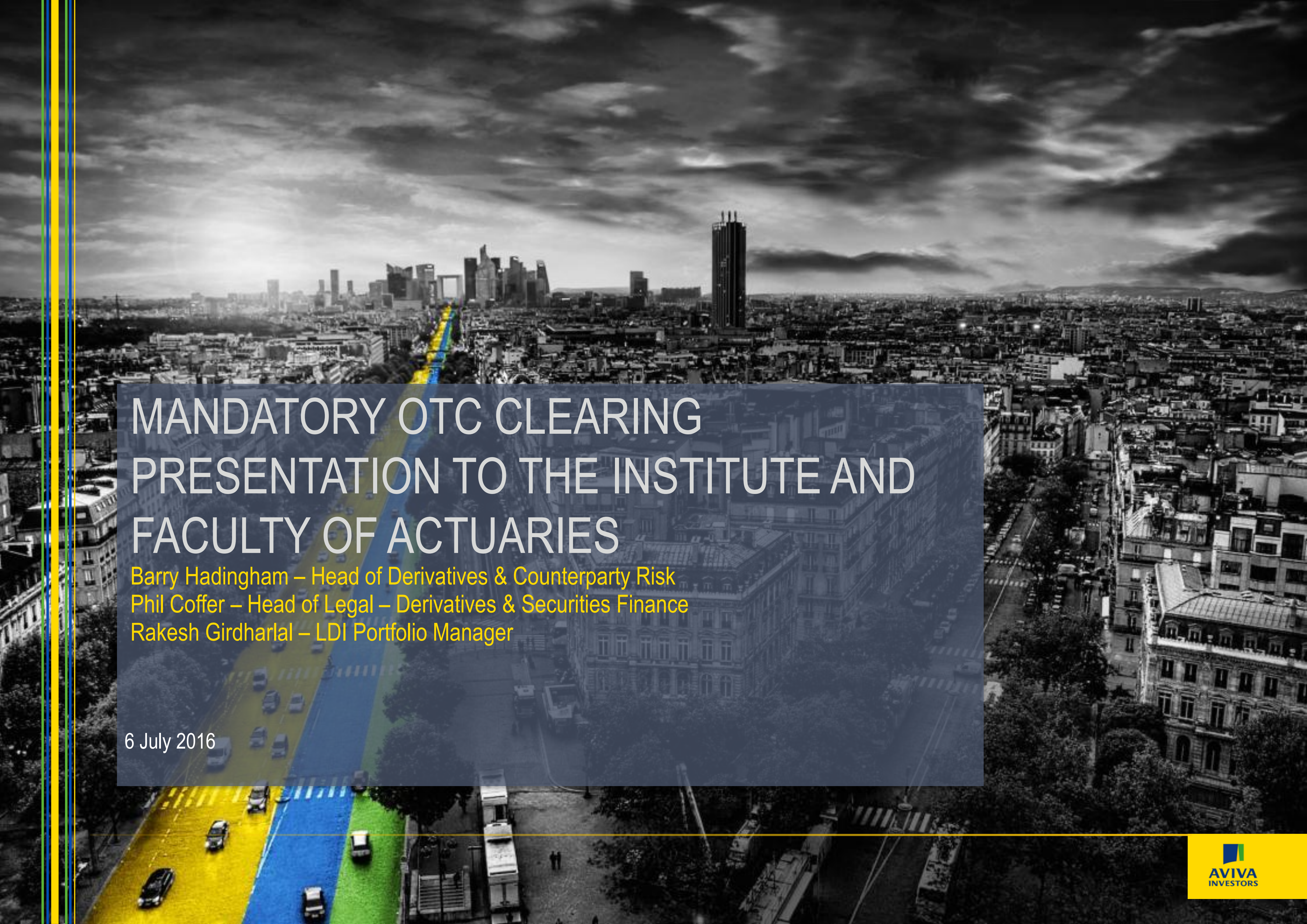
Institute
and Faculty
of Actuaries

Welcome to the Finance and Investment Networking Event: Central Clearing and its Impact on Institutional Asset Port

Chair: Francis Chua

05 July 2016



MANDATORY OTC CLEARING PRESENTATION TO THE INSTITUTE AND FACULTY OF ACTUARIES

Barry Hadingham – Head of Derivatives & Counterparty Risk
Phil Coffer – Head of Legal – Derivatives & Securities Finance
Rakesh Girdharlal – LDI Portfolio Manager

6 July 2016

AVIVA INVESTORS

Central Clearing

Contents

Contents:	Slide
1) Background to OTC Regulatory Reform	3
2) EMIR – Regulatory Implementation Timeline & Scope	5
3) EMIR – Pension Fund Exemption	7
4) Mandatory Clearing	8
5) Bilateral Margin Requirements	9
6) Legal Perspective	12
7) Trading & Clearing Agreements	14
8) To Clear or Not to Clear ?	19
9) ISDA CSAs and Collateral	20
10) Market Implications	22
11) Brexit Implications	25

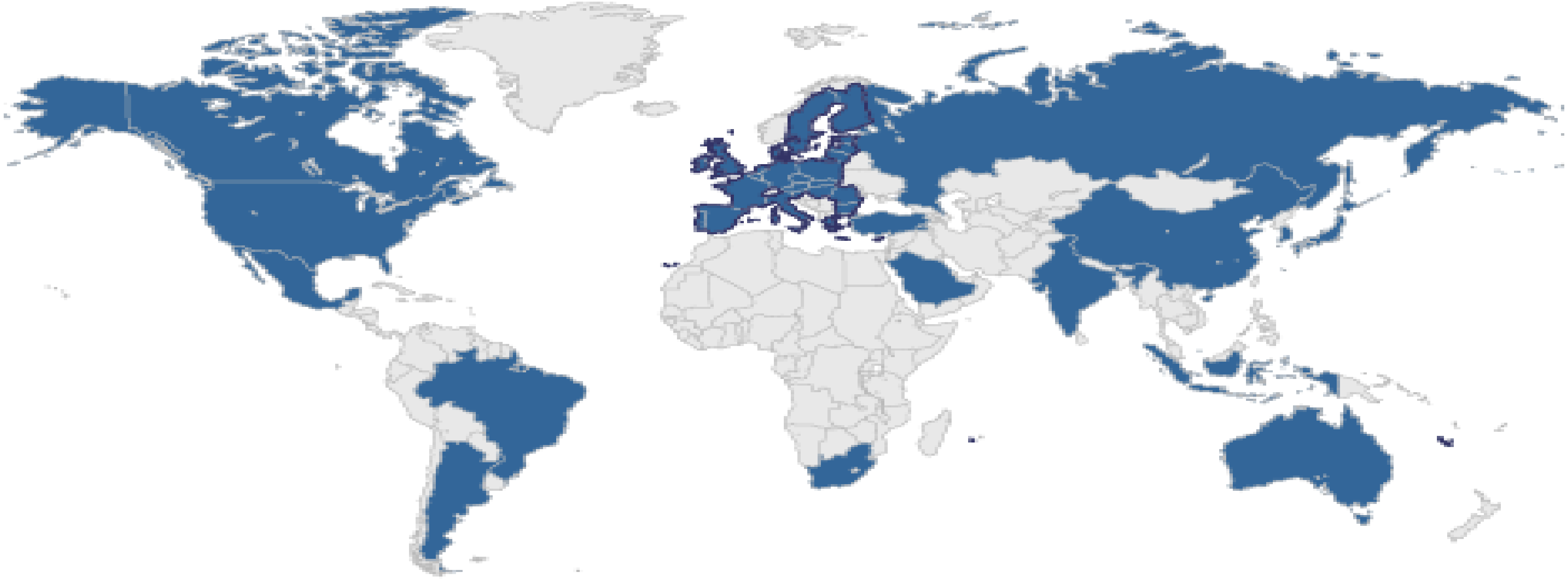
OTC Regulatory Reform

Background

G20 Group Meeting in Pittsburgh in September 2009

“All standardised OTC derivative contracts should be (1) traded on exchanges or electronic trading platforms, where appropriate, and (2) cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be (3) reported to trade repositories. (4) Non-centrally cleared contracts should be subject to higher capital requirements”

G20 Countries



Global OTC Derivatives Reform

Regulators are driving market change which entails global and regional legislation

G20 Summit, September 2009	US	EU
All standardised OTC derivative contracts should be: *(1) traded on exchanges or electronic trading platforms*	Dodd-Frank Act	MiFID II
(2) cleared through central counterparties by end-2012 at the latest	Dodd-Frank Act	EMIR
(3) reported to trade repositories	Dodd-Frank Act	EMIR
(4) Non-centrally cleared contracts should be subject to higher capital requirements	Basel III BCBS-IOSCO Proposal on Uncleared Margin	CRD IV BCBS-IOSCO Proposal on Uncleared Margin

In Essence the Global Financial Regulation has three main objectives:

1. Decrease systemic risk in derivative products through the implementation of central clearing

2. Increase OTC market transparency

3. Impose higher capital requirements on non-cleared OTC derivatives

Central Clearing

EMIR Implementation Timeline

AVIVA INVESTORS

EMIR: Implementation Timeline

15th March 2013
Non Financials notification
Timely Confirmations
Mark-to-market/model

15th Sept 2013
Portfolio reconcilliation
Portfolio compression
Dispute resolution

12 Feb 2014
Reporting to TRs for derivatives (OTC & ETD)

11 Aug 2014
Reporting Valuations and Collateral to TRs for derivatives (OTC & ETD)

2013				2014				2015				2016				2017				2018			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Dec 2015
ESMA clarify final rules for mandatory OTC clearing for IRS

March 2016
Mandatory Clearing of IRS (Cat 1 - Clearing Members).

Sept 2016
Start of phased implementation of mandatory Variation Margin on Bilateral OTCs. Mandatory IM required from 2020 for Cat 2 - Large Buyside clients

Dec 2016
Mandatory Clearing of IRS (Cat 2 - Large Buyside)

June 2017
Mandatory Clearing of IRS (Cat 3 - Small Buyside)

July 2017
Mandatory Clearing of CDS (Cat 2 - Large Buyside)

August 2017
End of pension fund clearing exemption

Jan 2018
Mandatory Clearing of CDS (Cat 3 - Small Buyside)

Dec 2018
Mandatory Clearing of IRS (NFC)

Front loading obligation for OTC clearing (Period A).

Up to and including announcement of RTS for IRS clearing

Front loading obligation for OTC clearing (Period B) from 21 May 2016
requires all clearable OTC derivatives traded after RTS published but prior to mandatory clearing to be backloaded. Front loading requirements only apply to 'non-exempt' transactions for EU pension schemes which have more than €8 Billion outstanding notional in OTC derivatives.

Central Clearing

European regulation: European Market Infrastructure Regulation (EMIR).

Scope and status of EMIR implementation:

- Risk Mitigation Requirements
- Reporting
- OTC Clearing - Phase in from June 2016
- Margin for non-cleared (OTCs) – Phase in from September 2016 (Now subject to delay within the EU)
- OTC Organised Trading Facilities (OTFs) – implementation via MiFID II

ESMA (regulator) has yet to communicate cross border rules for all jurisdictions

Central Clearing
EMIR Pension Fund Exemption

Pension scheme arrangements which fall within Article 2(10)(a) or (b) of EMIR benefit automatically from the exemption in respect of certain OTC derivative contracts (those described in the second bullet point below). In contrast, pension scheme arrangements which fall with Article 2(10)(c) or (d) must be granted the exemption by their home national competent authority (NCA).

What are the key issues with the pension fund exemption ?

There are two key conditions which must be satisfied in order for a contract entered into by a pension scheme arrangement to benefit from the clearing exemption:

1). The pension scheme arrangement must fall within one of the subcategories of Article 2(10) of EMIR.

2). The OTC derivative contract must be "...objectively measurable as reducing investment risks directly relating to the financial solvency of pension scheme arrangements..."

It is possible, therefore, that not all OTC derivative contracts entered into by pension scheme arrangements will benefit from the exemption, even if the pension scheme falls within Article 2(10) of EMIR.

AS A RESULT SOME PENSION SCHEME TRANSACTIONS COULD BE ELIGIBLE FOR FRONTLOADING

Central Clearing
Mandatory Clearing of OTC Derivatives – 2016 onwards

Interest Rate Swaps

- Initial scope covering G4 currencies (US$, Euro, GBP, JPY) with phase 2 including a wider range of currencies.
- Phase-in from December 2016 for Category 2 legal entities with frontloading obligations from 21 May 2016.

Credit Default Swaps

- Initial scope restricted to ITRAXX Europe main and Crossover indices.
- Phase in from 9 August 2017 for Category 2 with frontloading obligations from 9 October 2016.
- Likely to be extended to CDX index contracts in due course.

What is Frontloading ?
Frontloading is the clearing of those trades entered into (or novated) on or after the frontloading date and before the date on which mandatory clearing commences.

EU Mandatory Bilateral Margin

Variation Margin (FCs & NFC+)*		Initial Margin (FCs & NFC+)*	
>EUR 3 trillion*	Target 1 Sep 2016	>EUR 3 trillion*	Target 1 Sep 2016
	Actual Q2 2017?		Actual Q2 2017?
<EUR 3 trillion	Target 1 March 2017	>EUR 2.25 trillion	Target 1 Sep 2017
	Actual Q3/4 2017?	>EUR 1.5 trillion	Target 1 Sep 2018
		>EUR 0.75 trillion	Target 1 Sep 2019
		> EUR 8 billion	Target 1 Sep 2020

*Physically settled Forward FX contracts excluded from IM obligation entirely and deferred implementation for VM pending EU wide definition of Forward FX, likely early 2018

** Each counterparty's (either at an entity or group level) aggregate month-end average notional amount of non-centrally cleared OTC derivatives for March, April, May 2016

EU Mandatory Bilateral Margin

Thresholds & Eligibility

Initial Margin - counterparties can agree not to exchange margin if the initial margin required to be exchanged is equal to or lower than Euro 50 million (unless they belong to the same group, in which case the threshold is Euro 10 million). This margin calculation must be based on the margin exposure of the posting counterparty (or posting counterparty's consolidated group) to the collecting counterparty (or collecting counterparty's consolidated group).

VM and IM Requirements

Qualifying counterparties can agree to a **de minimis margin transfer amount**, which should not exceed Euro 500,000 (i.e. if the total amount of IM and VM does not exceed Euro 500,000, both counterparties can agree not to exchange margin).

Eligible collateral for these purposes will include cash, high quality government bonds, corporate bonds, shares in major stock indices, gold and eligible shares or units in UCITS.

Very limited re-hypothecation and re-use of IM will be permitted (re-use is permitted in relation to cash collateral, but subject to the requirement that it must be reinvested to protect the liability that the counterparty collecting the collateral has towards the posting party). IM to be held in a bankruptcy remote structure.

Margin Challenges

Bifurcated Regulatory Approach

- US on track for 1 September 2016 and 1 March 2017 – consequences for dealing with US counterparties/affiliates? – CFTC no action letter ?
- US excludes Forward FX from VM & IM

T+1 Margin Settlement

- Operational challenges
- Documentation – Protocol?
- APAC feasibility of T+1

Standard Initial Margin Model

Legal Perspective

Know Your Agreements

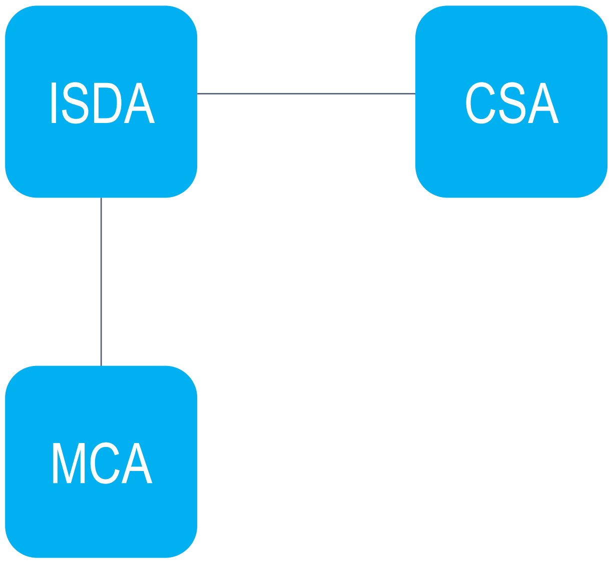
- What have you got?
- How accurate?
- Speed of access?
- Collateral consistency?

Investment Managers – Know your Client

- Financial Counterparty v Non-financial Counterparty & Third Country Equivalent
- NFC + or NFC- (and moving between the two)?
- FC: Category 2 or 3 for OTC Clearing?
- Mandatory Bilateral OTC Margin – initial margin thresholds
- Pension Fund exemption?

Trading Agreements: Pre-EMIR

OTC Derivatives



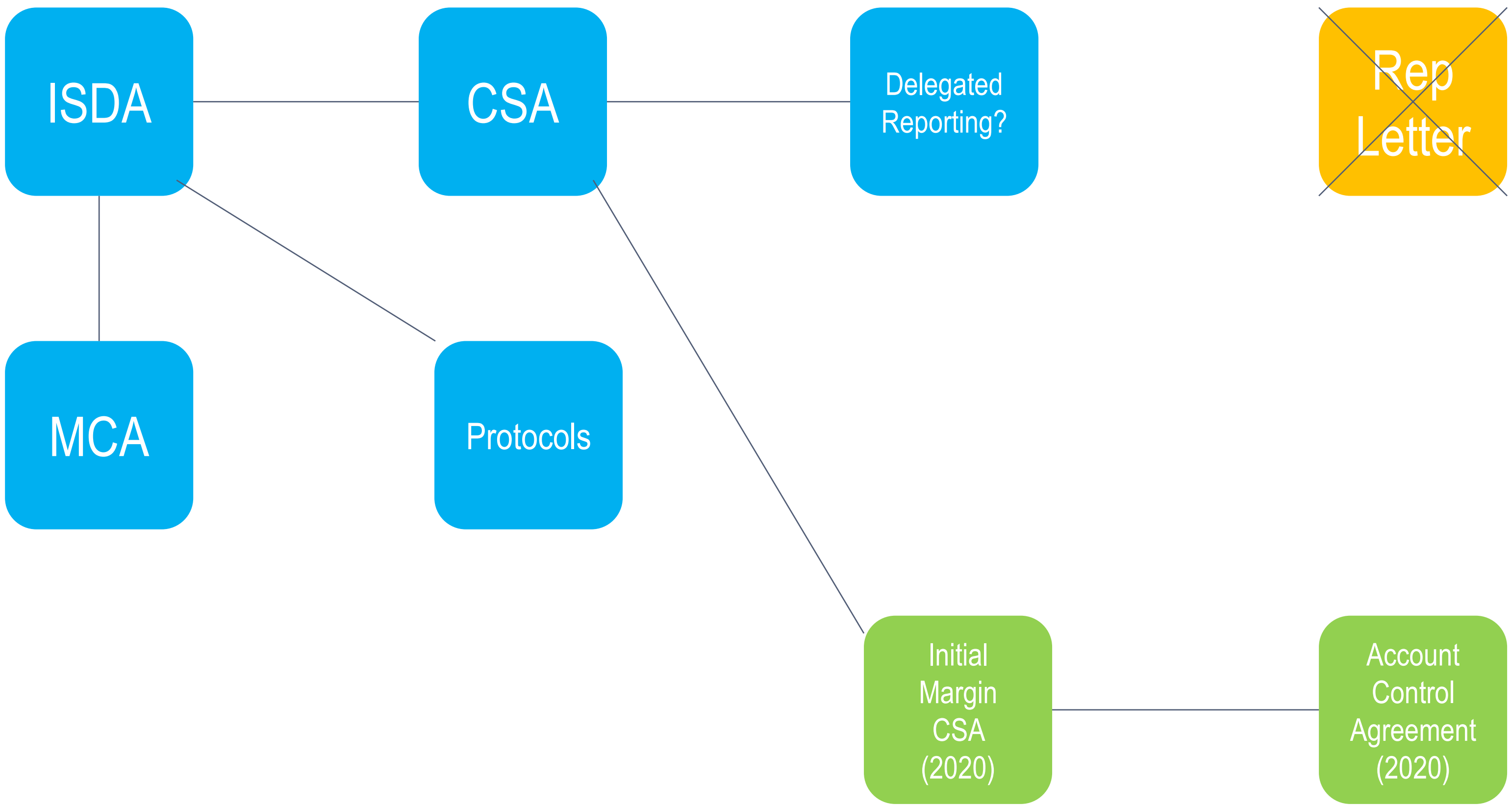
FX

Rep Letter

Trading Agreements: Post EMIR

Bilateral OTC Derivatives

FX



Trading Agreements: Post EMIR

Cleared OTC Derivatives

Clearing Broker(s)

Clearing Agreement (s) — OTC Addendum — CCP Docs? — Delegated reporting?

Executing Brokers

CDEA — ISDA? — CSA?

OTC Clearing

OTC Clearing Agreement

- Two models: ISDA –v- FIA Europe Based
- Pass through model, bilateral default turned off, margin limits & account segregation
- Margin lock-up, portability – how many clearers do you need?
- Tracking position and margin limits

Cleared Derivatives Execution Agreement (CDEA)

- What is it?
- The end of the ISDA Master Agreement?

Execution Venues – MiFID II

Clearing house - Account segregation

Clearing House – Account Segregation

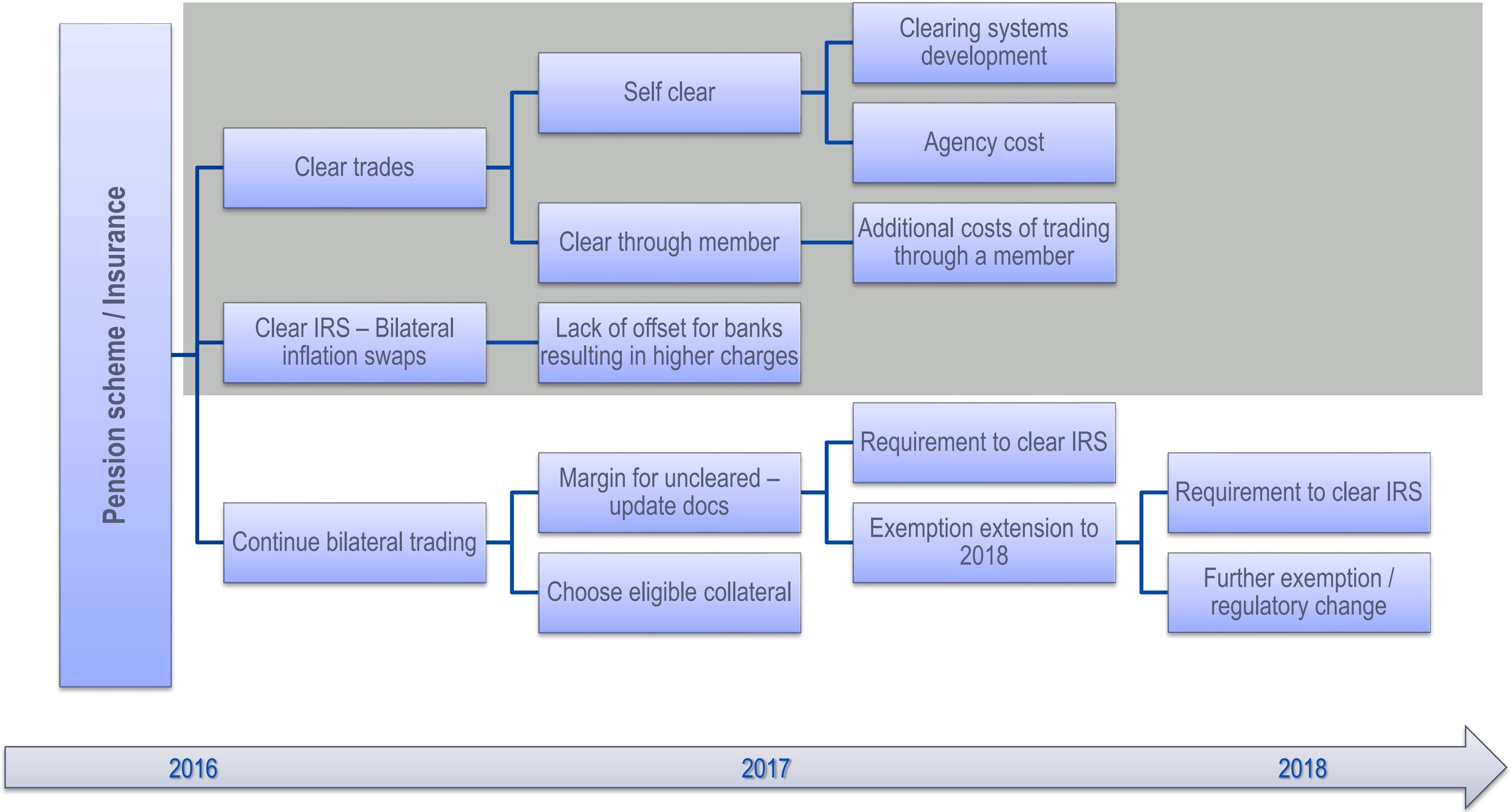
▪Life companies and pension schemes need to consider the most appropriate account segregation structure for OTC clearing

- Segregated accounts (more costly, lower risk)
  - Full physical segregation
  - Custodial segregation

- Omnibus accounts (lower cost, loss mutualisation risk)

To clear or not to clear?

Decision tree



The main types of CSA

	Bilateral	Sunset	Cleared
Documentation	ISDA/CSA	ISDA/CSA	CDEA
Initial Margin	Currently none*	Currently none*	Cash or gilts
Variation Margin	As per the CSA, typically cash and gilts	As per CSA, can be cash and gilts to sunset date and cash or cleared thereafter	Cash only
Pricing	Opaque unless cash only	Full pricing transparency	Full pricing transparency
Collateral netting	Limited	Limited	Full netting

* Initial margin for large pension scheme from 2020

REPO as collateral

- Pension schemes and insurance companies hold gilts rather than cash
- Cash mainly for short term liquidity requirements e.g. paying pension/claims
- Increased need for cash or raise cash collateral to pay variation margin
- Repo market has been contracting due to leverage ratio and NSFR (cash nets but gilts don't always net)
- Innovation in the repo market may be a solution
  - clearing house
  - non-bank counterparty
  - liquidity funds

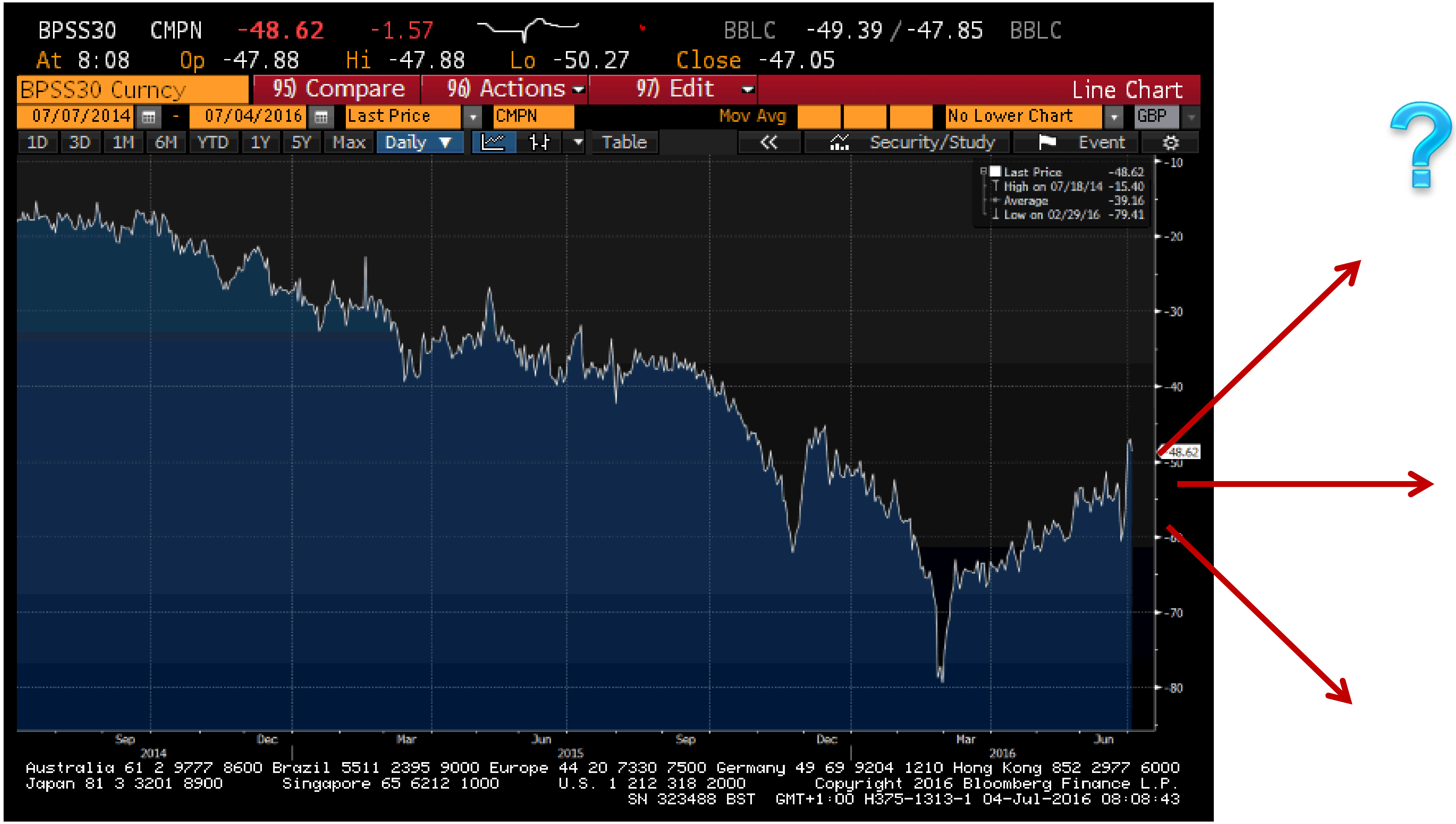
All swaps aren't equal

30 year US interest rate swap differential between CME and LCH

Source: Bloomberg

Market implication of these changes

30 year GBP swap spread

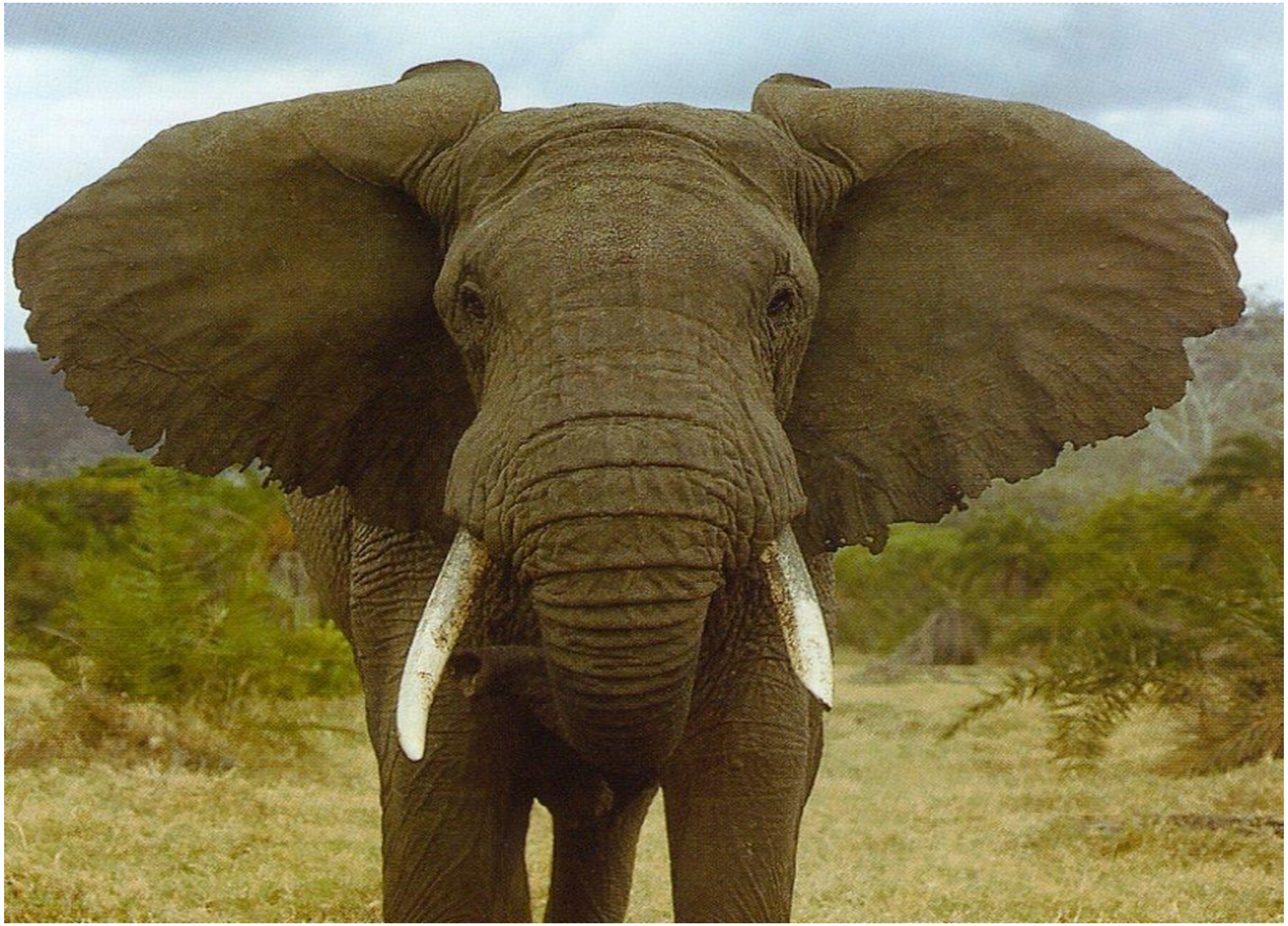


Source: Bloomberg

Portfolio construction or documentation?

- Cost of leverage has increased
- Portfolio structuring needs to reflect these changes e.g. use forward gilts
- Have the right documentation so that there are no surprises in the future
- Be in control of your portfolio

Brexit



Brexit

EEA + European Free Trade Assoc.	Customs union	Bilateral accords + EFTA	Free Trade Agreement	World Trade Organisation Rules
UK joins EEA & EFTA and continues to have full access to the single market. Requires full adoption of EU regulations and standards (EEA = Norway, Iceland & Liechenstein)	Unlikely to cover financial services	Bilateral agreements to the single market sector by sector. Could also become member of EFTA (Switzerland)	Comprehensive UK single trade agreement – greater continuity at cost of political autonomy (Mexico)	Reliance on WTO rules without new agreements being put in place. (China)

Third Country Equivalence will be critical in order for UK dealers and market infrastructure providers to continue to be able to deal with EU, US etc regulated entities

Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenter.