

Thoughts from Northern Trust Asset Management

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NORTHERN TRUST

LEADING, GLOBAL INVESTMENT MANAGER

With offices in 25 locations around the globe, we serve the world's most sophisticated and demanding clients across 51 countries.

Leveraging the strength of Northern Trust

Global network of investment professionals with deep expertise

Forward-looking, historically aware investment approach

Progressive thought leadership and unique insights

Solving individual client challenges with thoughtful, innovative solutions

Client-centric culture dedicated to meeting clients' needs

“**\$906B**
TOTAL AUM*

World's 13th largest
asset manager^ ”

* As at 30th June 2016

^Rankings based on total worldwide assets under management of \$875.3 billion as of December 31, 2015.

Pensions & Investments 2016 Special Report on Money Managers appeared in the publication's May 30, 2016, issue and online at www.pionline.com/researchcenter. Ranking information reprinted with permission, *Pensions & Investments*, copyright Crain Communications, Inc.

Factor Investing

Managing factor based equity portfolios since 1994

ESG

More than 25 years of managing portfolios to ESG principles.

Index Strategies

Focus on harder to manage exposures. 4th Largest manager of index assets

Cash

Money market funds in Sterling, Euro and US Dollars.

Bespoke

Structuring strategies to suit clients' individual objectives

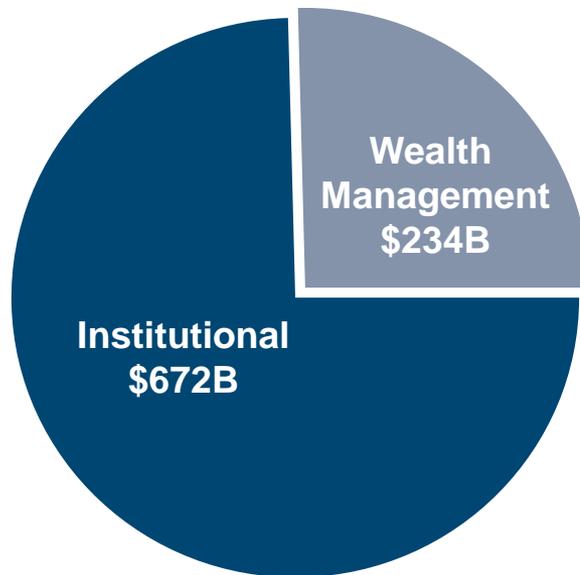
Efficient

Offering innovative tax-efficient investment vehicles.

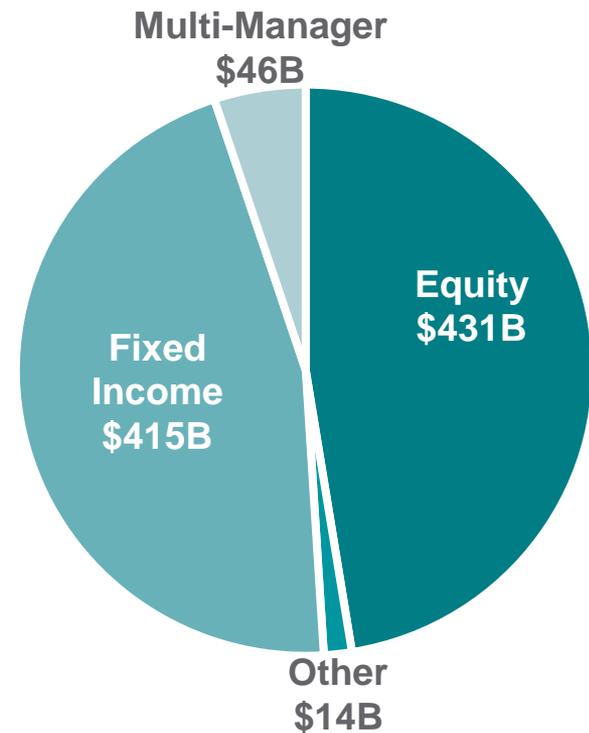
NORTHERN TRUST ASSET MANAGEMENT OVERVIEW

Diversified asset base by investor type and asset class

Assets Under Management



By Investor Type

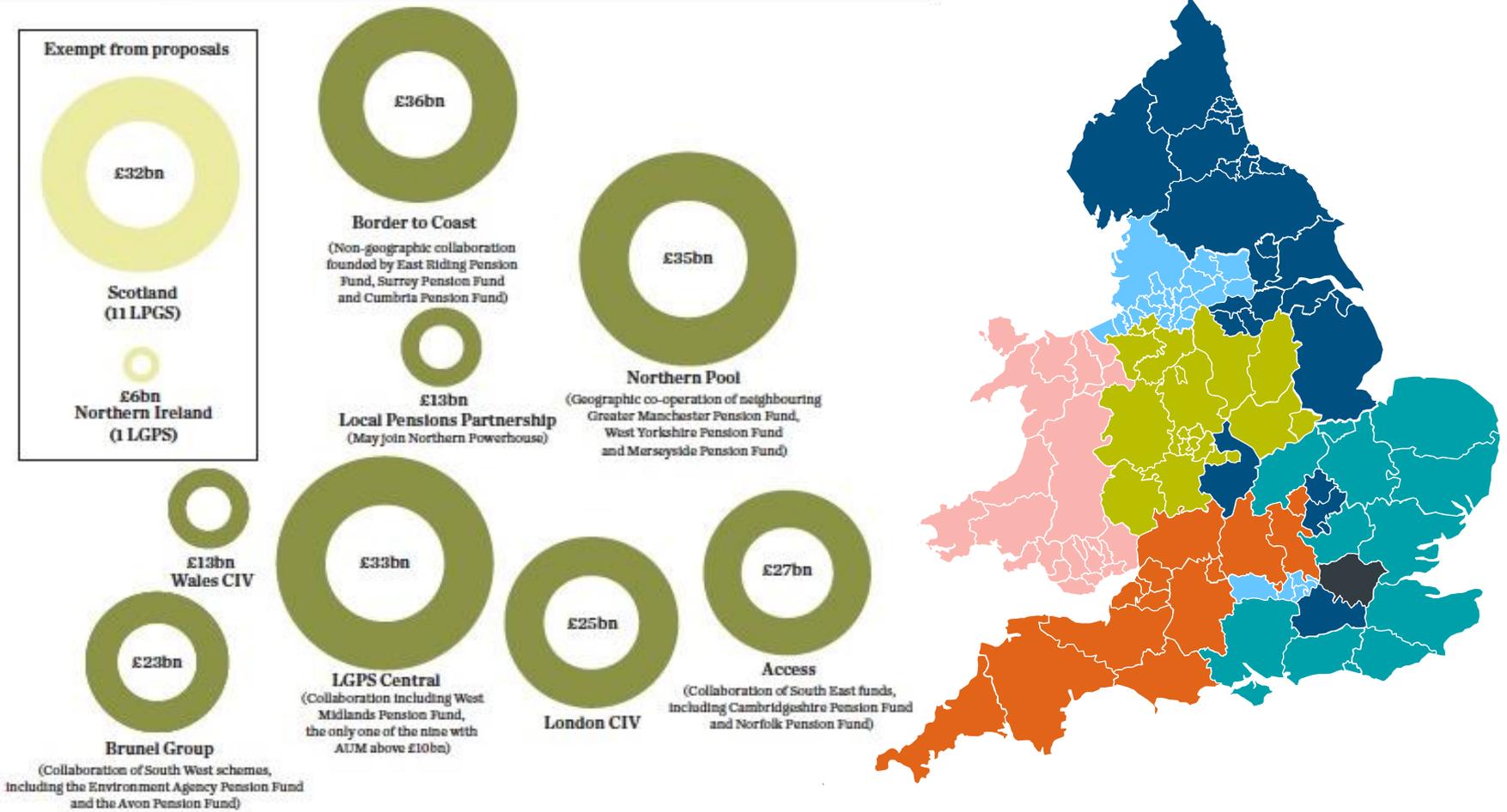


By Asset Class

* As at 30 June 2016

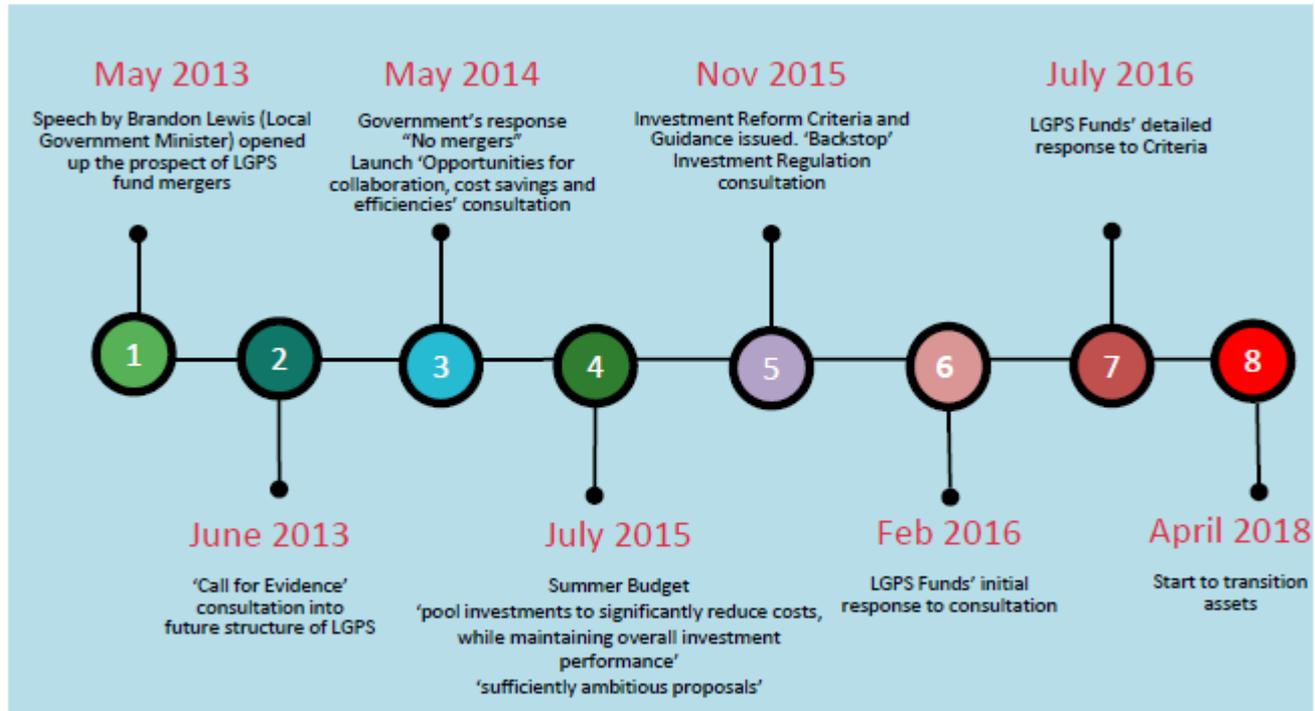
£207BN WILL BE MOVED INTO POOLED ARRANGEMENTS BY 2018

1. The emerging structure of the Local Government Pension Scheme



Source: IPE

TIMELINE



Project "pool": Multi asset pool Plus (map+) gives possible design

- Authorised Contractual Scheme for traditional assets
- One single national infrastructure pool
- Existing passive life contracts to remain outside for time being

But also Collective Asset Pool (CAP) approach

LOOKING AHEAD

ABOUT OUR FIVE-YEAR OUTLOOK

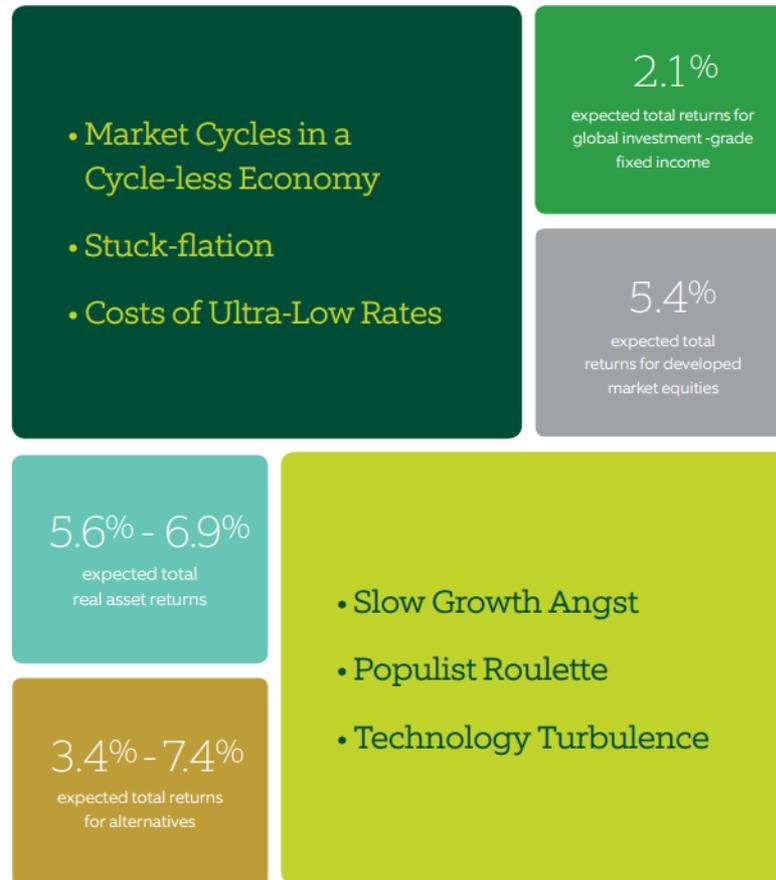
Our Capital Market Assumptions is the foundation of our investment practices.

Annual **five-year** outlook

Global

Forward-looking,
historically aware

*Firm-wide participation, firm-wide
implementation*



Source: Northern Trust Capital Market Assumptions Working Group, Investment Policy Committee. Five year forecasts developed annually, most recent forecasts released 7/18/2016.

WHAT TO WATCH IN THE YEARS AHEAD

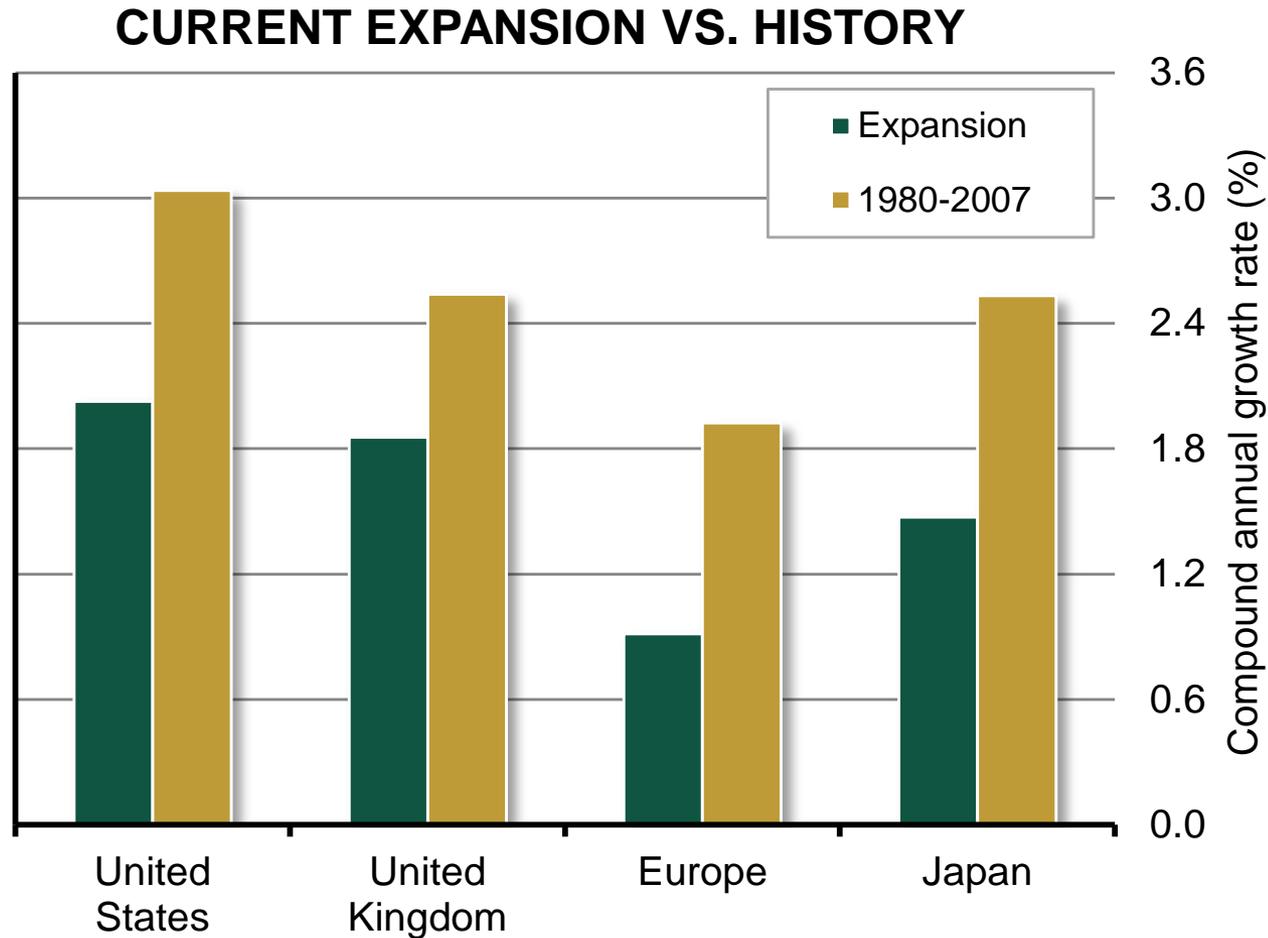
- **Market Cycles in a Cycle-less Economy**
- **Stuck-flation**
- **Costs of Ultra-Low Rates**
- **Slow Growth Angst**
- **Populist Roulette**
- **Technological Turbulence**



**Slow Growth
Angst: Lack
of opportunity
is impeding
global growth.**

SLOW GROWTH ANGST

Economic growth during the current recovery has lagged historical growth from 1980-2007.



Sources: Northern Trust, International Monetary Fund, Bloomberg. *Current expansion continued at current growth rate for five years.



**Populist
Roulette: Is the
rise of populist
politics putting
established
systems at
risk?**

POPULIST ROULETTE

The rise of populist movements globally is leaving markets unsure of what to expect from the political arena.

October 2016:

- Austria: Presidential re-vote
- Hungary: Referendum on EU-imposed refugee quotas

November 2016:

- United States: Presidential election
- Italy: Referendum on constitutional reform

March 2017:

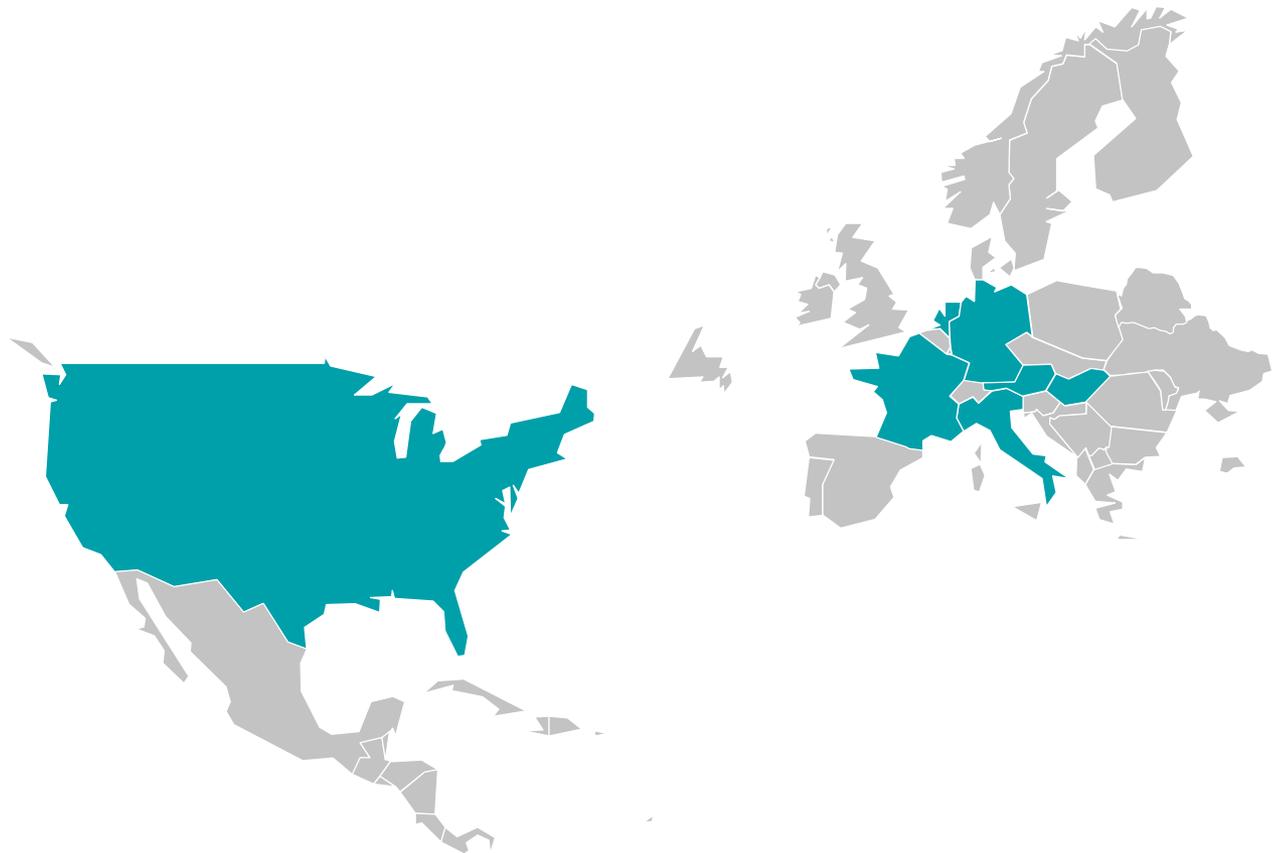
- Netherlands: General election

April 2017:

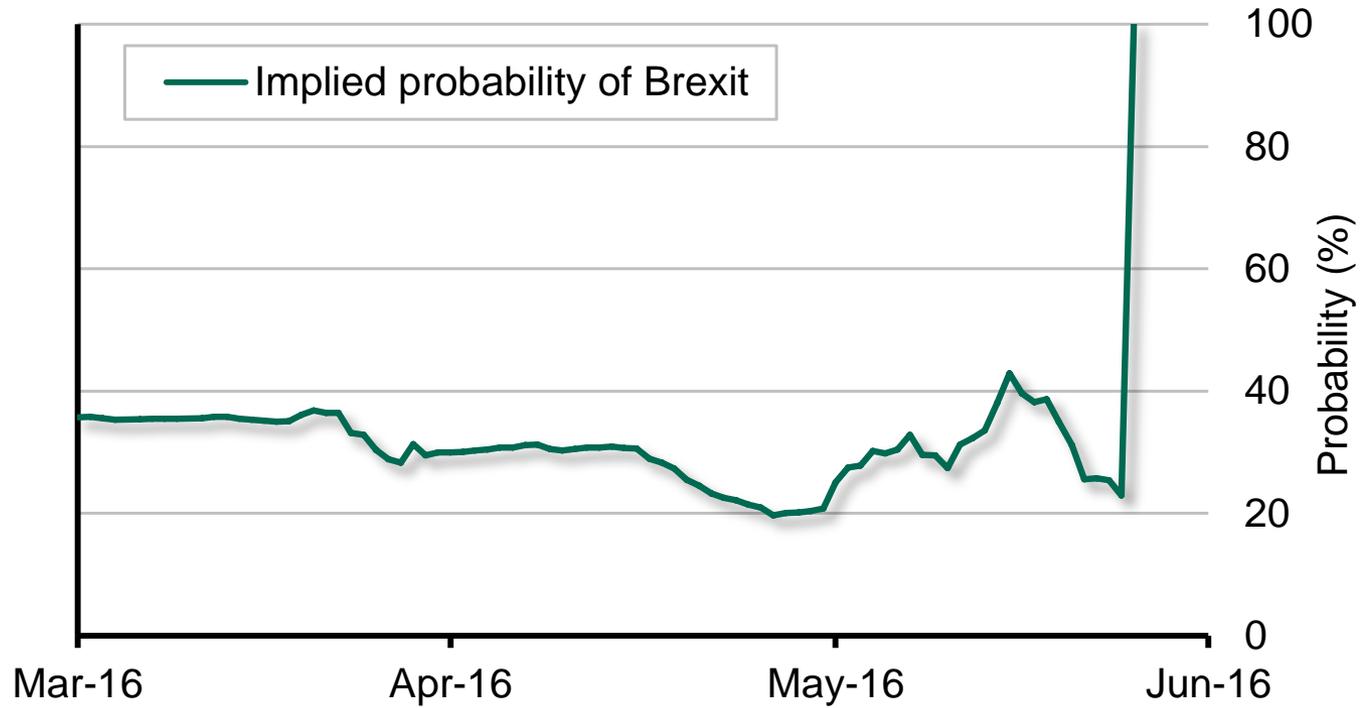
- France: General election

September 2017:

- Germany: General election



POPULIST ROULETTE



Source: Northern Trust, Bloomberg, Real Clear Politics.

A PEEK AT OUR EXPECTATIONS

FIXED INCOME FIVE-YEAR RETURN FORECASTS

Five Year Return Forecasts (all in % annualised)

Five Year Return Forecasts by CMA Year

5-Year Actual

Asset Class		Proxy	2016	2015	2014	2013	2012	2011	5-Year Actual	
Fixed Income	United States	Cash	3-month U.S. T-Bill	0.5	1.5	0.9	0.5	0.5	1.5	0.1
		Inflation Linked	BarCap U.S. TIPS	2.5	2.5	3.0	2.7	1.4	2.7	2.6
		Investment Grade	BarCap U.S. Aggregate	3.0	3.0	3.0	2.8	2.0	3.3	3.8
		High Yield	BarCap U.S. High Yield	5.3	5.6	5.6	6.1	6.1	5.6	5.8
		Municipal	BarCap Municipal	2.8	3.5	4.0	3.0	2.9	3.5	5.3
	UK	Cash	3-month Gilts	0.3	1.5	1.3	0.6	1.0	2.3	0.5
		Inflation Linked	BarCap UK Inflation Linked	2.0	2.6	3.0	3.2	2.7	2.8	9.8
		Investment Grade	BarCap Sterling Aggregate	2.6	3.0	3.7	3.5	3.1	2.6	7.8
	Europe	Cash	3-month German Bunds	-0.5	0.0	0.4	1.0	1.3	2.4	-0.1
		Inflation Linked	BarCap Euro Inf. Linked	1.4	1.8	2.8	3.2	3.1	3.3	5.3
		Investment Grade	BarCap Euro Aggregate	1.4	2.0	2.8	3.0	2.9	3.6	6.5
	Global	Global Aggregate	BarCap Global Aggregate	2.1	2.5	2.7	2.6	2.0	2.1	4.8
		Global High Yield	BarCap Global High Yield	5.3	5.8	5.8	6.5	6.5	*	6.8
Emerging Market Debt		JP Morgan GBI-EM Diversified	5.5	6.5	6.0	7.0	6.1	6.9	-2.2	

*No forecast developed

Note: Forecasts listed here represent total return forecasts for primary asset classes, geometrically averaged. For income component, arithmetic average, risk and correlation assumptions for portfolio construction purposes, or to inquire about asset class forecasts not listed, please contact your relationship manager.

EQUITY FIVE-YEAR RETURN FORECASTS

Five Year Return Forecasts (all in % annualised)

Five Year Return Forecasts by CMA Year

5-Year Actual

Asset Class		Proxy	2016	2015	2014	2013	2012	2011	5-Year Actual
Equity	Developed	United States	4.8	5.6	6.6	7.1	8.5	7.5	12.0
		Canada	6.0	6.9	7.1	7.6	8.0	7.5	3.9
		United Kingdom	5.9	7.0	8.6	8.4	8.0	7.5	5.6
		Europe	5.3	6.8	8.2	7.8	7.0	7.0	5.5
		Japan	5.6	6.2	6.6	5.8	5.0	4.0	9.6
		Australia	8.0	8.1	9.1	9.4	8.5	8.0	7.1
		Developed Markets	5.4	6.1	7.2	7.4	7.8	7.3	9.4
	Emerging	Asia	8.0	8.5	10.0	9.9	11.5	11.5	2.2
		Latin America	5.6	5.7	7.9	10.6	11.0	10.0	1.6
		EMEA	6.0	6.5	7.9	10.4	9.5	8.5	-1.5
		Emerging Markets	7.3	7.8	9.0	10.1	11.1	10.7	2.4
	Global Equities		MSCI All Country World	5.8	6.5	7.4	7.7	8.4	7.8

*No forecast developed

Note: Forecasts listed here represent total return forecasts for primary asset classes, geometrically averaged. For income component, arithmetic average, risk and correlation assumptions for portfolio construction purposes, or to inquire about asset class forecasts not listed, please contact your relationship manager.

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