For participants to the
Sovereign Investment
Workshop, Milan, July the 14th

Accelerating out of the New Normal: How can SWFs win in a slow growth economy?

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Sovereign Investment Workshop, Milan, July the 14^{th} 2017

Which "New Normal" are we moving in?

1. Global economics

- The global economic outlook has recently improved and there is growing evidence of a broad based pickup in growth. **Is this time different?**
- Commodity prices recently stabilized after the sharp correction in 2015-16. Commodity-exporting economies adjusted their fiscal/monetary position. **Are current oil prices the new normal?**
- Economic transformation is underway, with the drivers of growth shifting towards climate change (despite Trump!), innovative and disruptive technologies and the high-tech service sector. **Are SWFs adapting?**

2. Global politics

- To what extent will **Trump** curb global trade, re-negotiate international agreements and weaken western defense alliances?
- Are Brexit and the Trump's victory one-off events or the beginning a global populist **anti-globalization** trend?
- Could this in particular affect the macroeconomic model of export-oriented **Emerging economies**?
- Is current optimism about European politics justified or can we expect **populism** and anti-establishment sentiment to find new vigor going forward?
- Could Trump be the ideal candidate to counter the feared consequences of Fed tightening with **expansive fiscal policy**?

3. Global markets

- Normalization in monetary policy appears to be closer than before. Will global markets be able to cope with this **regime change**?
- The specter of **rising interest rates** makes longer-duration fixed income investments more challenging. Fixed income returns can be negative!
- **Valuations** in key markets are stretched and complacency might have reached levels at which sudden spikes in **volatility** could be painful.
- SWFs experienced good returns over the last two decades. Are we entering a period of **low returns**?
- Are SWFs well equipped to deal with these **investment challenges**?

Source: UBS AM, 2017.

Global cycle: Ten years after the financial crisis

The global situation appears to have improved over the last 4–6 months

Global PMI Heat Map

	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17
US	51.3	51.5	50.8	50.7	51.3	52.9	52	51.5	53.4	54.1	54.3	55	54.2	53.3	52.8
China	48	49.7	49.4	49.2	48.6	50.6	50	50.1	51.2	50.9	51.9	51	51.7	51.2	
Eurozone	51.2	51.6	51.7	51.5	52.8	52	51.7	52.6	53.5	53.7	54.9	55.2	55.4	56.2	56.8
Spain	54.1	53.4	53.5	51.8	52.2	51	51	52.3	53.3	54.5	55.3	55.6	54.8	53.9	
France	50.2	49.6	48	48.4	48.3	48.6	48.3	49.7	51.8	51.7	53.5	53.6	52.2	53.3	55.1
Italy	52.2	53.5	53.9	52.4	53.5	51.2	49.8	51	50.9	52.2	53.2	53	55	55.7	
Germany	50.5	50.7	51.8	52.1	54.5	53.8	53.6	54.3	55	54.3	55.6	56.4	56.8	58.3	58.2
UK	50.9	51.2	49.7	50.7	52.5	48.2	53.5	55.2	54.6	53.5	56	55.4	54.5	54.2	
EM	48.9	50.2	49.6	49.5	49.2	50.3	50.1	50.3	51	50.7	51	50.8	51.3	51.6	
Mexico	53.1	53.2	52.4	53.6	51.1	50.6	50.9	51.9	51.8	51.1	50.2	50.8	50.6	51.5	
India	51.1	52.4	50.5	50.7	51.7	51.8	52.6	52.1	54.4	52.3	49.6	50.4	50.7	52.5	
Canada	49.4	51.5	52.2	52.1	51.8	51.9	51.1	50.3	51.1	51.5	51.8	53.5	54.7	55.5	
Japan	50.1	49.1	48.2	47.7	48.1	49.3	49.5	50.4	51.4	51.3	52.4	52.7	53.3	52.4	52.8

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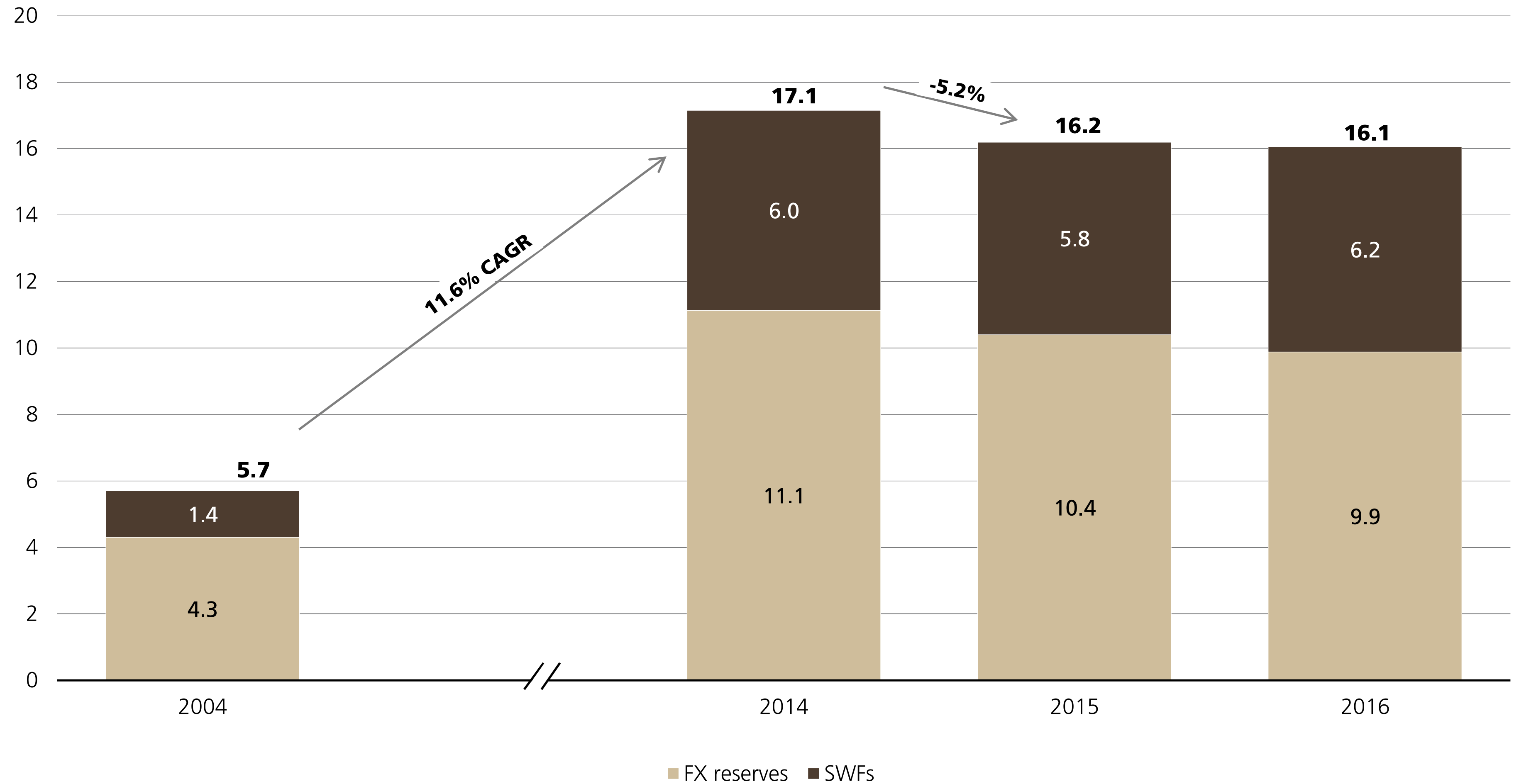
Source: Markit via DataStream, UBS Asset Management
Information as of April 26, 2017

In 2016 sovereign wealth stabilized

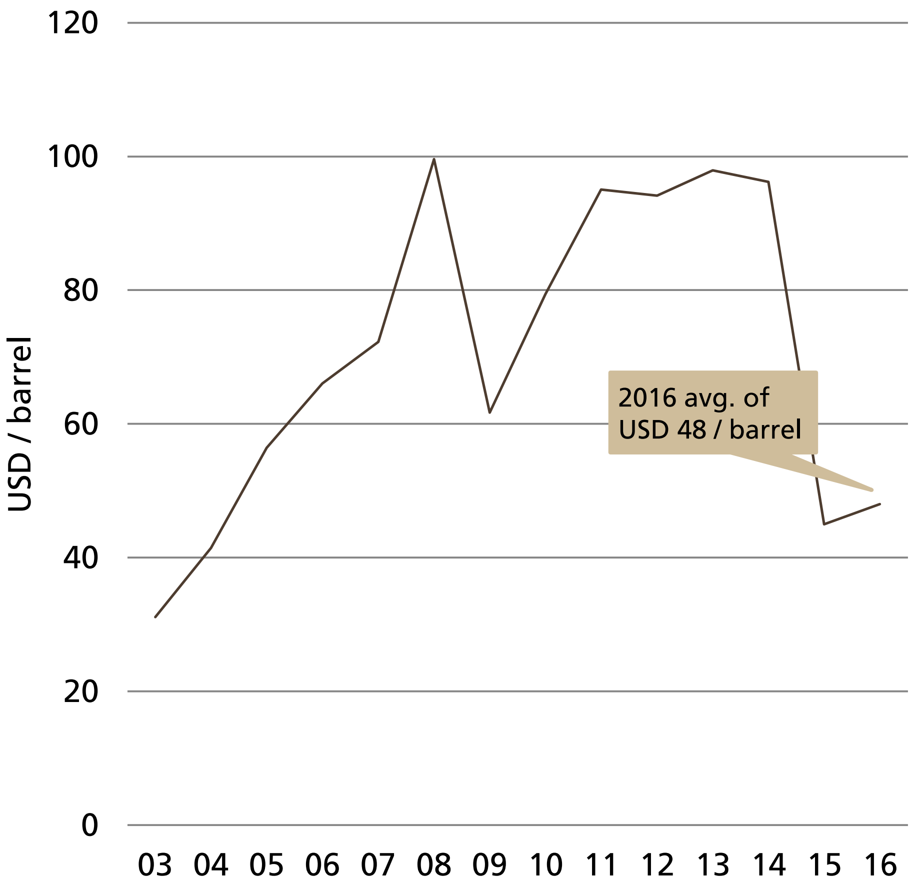
FX reserves and SWFs, USD trillion



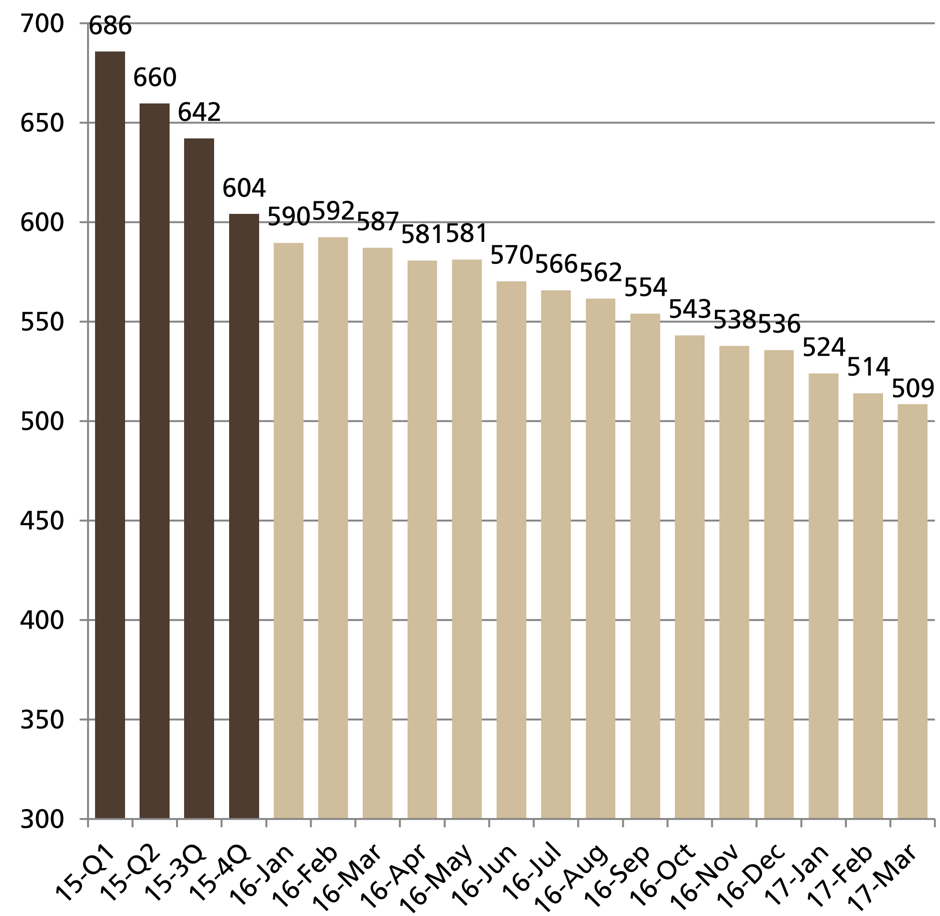
Source: World Bank and Sovereign Wealth Fund Institute. Data as of year-end 2016.
SAMA and SAFE counted within FX reserves.

Oil prices and Saudi FX reserves

Oil Prices, WTI 2003 – 16 (USD/barrel)

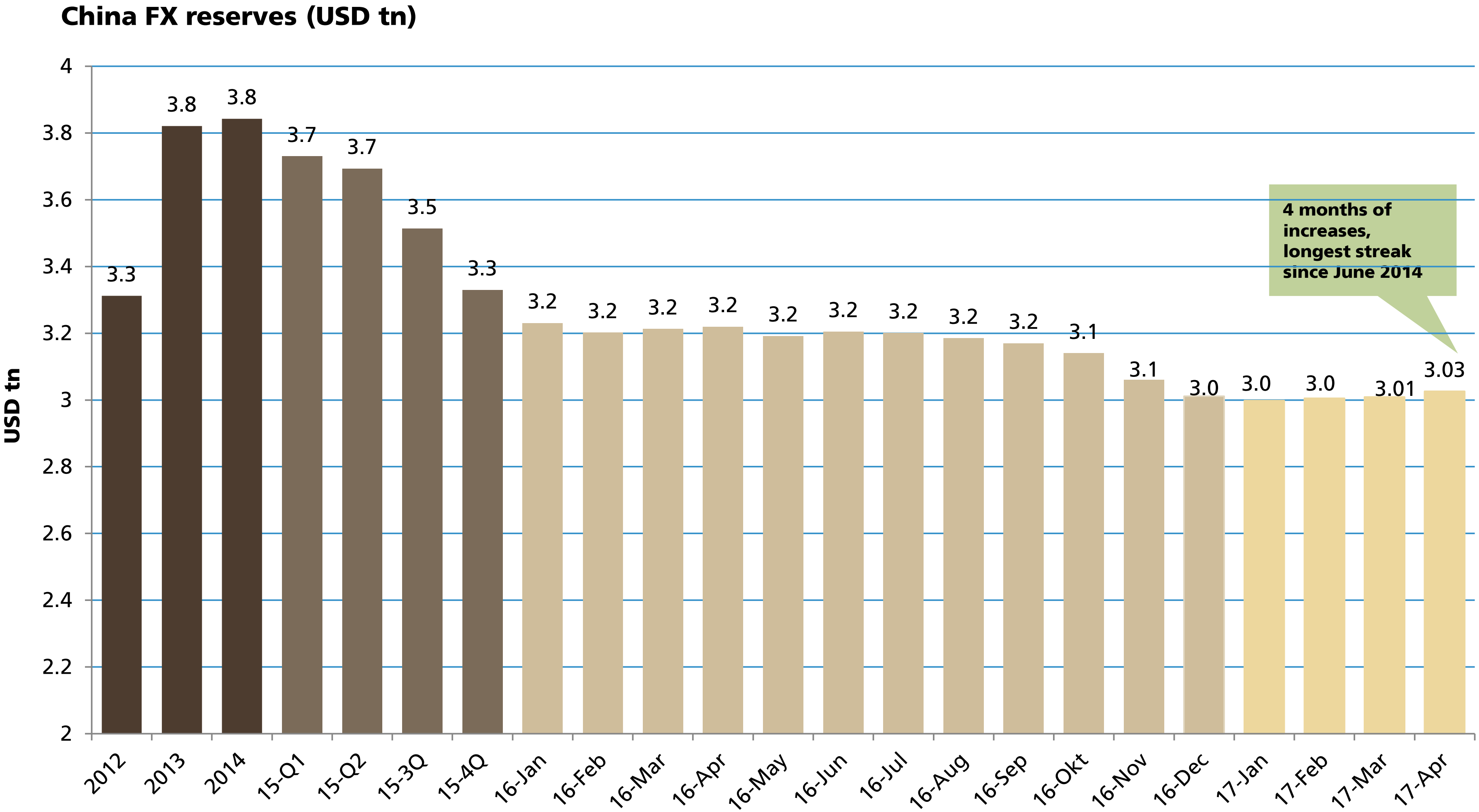


Saudi Arabia official reserve assets (USD bn)



Source: IMF World Economic Outlook as of April 2017, SAMA 2017.

Chinese FX Reserves

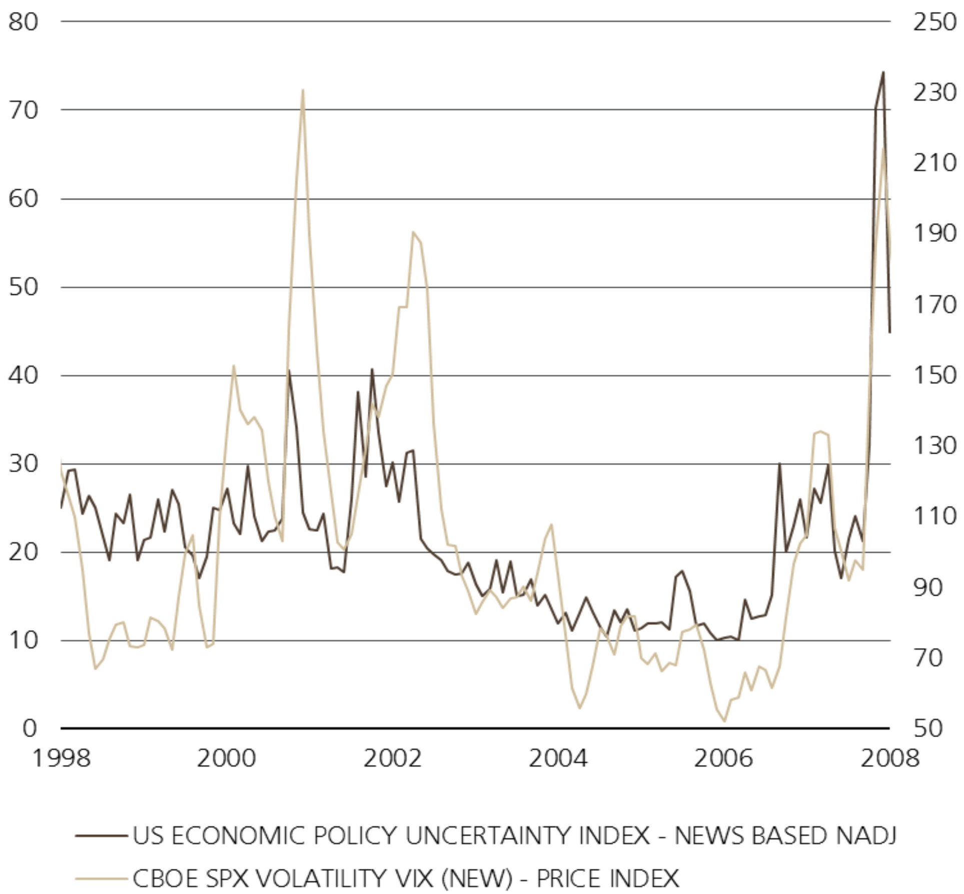


Source: SAFE May 2017

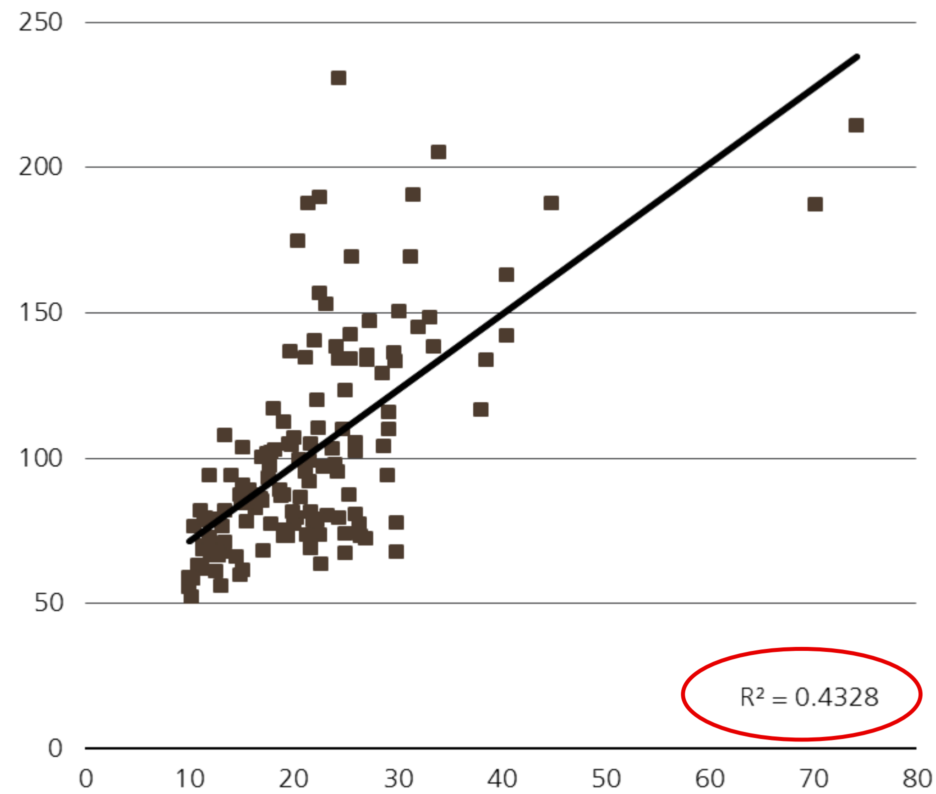
Impact of QE on implied volatility

Relationship between policy uncertainty and implied volatility well established pre-QE…

US Economic Policy Uncertainty Index v VIX to Dec 2008 (Pre QE)



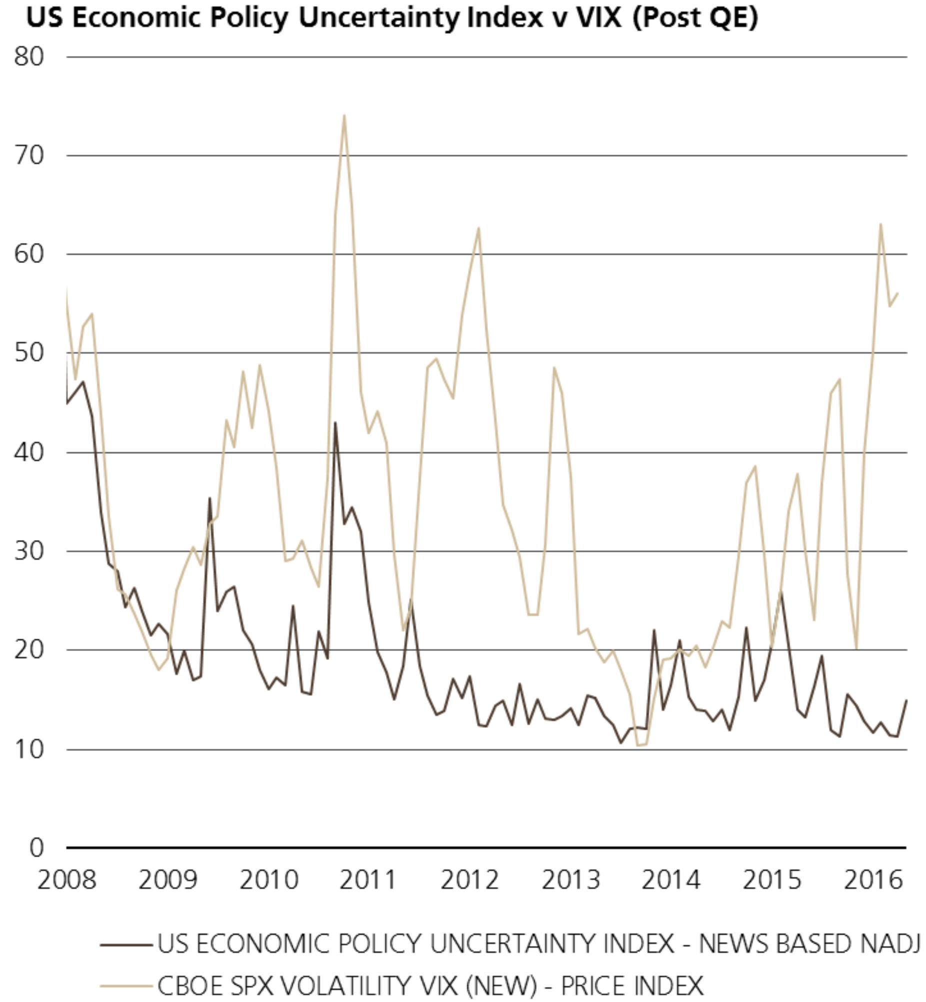
US Economic Policy Uncertainty Index v VIX to Dec 2008 (Pre QE)

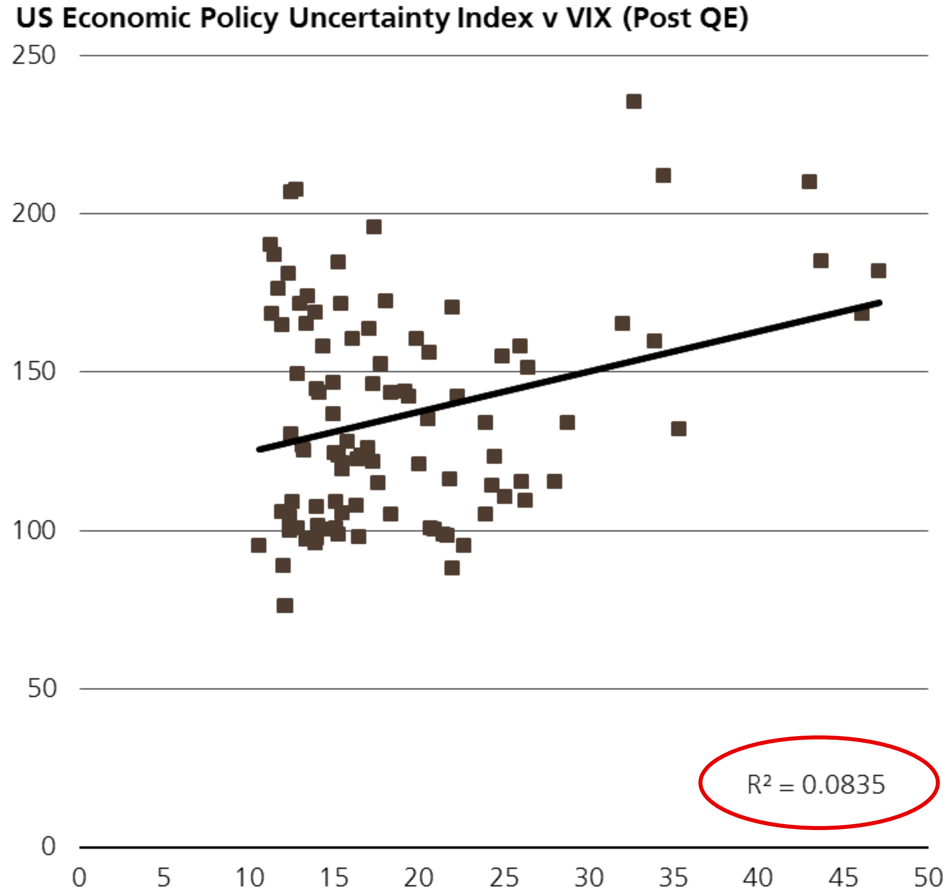


[1]Source: DataStream, UBS Asset Management as at April 20, 2017

Impact of QE on implied volatility

…but relationship between policy uncertainty and VIX has broken down in a QE world





[1]Source: DataStream, UBS Asset Management as at April 20, 2017

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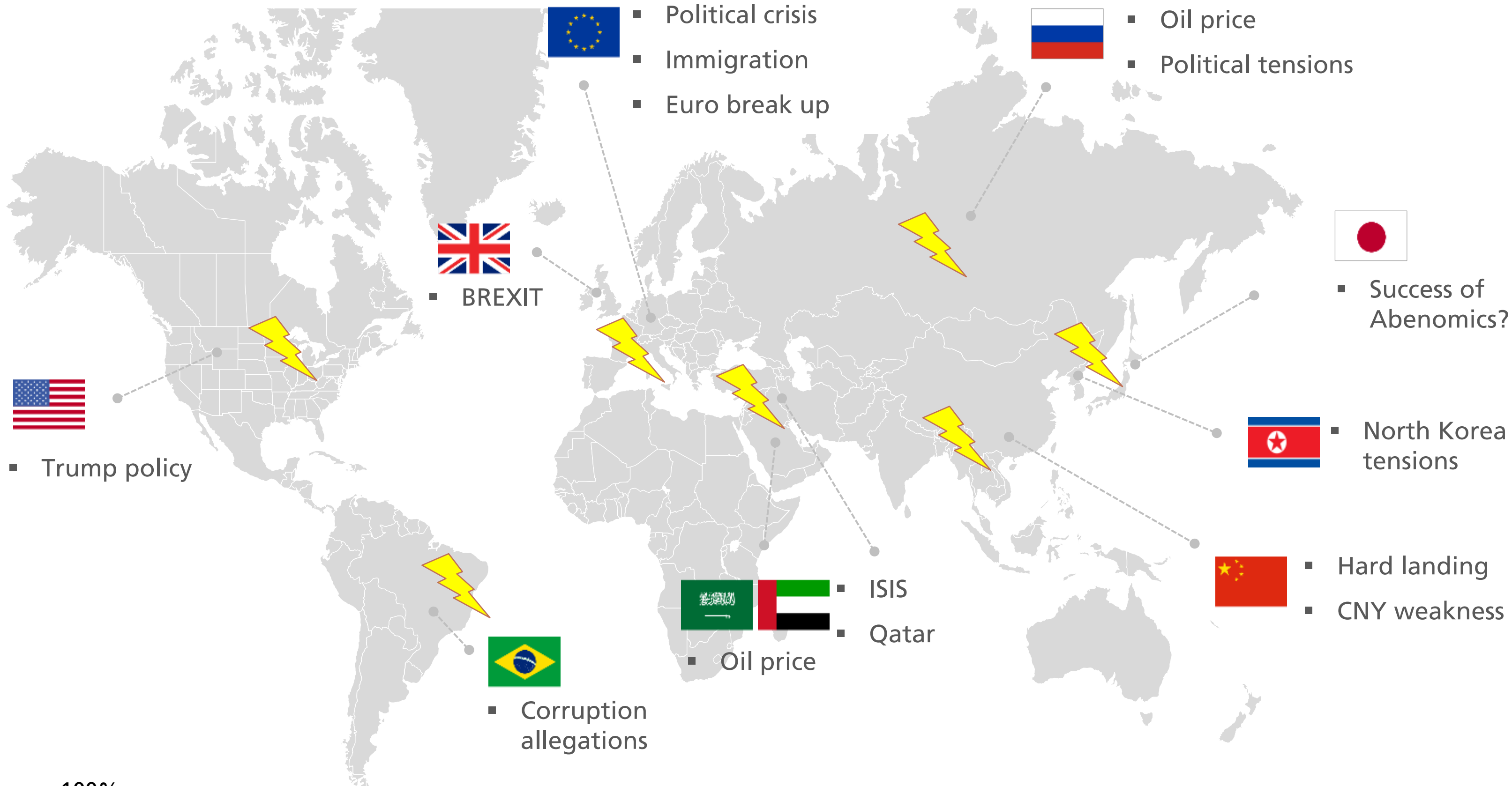
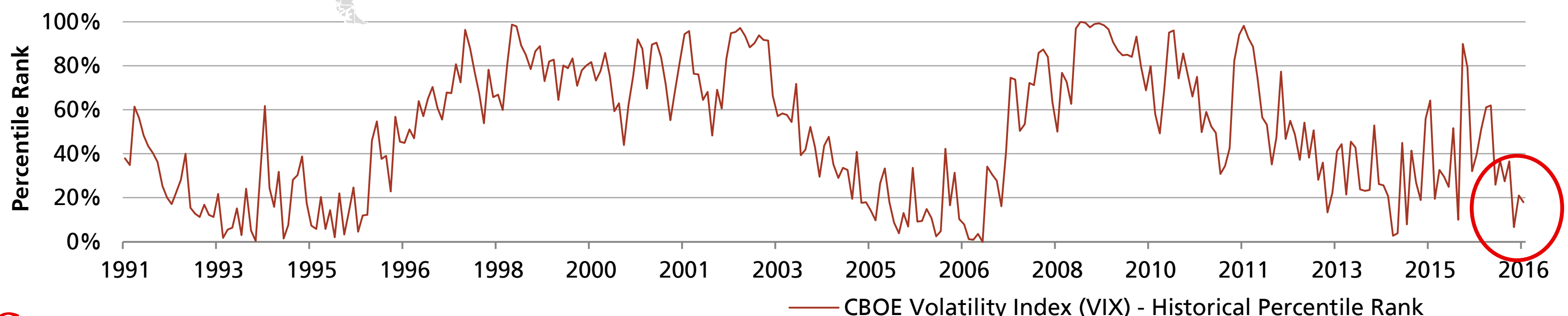
Political outlook - Higher volatility ahead?

No lack of political concerns





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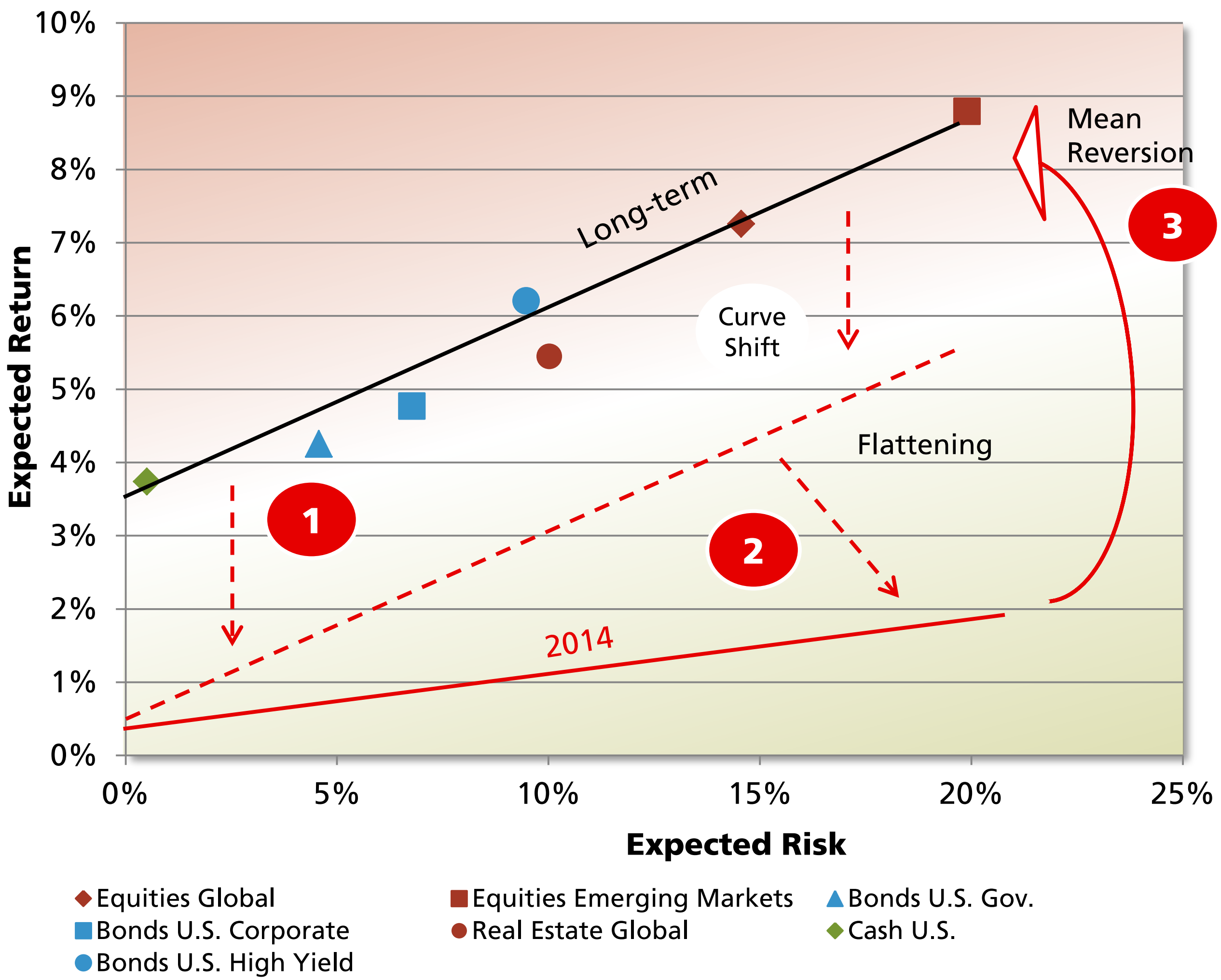
Source: UBS Asset Management, Bloomberg Finance LP; Observation period: 12/31/1990 – 04/30/2017

How will normalisation happen?

The end of quantitative easing poses major risks in terms of asset class volatility



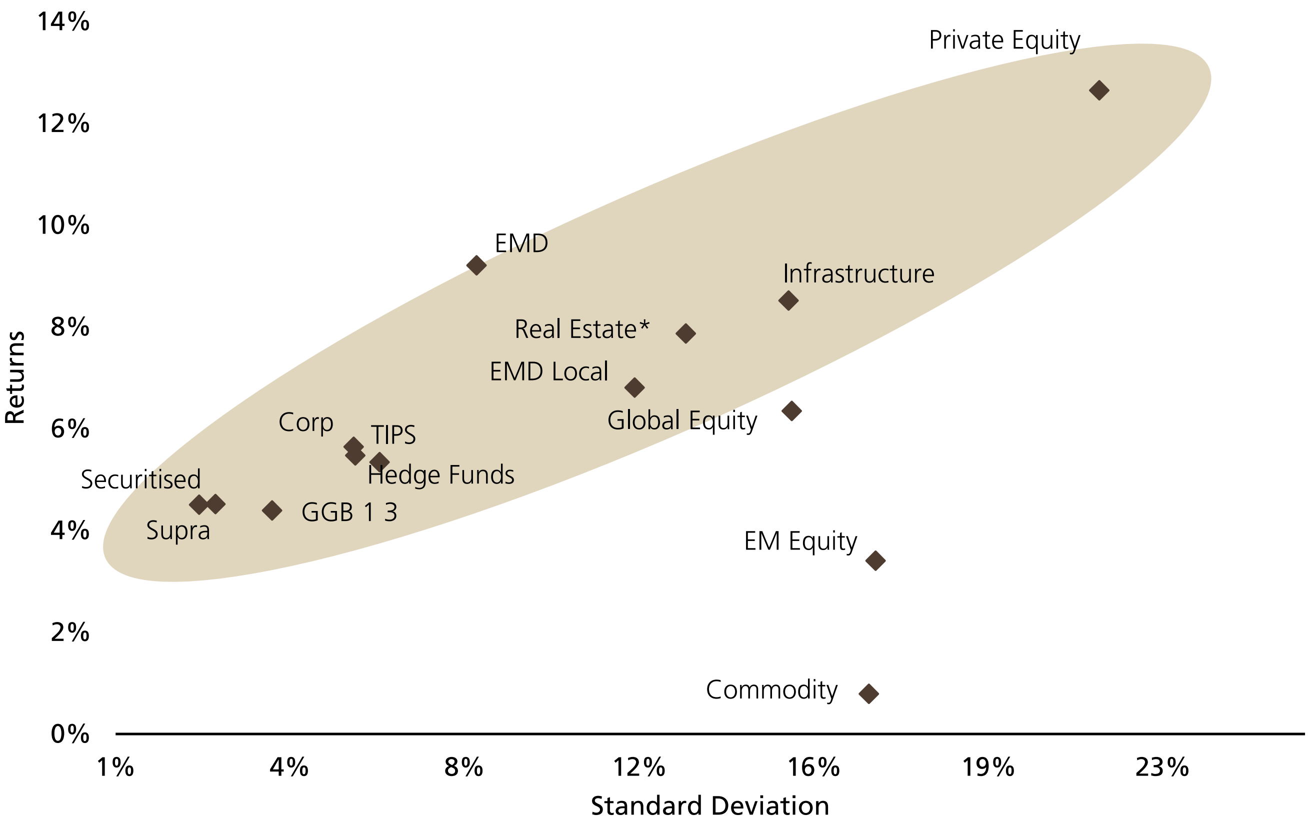
1) Following the financial crisis, the generally low interest rate environment led to a parallel downward shift of the risk/return curve, leading to generally lower expected returns for the same level of risk
2) As a consequence of QE measures, a further flattening of the risk/return curve happened, forcing investors to search for yield by investing in alternative and illiquid asset classes which are associated with high expected risk
3) How will the return to more "normal" financial market conditions take place? Expect more volatility as monetary policy conditions shift

The information presented reflects UBS Asset Management's expectations for prospective risk and return using current market assumptions. There is no assurance these projections will be realized.

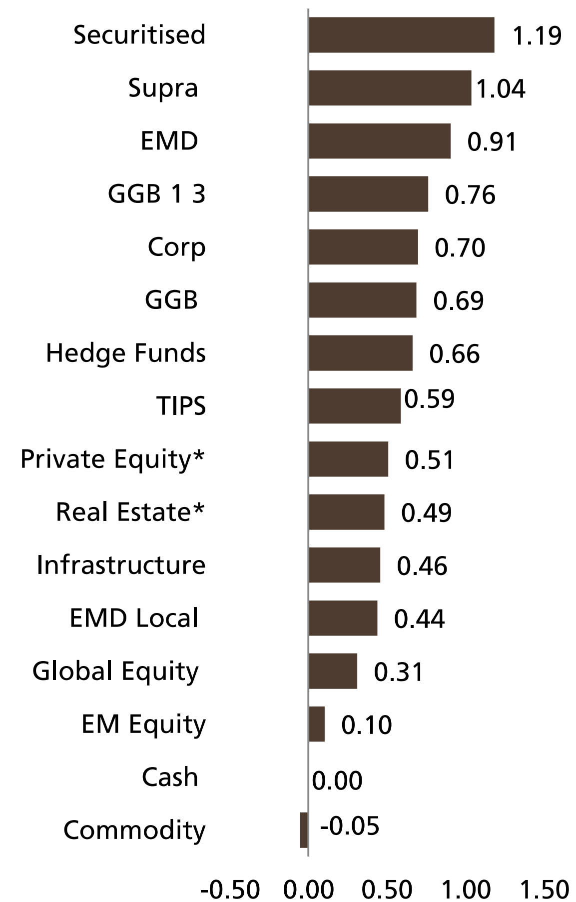
The era of fixed income

In risk-adjusted terms, fixed income assets performed strongly over the last fifteen years

Historical Returns and Standard Deviation, 2002 – 2017YTD



Sharpe Ratios, 2002 – 2017YTD



Source: UBS AM. Please note that past performance is not a guide to the future. Data as of end of May 2017.
* Data for Private Equity and Real Estate for 2003 – 4Q 2016.

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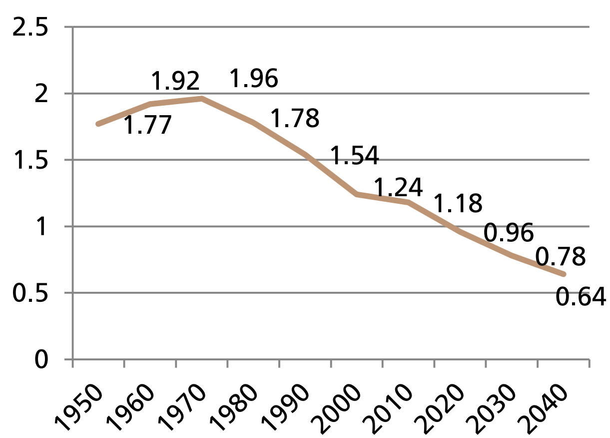
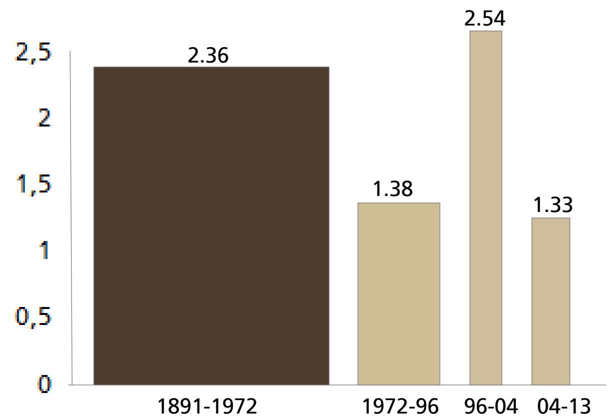
Low growth & low return: Cyclical or structural?

The probability of the lower-for-longer scenario has fallen following Trump's election

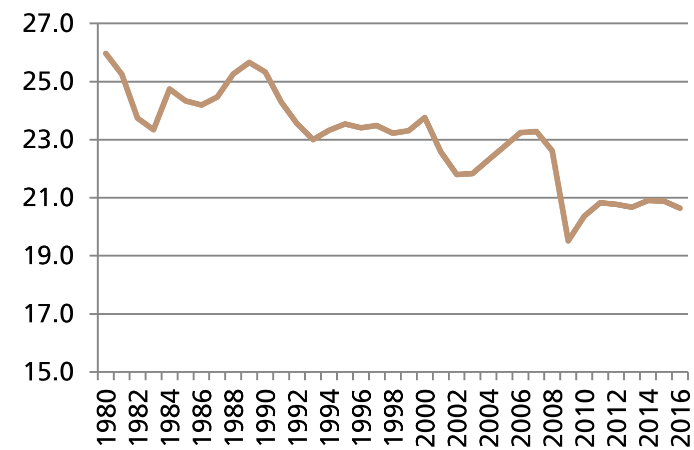
Population growth (%)



Productivity growth (%)



Investment rate (%) Advanced econ



Scenario A: Normalisation (60%)

Scenario A assumptions:

- **Moderate rise in global rates and equity prices**
- **Inflation** (US) at constant 2%
- **US T-Bills** rising to 2.20% over next 5 years
- **US 10-year yields** rising moderately to 3.5% in five years
- **US equities** overvalued, most **non-US markets** undervalued

Scenario B: Recession (30%)

Scenario B assumptions:

- **Recession followed by low growth**
- **Inflation** increasing only gradually, reaching 1.5% in five years
- **US T-Bills** declining, reaching 0.0% in five years
- **US 10-year yields** falling to 1.0% in five years
- **Global equities** initially dropping up to 30%, followed by a gradual recovery of 5% annually.

Scenario C: Stagflation (10%)

Scenario C assumptions:

- **Stagflation with steadily rising inflation and lackluster real returns**
- **Inflation** steadily rising, reaching 5% in five years
- **US T-Bills** reaching 3.2% in five years
- **US 10-year yields** rising to 4.5% in five years
- Hard **equity** hit in first year, lackluster real returns subsequently.

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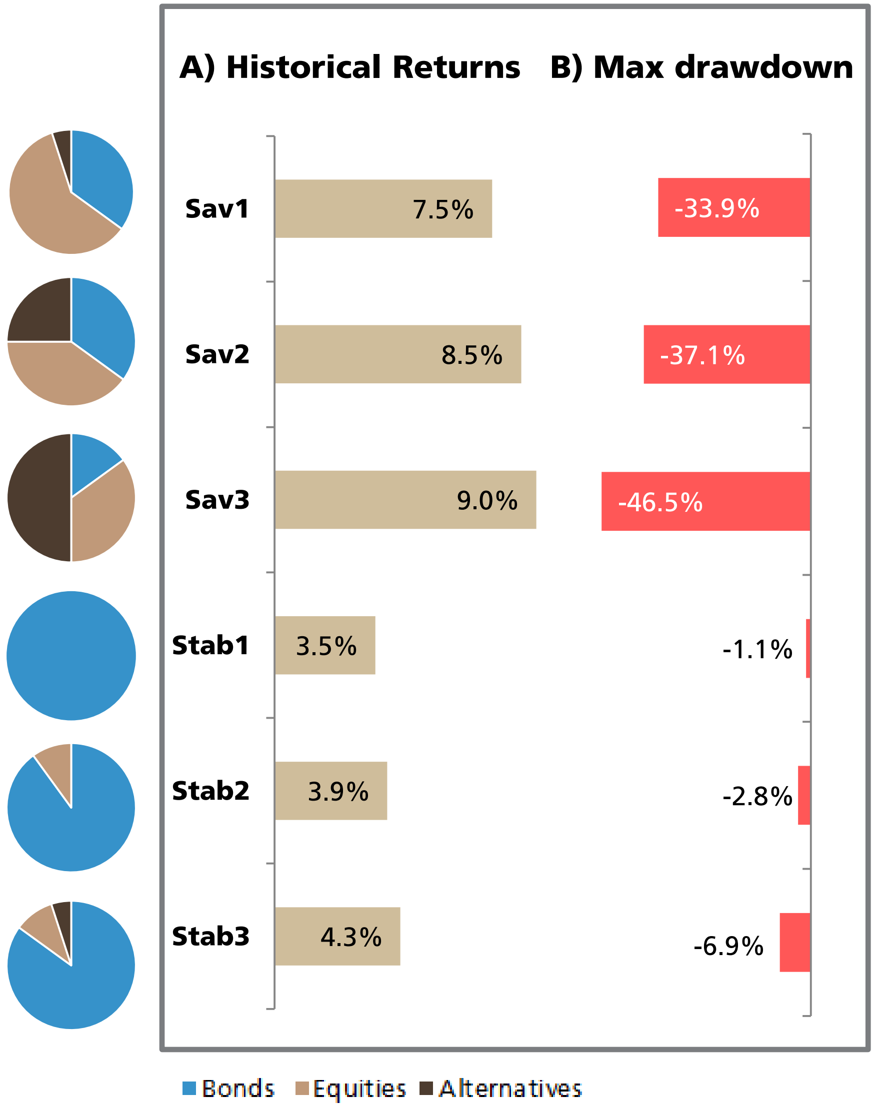
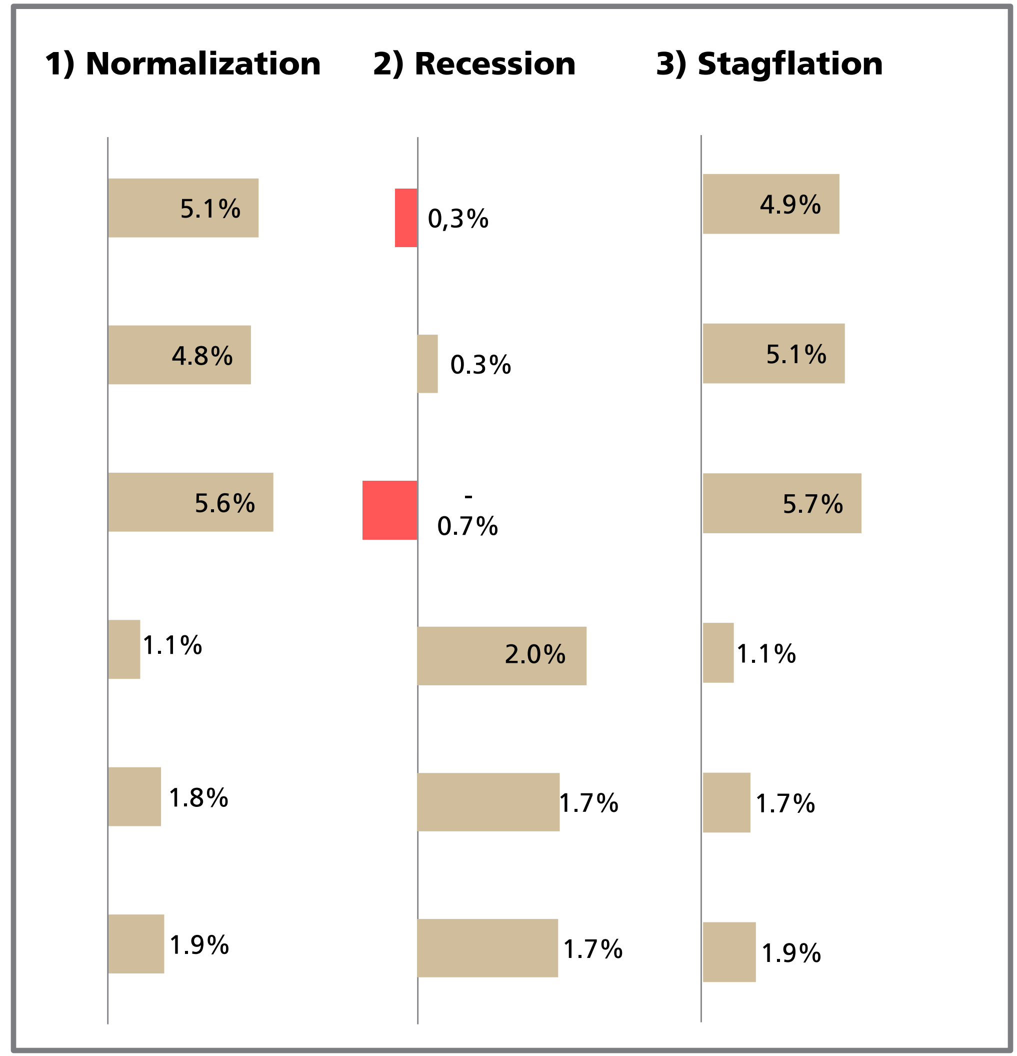
Source: United Nations, IMF 2016. UBS AM 2017.

Lower expected returns across all scenarios

The past (2003-2017YTD)



The future (5-yr forecast)



Source: UBS AM. Please note that past performance is not a guide to the future. Data as of end of June 2017.

Options to address key investment challenges

How to invest going forward – and which questions should SWFs address to meet current and future challenges

• Increase or decrease risk?	**Lower-for-longer might imply the need to go even further out on the risk curve – but what maximum loss is an institution willing to take?**	**Political and governmental / regulatory backing for changes in risk appetite and investment style?**
• More illiquidity premium?	**Data suggests that illiquid assets will continue to offer superior returns and SWFs without current liquidity needs are uniquely positioned to take advantage – what happens in case of forced selling?**	**Do institutions and sponsoring governments have a fiscal rule that governs investment horizon and withdrawal rules?**
• Establish a more tactical asset allocation approach?	**An ongoing low-return environment or more challenging investment regimes than in the past (e.g. stagflation) will require much more active investment styles**	**Factor investing with related TAA, use of derivatives. Are all SWFs ready from an organisational point of view?**
• Invest in high growth sectors and countries?	**SWFs are more and more tasked to play a key role in transforming the domestic economy, away from a carbon-based macroeconomic structure to sustainable revenue sources, while 'leap-frogging' the economy to the Second Machine Age**	**Investments in innovative and disruptive technologies are notoriously difficult for investors, and require substantial know-how and in-house resources**

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Source: UBS Asset Management 2017. For illustrative purposes only.

What does the latest Bocconi report tells us?

• Investments hitting the bottom	*Clearly a delayed effect of the drop in oil prices, but also certain other concerns, i.e. current asset prices and secular stagnation*	Commodity-based SWFs will have to strike the right balance between liquidity and illiquidity
• The rise of Asia	*This is also a reflection of the lower investment activities of commodity-based SWFs. Asian SWFs have more flexibility as economies are less dependent on oil*	Asian SWFs well positioned to take the lead in the global economic transformation. Gulf SWFs will follow
• Hunting Unicorns	*Investments in innovative technologies driven by search for extra returns in a low return environment and need to embrace the technological revolution*	Hunting Unicorns is a risky business and only a few SWFs have the know-how and in-house experience required
• The retreat from safe assets	*The retreat from RE reflects valuation concerns and the high exposure of Gulf SWFs. But RE will remain an important asset class given its diversification benefits*	It shows how difficult it is to make infrastructure a broadly investable asset class. Are there more radical policy options?
• Banks Out	*Different factors at play, including lower return on capital, impact of disruptive technologies, financial repression and low interest rates*	Will monetary policy normalisation and rising interest rates resuscitate investors' interest?
• Sovereign-Private Partnership	*Co-financing has been a rising trend for many years now. Risk sharing, investors' interest alignment and better control over decisions are the key drivers*	This model is likely to continue growing as newly created SWFs are more focused on direct investments. A sovereign-sovereign partnership?
• America First	*US has the most liquid and deep capital markets and is at the forefront of the high tech revolution.*	The US will remain a key market for global investors. But the end of USD strengthening could have an impact. Europe's renaissance?

Source: UBS Asset Management 2017. For illustrative purposes only.

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- As Head of Strategy he analyses the market trends affecting the investment behavior of central banks, sovereign wealth funds and other state-controlled investment institutions and work closely with the investment teams in providing investment advice and developing tailored investment solutions for this client segment
- Max established himself as a global thought leader on the macroeconomic, financial and political trends in sovereign wealth management. He has often been called in by leading institutions as an expert on global economic and financial matters. Max has recently published The New Economics of Sovereign Wealth Funds in the Wiley Finance Series, a book providing a thorough guide to sovereign wealth funds, covering the drivers of the industry, how it operates and grows, the interest from and in Western markets and the pivotal role that sovereign wealth funds play in the world economy
- In his fifteen year long international professional career, Max has been Head of governmental affairs for UBS in Europe, Middle East and Africa, Senior Economist for the Middle East region at UBS and consultant advising governments and corporates in emerging markets on behalf of international institutions
- Max holds a PhD in Economics from the University of Rome where he lectured and a Msc in Economics from the University of London.

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