value	6.15	14.75	21.05	1.73	9.93	0.86	7.27	4.24	2.27	(6.56)	25.71
Foreign Small/Mid Growth	8.94	18.78	18.92	3.98	10.98	3.59	7.93	(2.98)	7.05	(5.40)	26.61
Diversified Emerging Mkts	5.87	18.14	20.48	0.48	4.07	1.48	5.52	8.47	(13.79)	(3.01)	(0.14)
Global Real Estate	3.62	6.70	2.50	2.98	7.28	1.49	7.29	1.97	(0.92)	11.67	2.92

Best Performing Category for Time Period Worst Performing Category for Time Period

*Annualized Returns. Source: Morningstar Direct. Data as of June 30, 2017.

Note: The asset class returns listed are provided for illustrative purposes only as an overview of the broad investable landscape. See Plan Overview for a listing of available investment options in the Plan. Investing in mutual funds involves risk and potentially a loss of money. Read the fund's prospectus carefully before making an investment decision.

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Plan Overview

Plan Investment Options



Higher Risk/Return ← ↓ ↑ → Lower Risk/Return

Asset Class	Fund
Core Funds	
Money Market	Gabelli US Treasury MMkt AAA
Short-Term Bond	Vanguard Short-Term Bond Idx I
Intermediate-Term Bond	Vanguard Total Bond Market Index I
Inflation-Protected Bond	Fidelity Inflation-Prot Bd Idx Instl
World Bond	Vanguard Total Intl Bd Idx Institutional
Large Blend	Vanguard Institutional Index I
Small Blend	Vanguard Small Cap Index I
Foreign Large Blend	Vanguard Developed Markets Idx Instl
Real Estate	Vanguard REIT Index I
Model Portfolios/Target Retirement Funds	InvestMap

InvestMap Glidepath Allocations



	Age						
	80	70	60	50	40	30	20
Conservative Allocation							
<i>Total Equity</i>	31.0%	32.0%	38.0%	53.0%	72.0%	86.0%	91.0%
<i>Total Money Market & Fixed Income</i>	69.0%	68.0%	62.0%	47.0%	28.0%	14.0%	9.0%
Moderate Allocation							
<i>Total Equity</i>	32.0%	38.0%	53.0%	72.0%	86.0%	91.0%	92.0%
<i>Total Money Market & Fixed Income</i>	68.0%	62.0%	47.0%	28.0%	14.0%	9.0%	8.0%
Aggressive Allocation							
<i>Total Equity</i>	38.0%	53.0%	72.0%	86.0%	91.0%	92.0%	92.0%
<i>Total Money Market & Fixed Income</i>	62.0%	47.0%	28.0%	14.0%	9.0%	8.0%	8.0%

Note: The figures presenting projected target allocations are estimates. Actual allocations can differ significantly.

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Investment Due Diligence

Performance Summary



Asset Class, Fund, Peer Group, and Index	Ticker	Qtr Ret	1 Yr Ret	3 Yr Ret	5 Yr Ret	10 Yr Ret	5 Yr Std Dev	Expense Ratio
Money Market - Taxable								
Gabelli US Treasury MMkt AAA	GABXX	0.18	0.42	0.18	0.11	0.51	0.06	0.08
Money Market - Taxable Peer Group		0.10	0.20	0.09	0.06	0.44	0.03	0.51
USTREAS T-Bill Auction Ave 3 Mon Index		0.23	0.58	0.26	0.18	0.49	0.07	n/a
Short-Term Bond								
Vanguard Short-Term Bond Idx I	VBITX	0.60	0.06	1.28	1.21	2.88	1.25	0.05
Short-Term Bond Peer Group		0.56	1.23	1.08	1.31	2.46	1.27	0.77
Spl Barclays US1-5YrGov/Cr FIAdj		0.56	0.11	1.35	1.30	2.97	1.23	n/a
Intermediate-Term Bond								
Vanguard Total Bond Market Index I	VBTIX	1.48	(0.43)	2.44	2.15	4.48	3.00	0.04
Intermediate-Term Bond Peer Group		1.49	0.94	2.21	2.45	4.30	2.90	0.78
Spliced Barclays USAgg Float Adj		1.49	(0.33)	2.49	2.23	4.50	2.91	n/a
Inflation-Protected Bond								
Fidelity Inflation-Prot Bd Idx Instl	FIPBX	(0.49)	(0.83)	0.59	0.19	n/a	4.65	0.06
Inflation-Protected Bond Peer Group		(0.49)	0.10	(0.01)	(0.17)	3.35	4.25	0.72
BBgBarc US Treasury US TIPS TR USD Index		(0.40)	(0.63)	0.63	0.27	4.27	4.52	n/a
World Bond								
Vanguard Total Intl Bd Idx Institutional	VTIFX	0.62	(0.59)	3.61	n/a	n/a	n/a	0.07
World Bond Peer Group		2.08	1.89	0.31	1.72	4.02	4.92	0.99
BBgBarc Gbl Agg x USD FI Aj RIC TR HUSD Index		0.67	(0.53)	3.81	4.04	4.47	2.66	n/a

Performance as of June 30, 2017. Investments are listed by hypothetical risk (lowest to highest). Performance summary is based on data obtained from sources believed to be reliable, in particular Morningstar Direct, the individual fund managers, and/or the Plan's recordkeeper. Such data is not guaranteed as to accuracy and does not purport to be complete. Peer groups are created by Morningstar. Past performance does not guarantee future results.

*Bloomberg Barclays Global Aggregate ex US (USD Hedged) Index used as a proxy.

Disclaimer

The indices are widely recognized and accepted industry indices which consists of a managed or unmanaged pool of securities. The indices are typically rebalanced on a monthly or quarterly basis, may or may not include the re-investment of dividends and typically are gross of any assumed trading costs or management fees or other assumed occurred expenses. It is not possible to invest directly in an index.

Investing in mutual funds involves risk. Read the fund's prospectus carefully before making an investment decision.

Performance summary is based on data obtained from sources believed to be reliable, in particular Morningstar Direct and Vanguard, but such data is not guaranteed as to accuracy and does not purport to be complete. Past performance does not guarantee future results.

Performance Summary



Asset Class, Fund, Peer Group, and Index	Ticker	Qtr Ret	1 Yr Ret	3 Yr Ret	5 Yr Ret	10 Yr Ret	5 Yr Std Dev	Expense Ratio
Large Blend								
Vanguard Institutional Index I	VINIX	3.08	17.86	9.59	14.60	7.18	9.56	0.04
Large Blend Peer Group		2.92	17.17	7.60	13.35	6.21	9.96	1.00
S&P 500 TR USD Index		3.09	17.90	9.61	14.63	7.18	9.56	n/a
Small Blend								
Vanguard Small Cap Index I	VSCIX	1.94	19.13	6.78	14.14	7.86	12.20	0.05
Small Blend Peer Group		1.53	20.96	5.70	12.75	6.12	13.22	1.21
Spliced Small Cap		1.93	19.09	6.75	14.10	7.76	13.27	n/a
Foreign Large Blend								
Vanguard Developed Markets Index Instl	VTMNX	6.38	20.17	1.86	9.11	1.41	11.35	0.06
Foreign Large Blend Peer Group		6.25	19.13	1.18	7.81	0.96	11.32	1.10
Spliced Developed ex US		6.16	20.47	1.77	9.10	1.22	11.41	n/a
Diversified Emerging Mkts								
Vanguard Emerging Mkts Stock Idx Instl	VEMIX	3.49	18.93	0.68	3.40	1.63	14.46	0.11
Diversified Emerging Mkts Peer Group		5.87	20.48	0.48	4.07	1.48	13.75	1.46
Spliced Emerging Markets		3.73	19.39	0.60	3.55	1.71	14.44	n/a
Real Estate								
Vanguard REIT Index Institutional	VGSNX	1.63	(1.88)	8.09	9.30	6.21	13.79	0.10
Real Estate Peer Group		1.85	(0.61)	7.25	8.49	5.19	12.91	1.22
REIT Spliced		1.65	(1.82)	8.19	9.38	6.16	13.79	n/a

Performance as of June 30, 2017. Investments are listed by hypothetical risk (lowest to highest). Performance summary is based on data obtained from sources believed to be reliable, in particular Morningstar Direct, the individual fund managers, and/or the Plan's recordkeeper. Such data is not guaranteed as to accuracy and does not purport to be complete. Peer groups are created by Morningstar. Past performance does not guarantee future results.

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Performance Summary



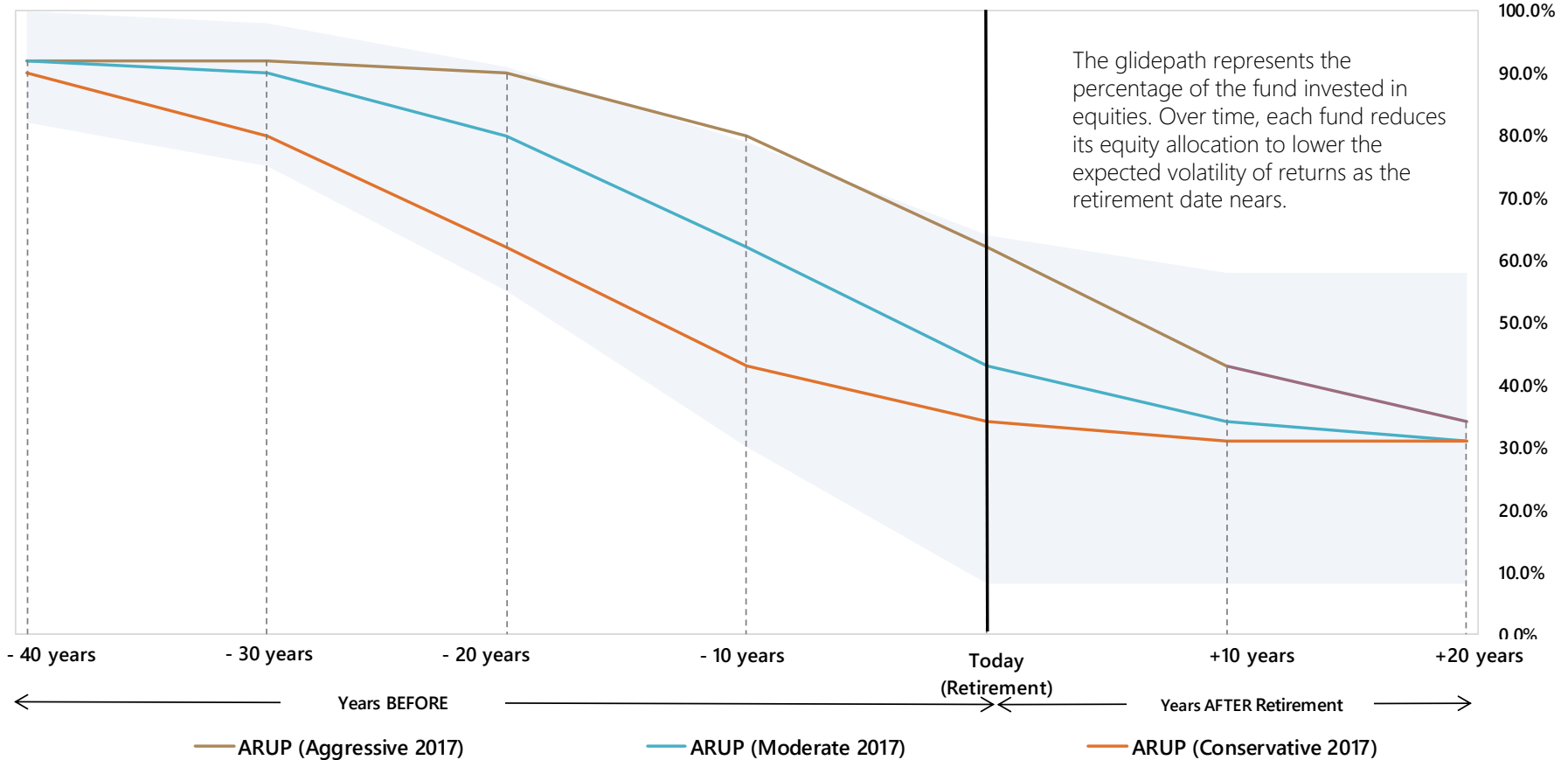
Target Retirement Funds

Asset Allocation & Performance Key	
90/10 Model Portfolio	Aggressive Glidepath < 31
80/20 Model Portfolio	Moderate Glidepath < 31, Aggressive 31-40
70/30 Model Portfolio	Conservative Glidepath < 31, Moderate Glidepath 31-40, Aggressive Glidepath 41-50
60/40 Model Portfolio	Conservative Glidepath 31-40, Moderate Glidepath 41-50, Aggressive Glidepath 51-60
50/50 Model Portfolio	Conservative Glidepath 41-50, Moderate Glidepath 51-60, Aggressive Glidepath 61+
40/60 Model Portfolio	Conservative Glidepath 51-60, Moderate Glidepath 61+
30/70 Model Portfolio	Conservative Glidepath 61+

InvestMap | Target Date Funds Glidepath



% Equity Allocation (includes Real/Alternative Assets)



Years	-40 years	-30 years	-20 years	-10 years	Today	+10 years	+20 years
Industry Max	100.0%	98.0%	91.0%	79.0%	64.0%	58.0%	58.0%
Industry Min	82.0%	75.0%	55.0%	30.0%	8.0%	8.0%	8.0%
ARUP (Aggressive 2017)	92.0%	92.0%	90.0%	80.0%	62.0%	43.0%	34.0%
ARUP (Moderate 2017)	92.0%	90.0%	80.0%	62.0%	43.0%	34.0%	31.0%
ARUP (Conservative 2017)	90.0%	80.0%	62.0%	43.0%	34.0%	31.0%	31.0%

Source: Cook Street, Morningstar. Data is subject to change.

Peer Group Average represents the moderate allocation glidepath only.

Note: The figures presenting projected target allocations are estimates. Actual allocations can differ significantly.

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Appendix

Glossary

Asset Class

An **asset class** is a group of securities that exhibit similar characteristics and tend to react similarly in different market conditions. Basic asset classes include (equities (stocks), fixed-income securities (bonds), and cash equivalents (money market vehicles).

Large Market Capitalization (Large Cap)

While definitions of the term vary, Morningstar® defines **large cap** as the largest 70% of publicly traded companies in the United States (generally greater than \$15 billion).

Market Capitalization

Market capitalization is the measurement of a company's size computed by multiplying the number of that company's outstanding shares by its stock price.

Market Index

A **market index** reflects the value of an aggregation of investment vehicles and is expressed against a base value from a specific date. An example of a market index is the S&P 500 which is computed by combining the price of 500 U.S. large capitalization stocks together into one value.

Maturity

Maturity is defined as the length of time until the principal amount of a bond must be repaid.

Mid-Market Capitalization (Mid-Cap)

While definitions of the term vary, Morningstar® defines **mid-cap** as the next largest 20% of publicly traded companies (after large cap) in the United States (generally greater than \$2.5 billion but less than \$15 billion).

Peer Group

An investment **peer group** is a group of investments with similar characteristics, mandates, industries, size, etc. Peer groups provide excellent tools for benchmarking the relative performance of an investment.

Glossary (cont.)

Prospectus Net Expense Ratio

The **prospectus net expense ratio** is a forward-looking estimate on the expense required to manage a fund during the coming fiscal year. It expresses the percentage of assets deducted each year for 12b-1 fees, management fees, administrative fees, operating costs, etc.

Small Market Capitalization (Small Cap)

While definitions of the term vary, Morningstar® defines **small cap** as the smallest 10% of publicly traded companies in the United States (generally less than \$2.5 billion).

Standard Deviation

Standard deviation is a measure of dispersion relative to a data set's mean. As an investment data point, standard deviation serves as a measure of volatility and therefore risk: the greater an investment's standard deviation, the greater the likelihood of returns further away from the investment's average return.

Target Retirement Fund Glidepath

Refers to the formula used to determine the asset allocation mix of a target date retirement fund. A **target retirement fund's glidepath** asset allocation mix becomes progressively more conservative (e.g. more capital preservation and fixed-income assets and fewer equities) as the fund gets closer to its target date.

Value Fund

Value funds are typically stock mutual funds that primarily hold stocks that are deemed to be undervalued in price and likely pay dividends.

Disclaimer

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The InvestMap options provide a dynamic asset allocation that adjusts over time based upon a participant's age and distance from retirement. The glidepath structure is based upon an assumed retirement age of 65. The underlying investments are subject to market risk (including falling share prices), interest rate risk, credit risk, inflation risk, and other risks, including any risks assumed by the underlying funds. Diversification does not ensure a profit or protect against a loss, and the principal value of any investment in an InvestMap option is not guaranteed at any time.

Before investing, read the prospectus for each investment option and carefully consider the investment objectives, risks, charges and expenses. Past performance does not guarantee future results.

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