

Annexes

Contents

Annex 1 – Brexit scenarios	3
Annex 2 – Banking sector	17
Annex 3 – Insurance sector	20
Annex 4 - Markets	22
Annex 5 – Financial market infrastructure and collateral framework	32

Annex 1: Brexit scenarios

1.1 Selected bibliography on exit scenarios

Open Europe: The consequences, challenges and opportunities facing Britain outside EU.

Clifford Chance/TheCityUK: A legal assessment of the UK's relationship with the EU.

House of Commons - Research Paper: Leaving the EU

LSE (Ottaviano et al.) - The costs and benefits of leaving the EU

1.2 Authorisation process

In preparing for the paper, meetings were held with CBI staff responsible for authorisations in Banking Supervision and the Markets Directorate.

1.2.1 Banking supervision

In terms of resourcing, Banking Supervision provided the following breakdown:

BP1/2 * 2	BP3 * 3 (1 vacancy presently)
BE * 1	BO * 1

The authorisations process is both detailed and time intensive. A full authorisation is estimated to take 12-14 months following application from a firm. The team in Banking Supervision that is responsible for authorisations is also responsible for work on other areas (such as EBA guidelines, methodology and standards, portfolio transfers). They have estimated the unit could handle approximately [REDACTED] at any one time as presently resourced. If there was to be an increase in firms seeking a banking license, then the CBI would need to consider increasing resources in this area and/or outsourcing some of the authorisation process to professional services firms.

1.2.2 Markets supervision

The authorisations team in the Markets Supervision Directorate provided the following breakdown of resources:

BP1/2 * 1	BP3 * 2
BE * 1	BO * 1

The team is responsible for authorisations, revocations and acquiring transactions. They currently manage approximately 12 investment firm authorisations on an annual basis, predominantly MiFID firm authorisation. Authorisations under AIFMD peaked in the early part of 2015. The process draws a distinction between level-1 firms (small less complicated firms with no client assets) and level-2 firms (more complex firms or firms with client assets). The authorisation process for level-1 firms takes three months from receipt of application, while the process for level-2 firms takes approximately six months. If Brexit was to materialise the team expect that it is likely that they will receive applications from a variety of investment firms including HFT's, MTF's and spread-betting firms.

1.3 The foreign banking sector in the UK

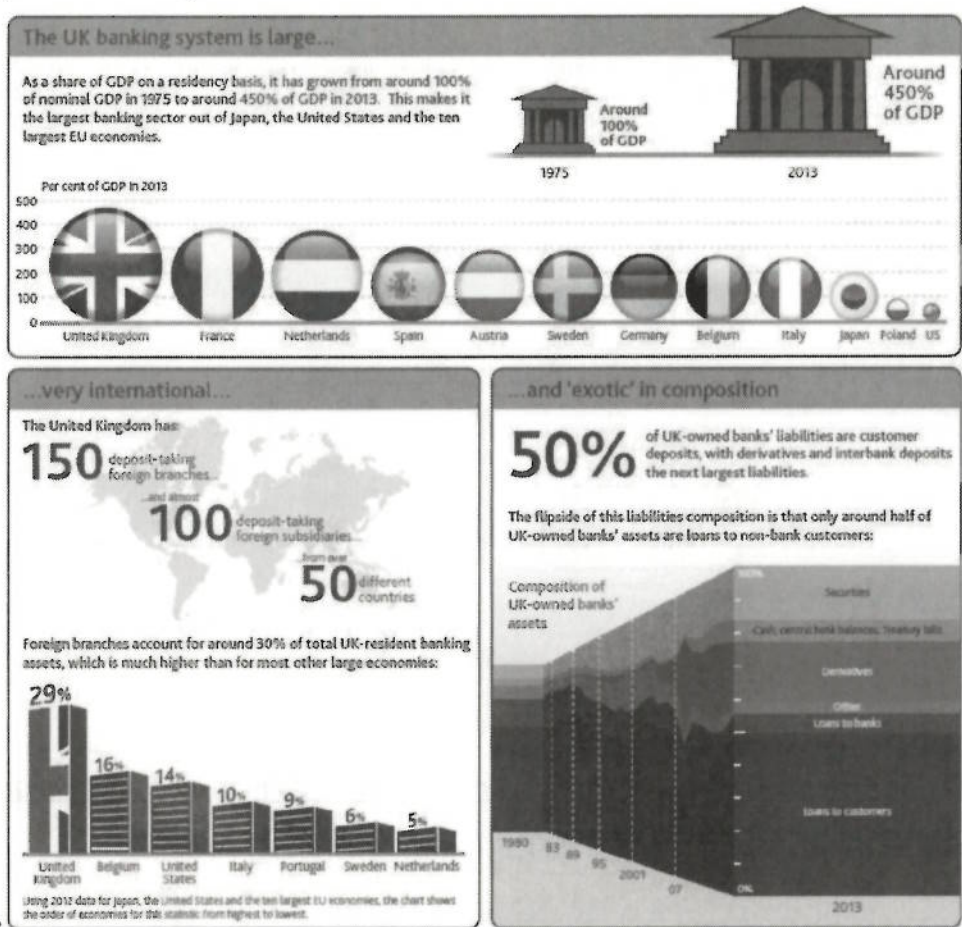
The following papers by the Bank of England provide some detail in assessing the size of the foreign bank component of the UK banking sector:

[Bank of England: Why is the UK banking system so big and is that a problem?](#)

[BoE-PRA: CP4/14, Supervising international banks](#)

[Bank of England: Which way do foreign branches sway?](#)

How big is the UK banking



system?

Source: Bank of England, "Why is the UK banking system so big and is that a problem, Quarterly Bulletin 2014 Q4"

Summary of UK-resident banks by ownership (unconsolidated), end-2011(a)

	Foreign branches	UK-owned banks	Foreign subsidiaries	All resident banks
Number of banks	155	114	98	367
Average size by total assets, £ billions (median)	2.8	0.5	0.7	1.0
Average size by total assets, £ billions (mean)	17.7	37.4	11.4	22.1
Share of assets held by the top five banks, per cent	55.8	78.9	68.4	43.5
Total assets, £ billions	2,742	4,265	1,118	8,124
Total assets, per cent of annual GDP	180	281	74	535
Market share (per cent) of lending to:				
Total UK private sector ^(b)	14.3	69.0	16.7	100
Households	3.0	78.5	18.5	100
Private non-financial corporations (PNFCs)	20.4	66.9	12.7	100
Other financial corporations (OFCs)	17.2	65.9	16.9	100
Interbank	40.2	44.9	14.9	100

Sources: Bank of England, ONS and Bank calculations.

(a) Includes building societies.

(b) In all currencies, excluding assets held at the Bank of England and intragroup assets (lending to related offices of the same bank).

Source: Bank of England, "Which way do foreign branches sway?" Financial Stability Paper no.22, June 2013

1.4 UK property market details

The Nationwide House Price Index is the primary source of data in this section. This is amongst the oldest data source on the valuation of UK residential property. Using the Nationwide First Time Buyer price to earnings ratio, most regions in the UK are over-valued relative to the long run mean valuation. UK residential property is presently valued at 5.1 times average earnings. This valuation is approximately 1.7 standard deviations above the long run valuation. The degree of overvaluation of residential property is more pronounced in London (2.7 standard deviations above long run mean) and the Outer Metropolitan Area (2 standard deviations above the long run mean).

First time buyer gross house price to earnings ratios								
Nationwide								
	Outer SE	Outer Met	London	South West	Wales	Scotland	N Ireland	UK
2013 Q4	5.1	5.5	7.6	5.3	4.0	3.3	3.5	4.6
2014 Q1	5.2	5.6	8.1	5.4	4.0	3.4	3.5	4.8
2014 Q2	5.5	6.1	8.9	5.6	4.2	3.4	3.8	5.0
2014 Q3	5.5	6.0	8.8	5.6	4.1	3.4	3.7	5.0
2014 Q4	5.6	6.1	9.0	5.7	4.0	3.5	3.9	5.0
2015 Q1	5.5	6.3	9.0	5.7	3.9	3.4	3.9	5.0
2015 Q2	5.7	6.4	9.4	5.7	4.1	3.4	4.2	5.1
Mean	3.9	4.2	5.0	4.1	3.3	2.8	3.2	3.5
Median	4.0	4.3	4.9	4.0	2.8	2.6	2.9	3.2
Standard Deviation	1.11	1.10	1.60	1.10	0.88	0.54	1.28	0.98
Distance from mean (in std dev)	1.6	2.0	2.7	1.5	1.0	1.1	0.8	1.7

Source: <http://www.nationwide.co.uk/about/house-price-index/headlines>

1.4.1 Base case scenario

- **UK (ex-London) Residential Property Prices Crash: -16%**
- **London Residential Property Price Decline: -23%**

The base case scenario assumes that property valuations decline by half the distance to the mean valuation. This implies a 16% decline in UK property and a 23% decline in London property. This price decline would occur over a period of 18 months.

Following such a decline, UK residential property would be valued at 4.3 times earnings (or less than 1 standard deviation above the long run mean valuation).

Base Case Scenario								
	Outer SE	Outer Met	London	South West	Wales	Scotland	N Ireland	UK
Current Valuation (house price to earnings ratios)	5.7	6.4	9.4	5.7	4.1	3.4	4.2	5.1
Average Valuation	3.9	4.2	5.0	4.1	3.3	2.8	3.2	3.5
Basis: distance to mean	50%	50%	50%	50%	50%	50%	50%	50%
Change in Valuation	-0.9	-1.1	-2.2	-0.8	-0.4	-0.3	-0.5	-0.8
New Valuation	4.8	5.3	7.2	4.9	3.7	3.1	3.7	4.3
Implied Price Decline	-15.6%	-17.4%	-23.3%	-14.0%	-10.4%	-9.1%	-12.0%	-15.8%

The decline in property prices would be likely to lead to an increase in mortgage arrears. It is recommended that the CBI try to understand how mortgage arrears could vary under the differing scenarios.

In terms of historical context, there have been two major downturns in the UK residential property market in the past 25 years.

UK Property Crash & Mortgage Arrears History								
Period	Property Price	Arrears (pre crash)	Peak arrears	Increase in arrears	Unemployment (pre crash)	Unemployment (peak crash)	Base Rate (pre crash)	Base rate (peak crash)
Q0289 to Q0192	-20%	1.06%	4.24%	301%	7.10%	9.80%	12.875%	10.375%
Q0307 to Q0109	-19%	0.69%	1.83%	166%	5.20%	7.10%	5.250%	0.500%

It might be expected that mortgage arrears in the base case scenario could double. However, there are so many moving parts to arrears that further work should be undertaken in this area.

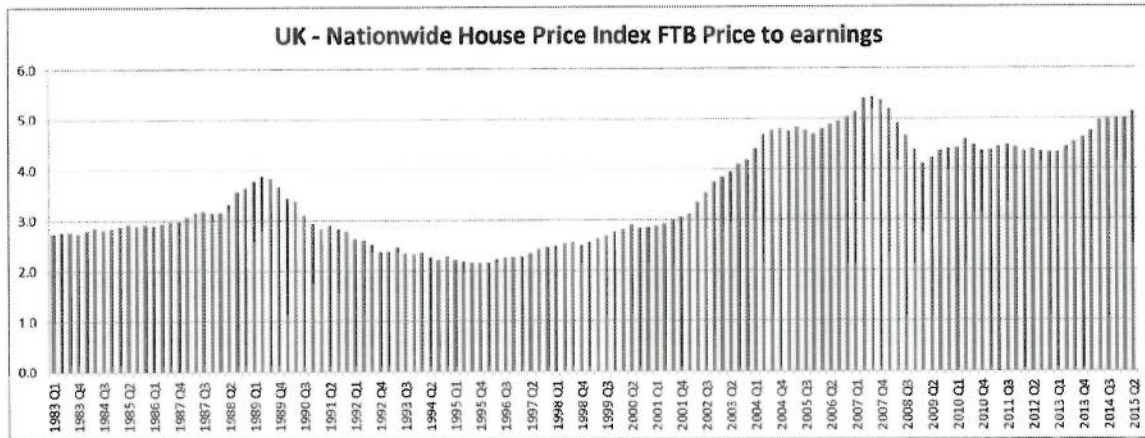
1.4.2 Worst case scenario

- **UK (ex-London) Residential Property Prices Crash: -32%**
- **London Residential Property Price Decline: -47%**

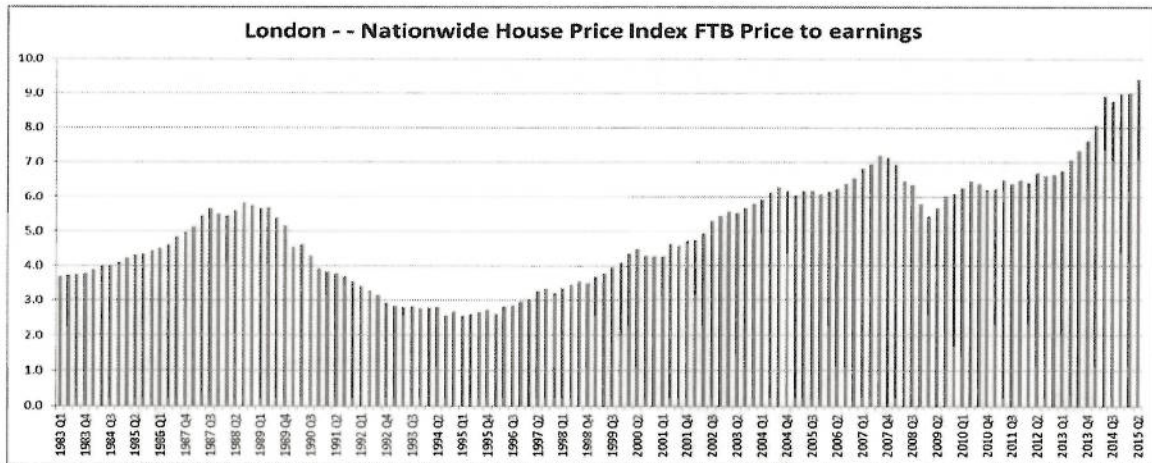
The worst case scenario assumes that property valuations decline and completely revert to mean valuations within a period of 18 months. This implies a 16% decline in UK property and a 23% decline in London property. This price decline would occur over a period of 18 months.

	<u>Worst Case Scenario</u>							
	QtrSE	QtrMid	London	SouthWest	Wales	Scotland	N Ireland	UK
Current Valuation (house price to earnings ratios)	57	64	94	57	41	34	42	51
Average Valuation	39	42	50	41	33	28	32	35
Change in Valuation	-18	-22	-44	-16	-09	-06	-10	-16
New Valuation	39	42	50	41	33	28	32	35
Implied Price Decline	-31%	-34%	-46%	-28%	-20%	-18%	-24%	-31%

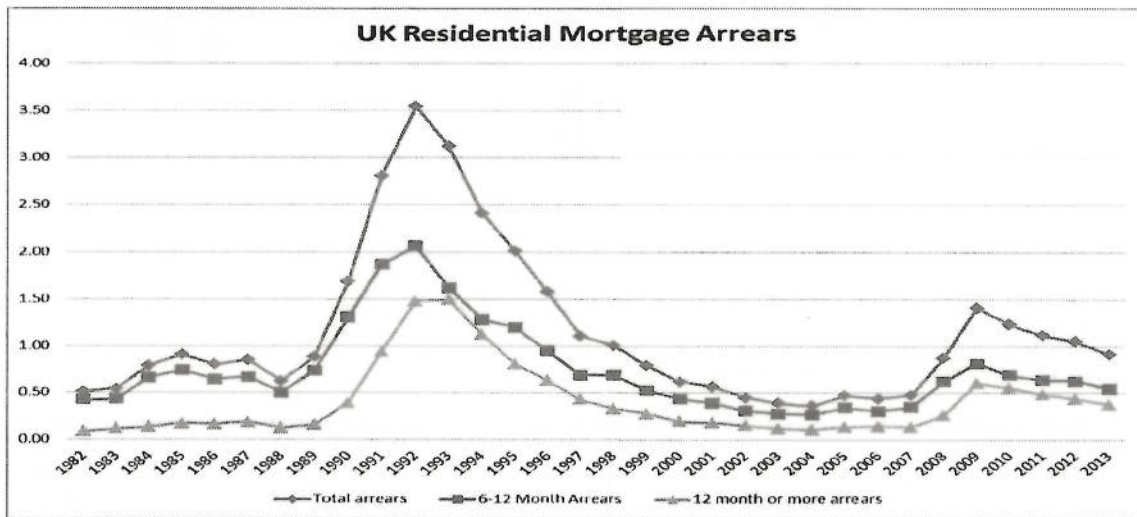
It might be expected that mortgage arrears in the worst case scenario would increase to a level that has no real parallels in UK history. However, there are so many moving parts to arrears that further work should be undertaken in this area.



Source: <http://www.nationwide.co.uk/about/house-price-index/headlines>



Source: <http://www.nationwide.co.uk/about/house-price-index/headlines>

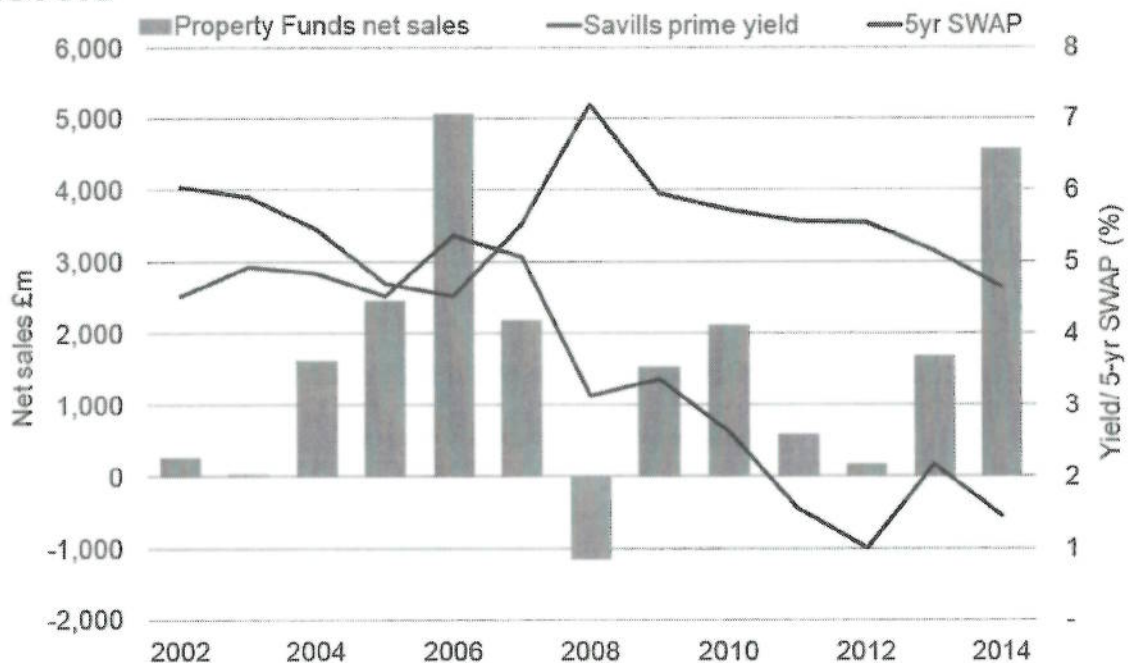


Source: <https://www.gov.uk/government/statistical-data-sets/live-tables-on-repossession-activity>

UK – Commercial Property Prime

Yields

Weight of money targeting property close to 2006 levels



Source: Savills Research; Bank of England; The Investment Association

UK – Commercial Property Base & Worst Case Scenario

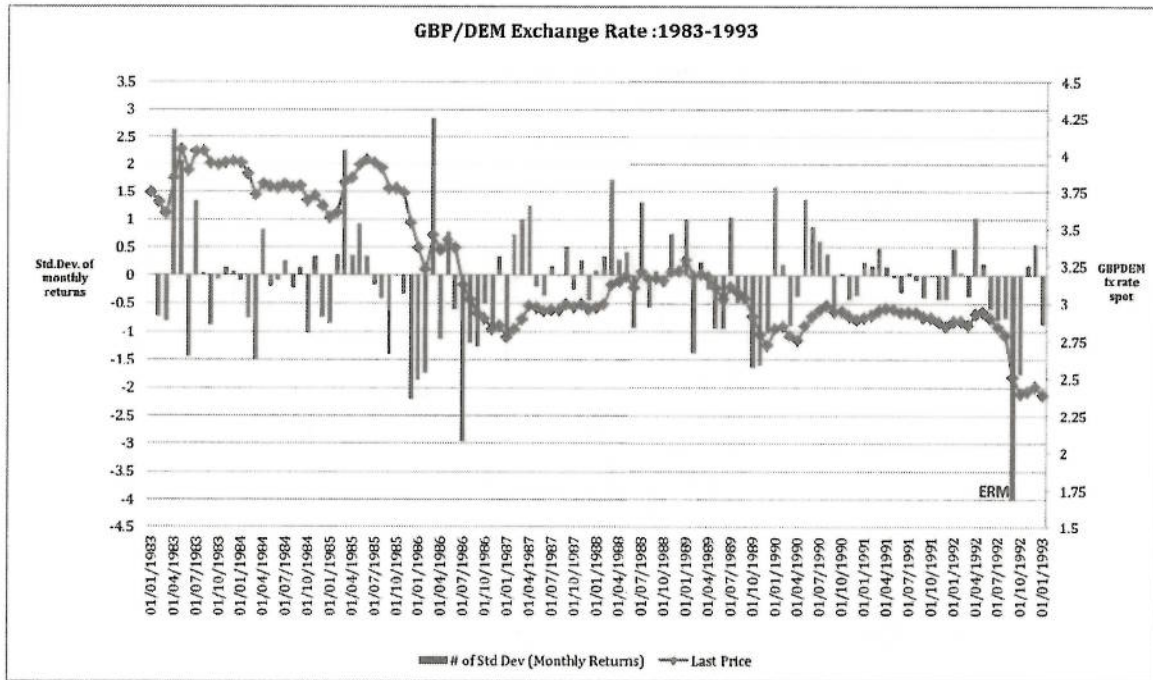
Prime Commercial Property			
	Current Yield	Base case yield	Worst case yield
Starting Value	4.10%	5.50%	8.00%
Rent	£1,000,000	£745,455	£512,500
Price Decline	£41,000	£41,000	£41,000
		-25.5%	-48.8%

Source: Author estimates. Current yield sourced from *Bank of England statistics*.

1.5 Foreign exchange rate details

The base case and worst-case scenarios are loosely based on the volatility of Pound Sterling/Deutschemark exchange rate in the period leading up to and including Britain’s exit from the Exchange Rate Mechanism (“ERM”). Chart 1 details both the Sterling/Deutschemark spot exchange rate and the standard deviation of monthly returns for the decade leading up to the ERM crisis.

Sterling/Deutschmark FX rate and standard deviation (1983-1992)



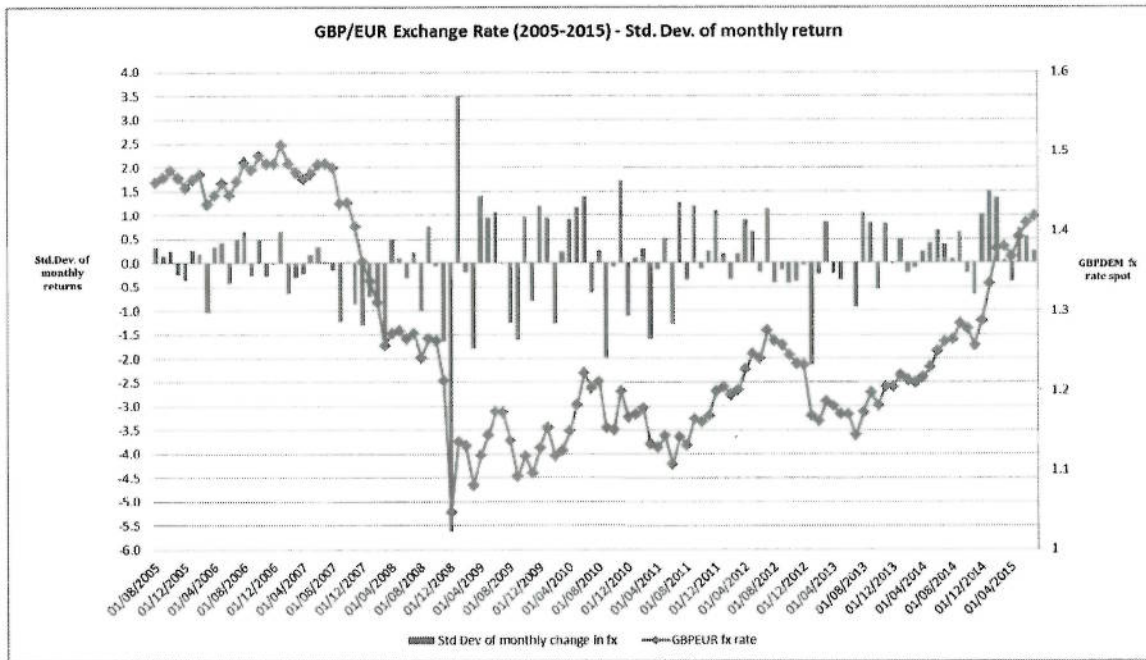
Source: Bloomberg and author calculations

In the decade leading up to and including the ERM crisis there were seven (7) monthly moves in the GBPDEM exchange rate that exceeded two standard deviations in terms of magnitude of move. In the month following the UK's withdrawal from the Exchange Rate Mechanism, the depreciation of sterling amounted to a four standard deviation event.

The following table details some descriptive statistics:

Title	STERLING/DEUTSCHEMARK FX Rate - Monthly Returns		
Date Range	Jan. 1983-Jan 1993		
No. of Observations	120		
Description:	Monthly % change in GBPDEM exchange rate		
Average Return	-0.34%	# of 1 to 2 Std Dev events	23
Median Return	-0.22%	# of >2 std dev events	7
Standard Deviation	2.50%	# of >3 std dev events	1

The below chart details both the Sterling/Euro spot exchange rate and the standard deviation of monthly returns for the decade leading up to July 2015.



Title	STERLING/Euro FX Rate - Monthly Returns		
Date Range	Jun. 2005-Jun. 2015		
No. of Observations	120		
Description:	Monthly % change in GBPEUR exchange rate		
Average Return	0.01%	# of 1-2 Std Dev events	27
Median Return	0.12%	# of >2 std dev events	3
Standard Deviation	2.43%	# of >3 std dev events	2

1.5.1 Base case sterling depreciation

The base case scenario assumes that Sterling will depreciate against the Euro (and other major currencies) by a magnitude of up to (negative) two standard deviations against the prior decade of monthly returns. On the basis of previous history, this would represent a plausible reaction to a crisis or political shock.

As an illustration, if Brexit occurred in August 2015, this scenario would have assumed that Sterling would depreciate by almost 5% versus the Euro (and other major currencies) in the first month after exit.

1.5.2 Worst case sterling depreciation

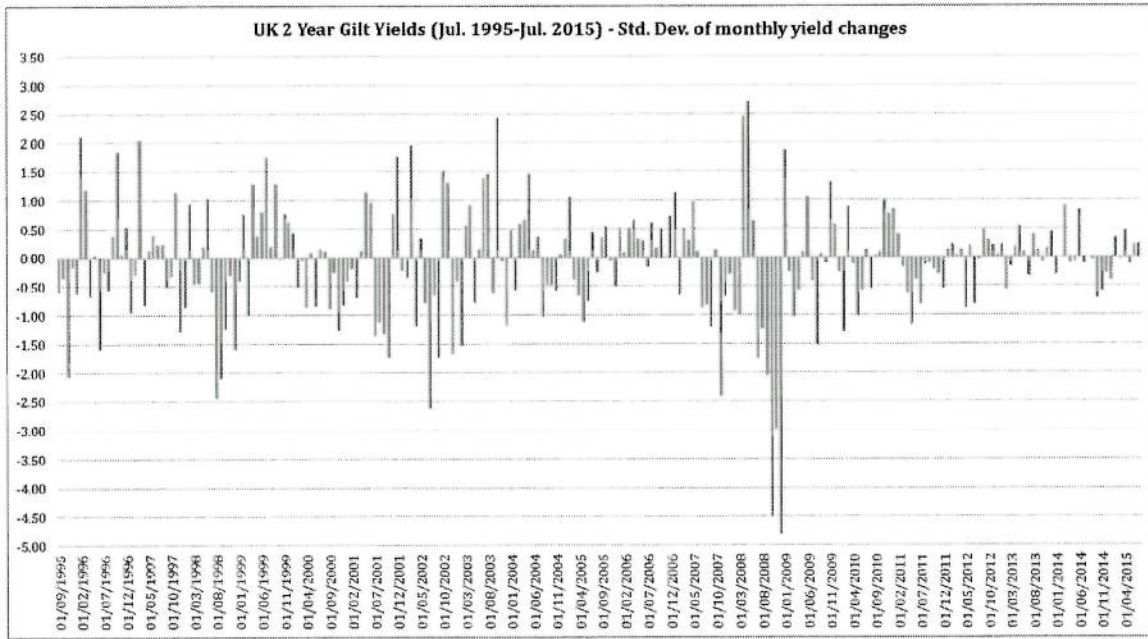
The worst case scenario assumes that Sterling will depreciate against the Euro (and other major currencies) by a magnitude of up to (negative) four standard deviations against the prior decade of monthly returns in the first month after exit followed by a further depreciation of approximately two standard deviations in magnitude in the second month. This is similar to the depreciation of Sterling versus the Deutschmark in the months following the ERM crisis.

As an illustration, if Brexit occurred in August 2015, this scenario would have assumed that Sterling would depreciate by almost 15% versus the Euro (and other major currencies) in the two months after exit.

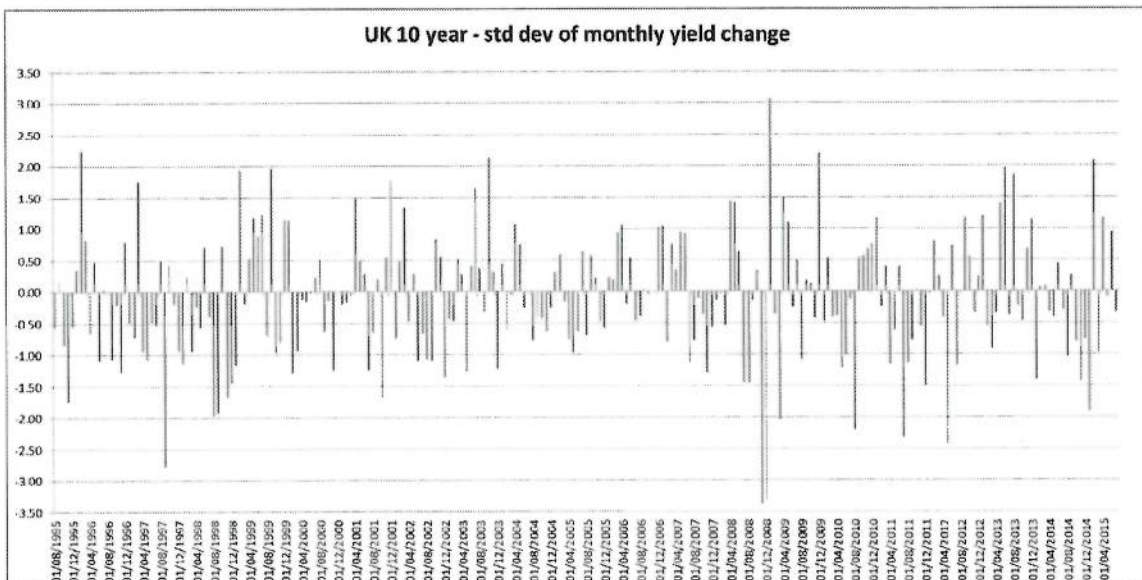
1.6 UK & Irish Sovereign bond yield details

The base case and worst case scenarios are based on observed monthly standard deviation of the 2 year and 10 year sovereign bonds. The selection of charts that follow highlights the magnitude of monthly changes in sovereign bond yields.

Title	UK 2 year sovereign bond yield - Monthly change in yield		
Date Range	Jul. 1995 to Jul. 2015		
No. of Observations	240		
Description:	Monthly basis point change in yields		
Note:			
Average Chg. In Yield	-2.77	# of 1-2 Std Dev events	45
Median Chg. In Yield	-1.40	# of >2 std dev events	14
Standard Deviation	24.14	# of >3 std dev events	2



Title	UK 10 year sovereign bond yield - Monthly change in yield		
Date Range	Jul. 1995 to Jul. 2015		
No. of Observations	240		
Description:	Monthly basis point change in yields		
Note:			
Average Chg. In Yield	-2.61	# of 1-2 Std Dev events	63
Median Chg. In Yield	-3.75	# of >2 std dev events	12
Standard Deviation	22.38	# of >3 std dev events	3



1.6.1 Base case

Increase in UK bond yields across the curve by an amount equivalent to a 2 standard deviation event in terms of monthly yield changes (20 years of data). In the past twenty years the incidence of 2 standard deviation events in UK sovereign bond markets has coincided with areas of broader market volatility, such as LTCM default, Russian financial crisis of 1998 and the aftermath of 9/11. There are sufficient two standard deviation increases in UK sovereign bond yields in the past twenty years that coincide with broader market or geopolitical events that make this a plausible basis for assessing a base case Brexit scenario.

Illustrative example: if assessed in July 2015, this would correspond to:

2 year yields +48bps

10 year yields +45bps

For the scenario to have credibility, it would need to assume that the increase in yields persisted for a prolonged period of time and was accompanied by significant month on month volatility. This can be assessed at a later date should the necessity arise.

1.6.2 Worst case

Increase in UK bond yields across the curve by an amount equivalent to a 3 standard deviation event in terms of monthly yield changes (20 years of data). In the past twenty years of data there are two 3 standard deviation events in the UK 2 year gilt and 3 in the UK 10 year gilt that have been observed. All of these events have occurred at a time of severe financial market turmoil (late 2008). The rarity of such an event makes this a suitable basis for assessing a worst case scenario. For the scenario to have credibility, it would need to assume that the increase in yields persisted for a prolonged period of time and was accompanied by significant month on month volatility. This can be assessed at a later date should the necessity arise.

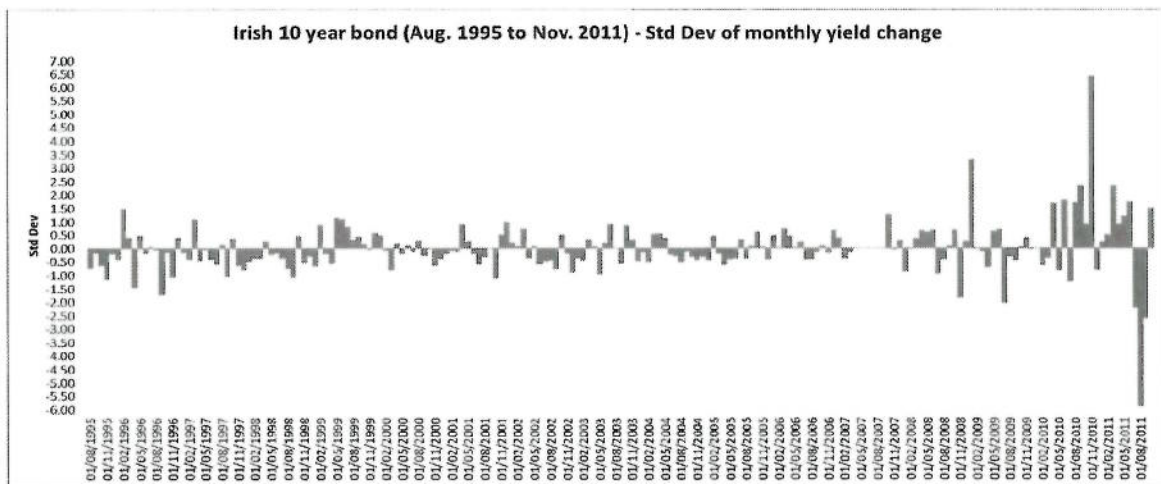
Illustrative example: if assessed in July 2015, this would correspond to:

2 year yields +72bps

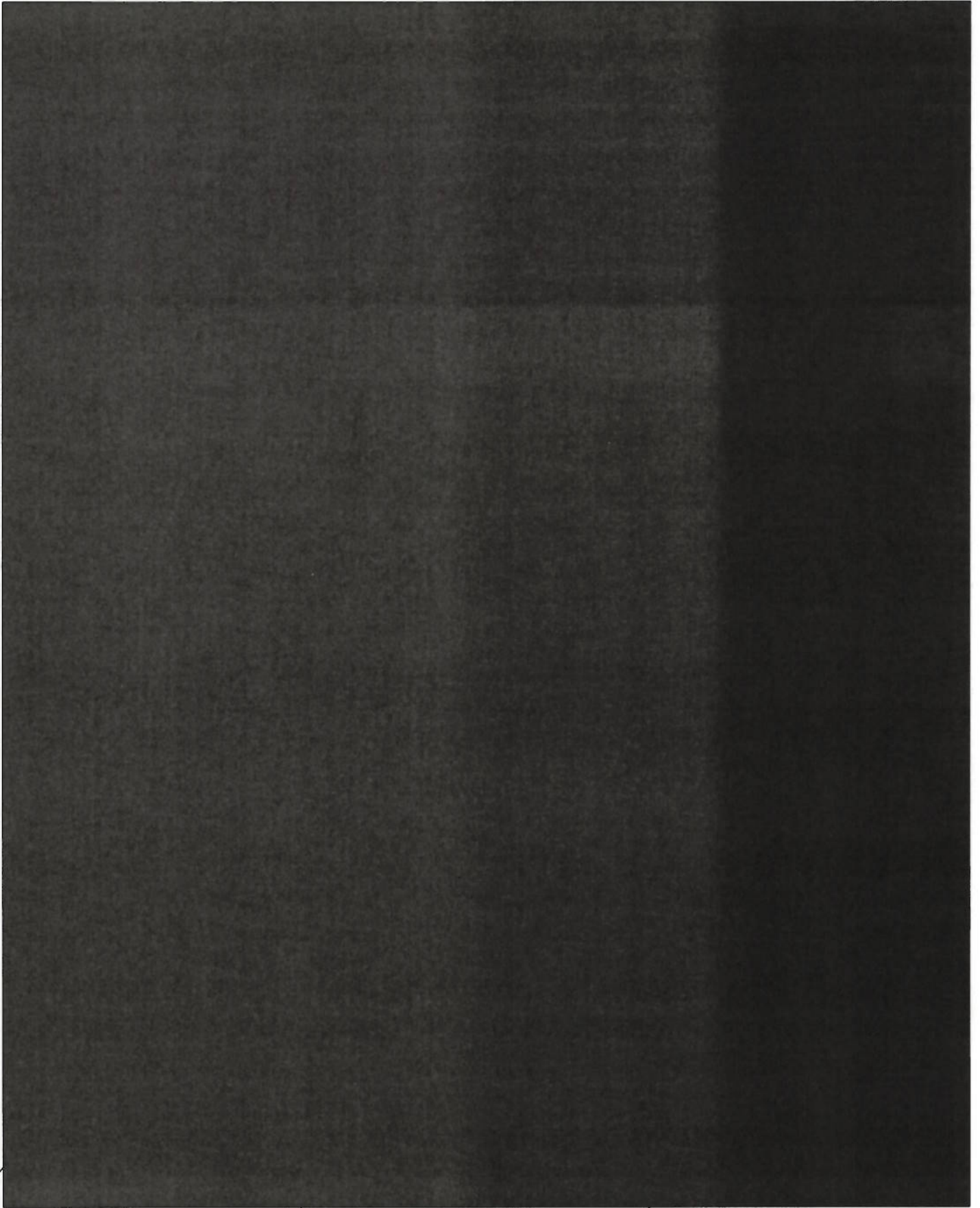
10 year yields +67bps

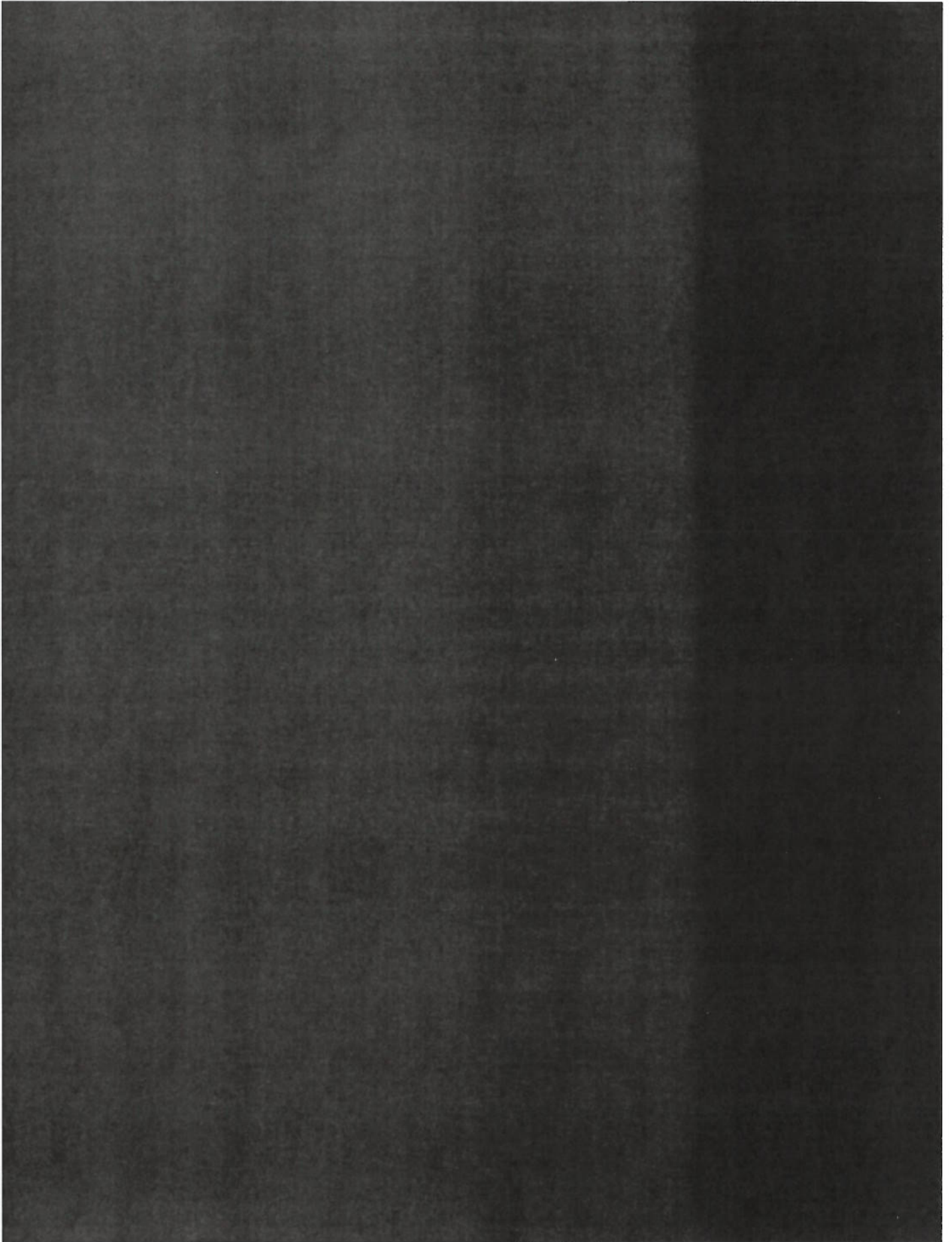
Title	Irish 2 year sovereign bond yield - Monthly change in yield		
Date Range	Nov. 2003 to Jun. 2015		
No. of Observations	122		
Description:	Monthly basis point change in yields		
Note:	Incomplete Data set (No data for Nov 2007-Feb 2009)		
Average Chg. In Yield	-2.39	# of 1-2 Std Dev events	7
Median Chg. In Yield	-3.00	# of >2 std dev events	9
Standard Deviation	95.66	# of >3 std dev events	3

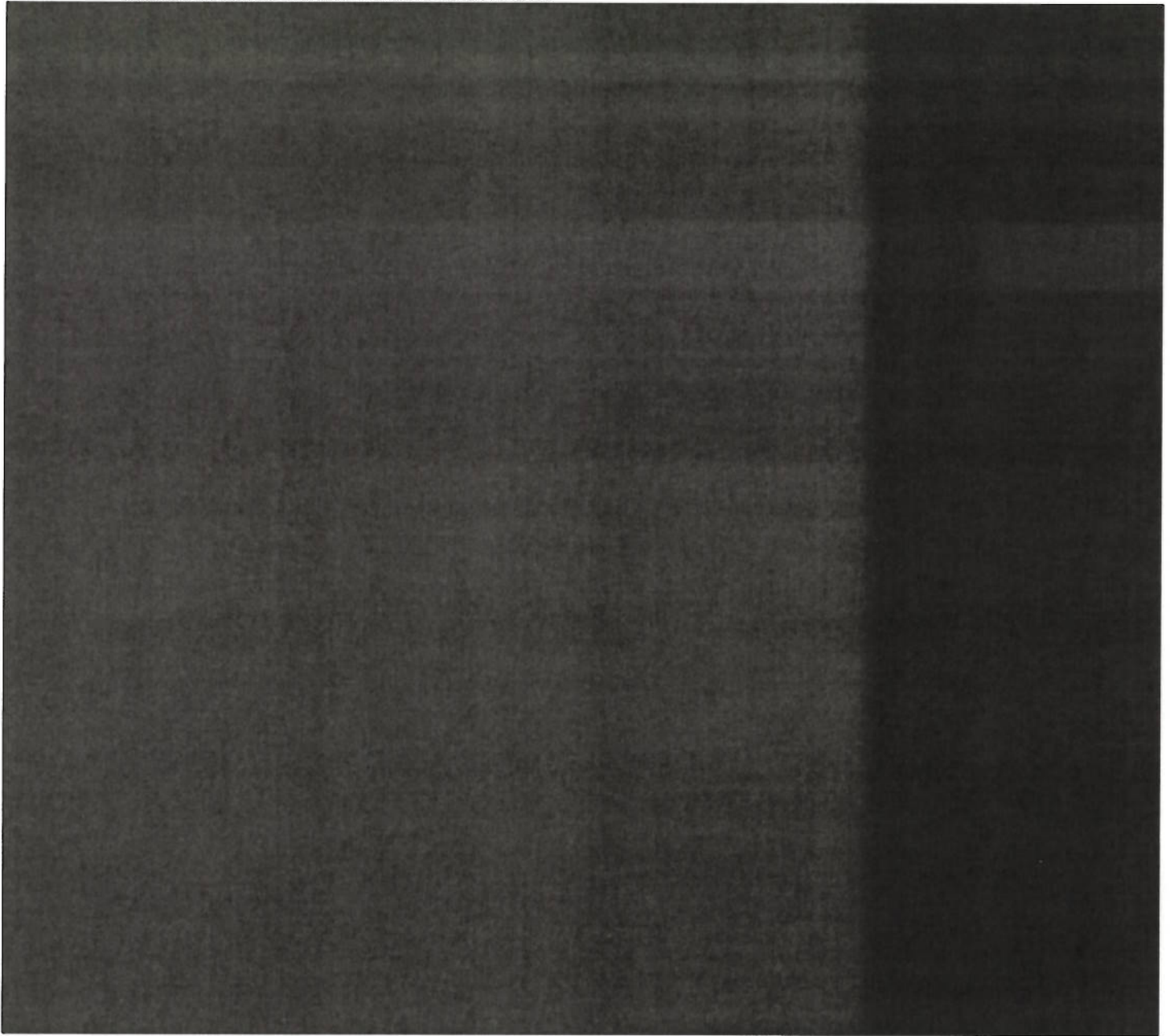
Title	Irish 10 year sovereign bond yield - Monthly change in yield		
Date Range	Aug. 1995 to Nov. 2011		
No. of Observations	189		
Description:	Monthly basis point change in yields		
Note:	Incomplete Data set (No data for Apr 2007-Sep 2007)		
Average Chg. In Yield	-0.19	# of 1-2 Std Dev events	21
Median Chg. In Yield	-4.20	# of >2 std dev events	8
Standard Deviation	37.86	# of >3 std dev events	3



Annex 2: Banking sector







Annex 3: Insurance sector

Table 1 - "Outwards" equates to Irish regulated entities conducting insurance business in UK.

	FOE - Outwards		FOS - Outwards		Total - Outwards	
	# Firms	UK GWP ('000)	# Firms	UK GWP ('000)	# Firms	UK GWP ('000)
Life						
Non-life						
Total						

Table 2 - "Inwards" equates to UK regulated entities conducting insurance business in Ireland.

	FOE - Inwards		FOS - Inwards		Total - Inwards	
	# Firms	Irish GWP ('000)	# Firms	Irish GWP ('000)	# Firms	Irish GWP ('000)
Life						
Non-life						
Total						

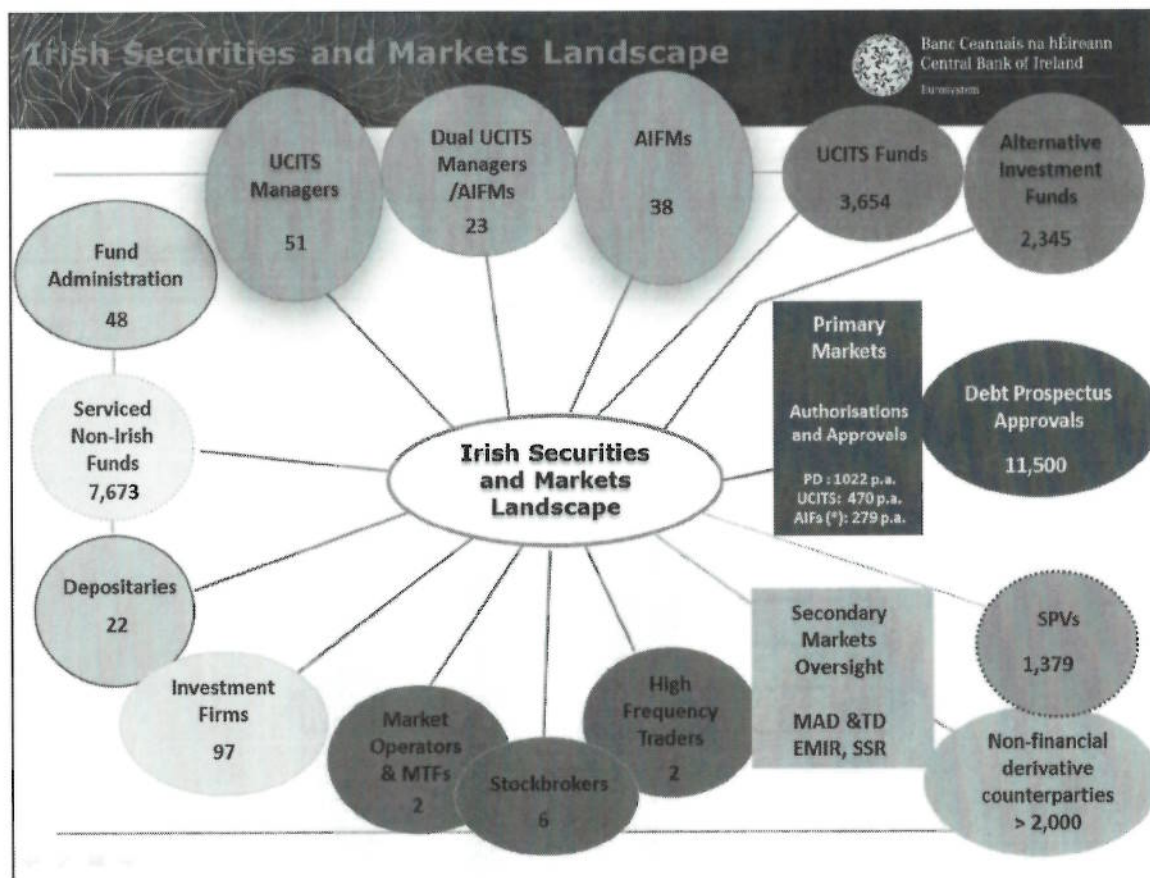
Table 3 – Cross-border/VA life insurers with highest Brexit exposure.

Entity Name	Basis (FOS/FOE)	Life/Non-life	UK GWP ('000)	% Total GWP

Annex 4: Markets

This appendix contains some expanded detail on information cited earlier in the report. A selection of stakeholders were contacted in the course of this research – the Markets Directorate are of the opinion that the sentiment expressed in these conversations was captured in the section “*Conclusions and key points of concern*” however further detail of these conversations is provided in this section for context.

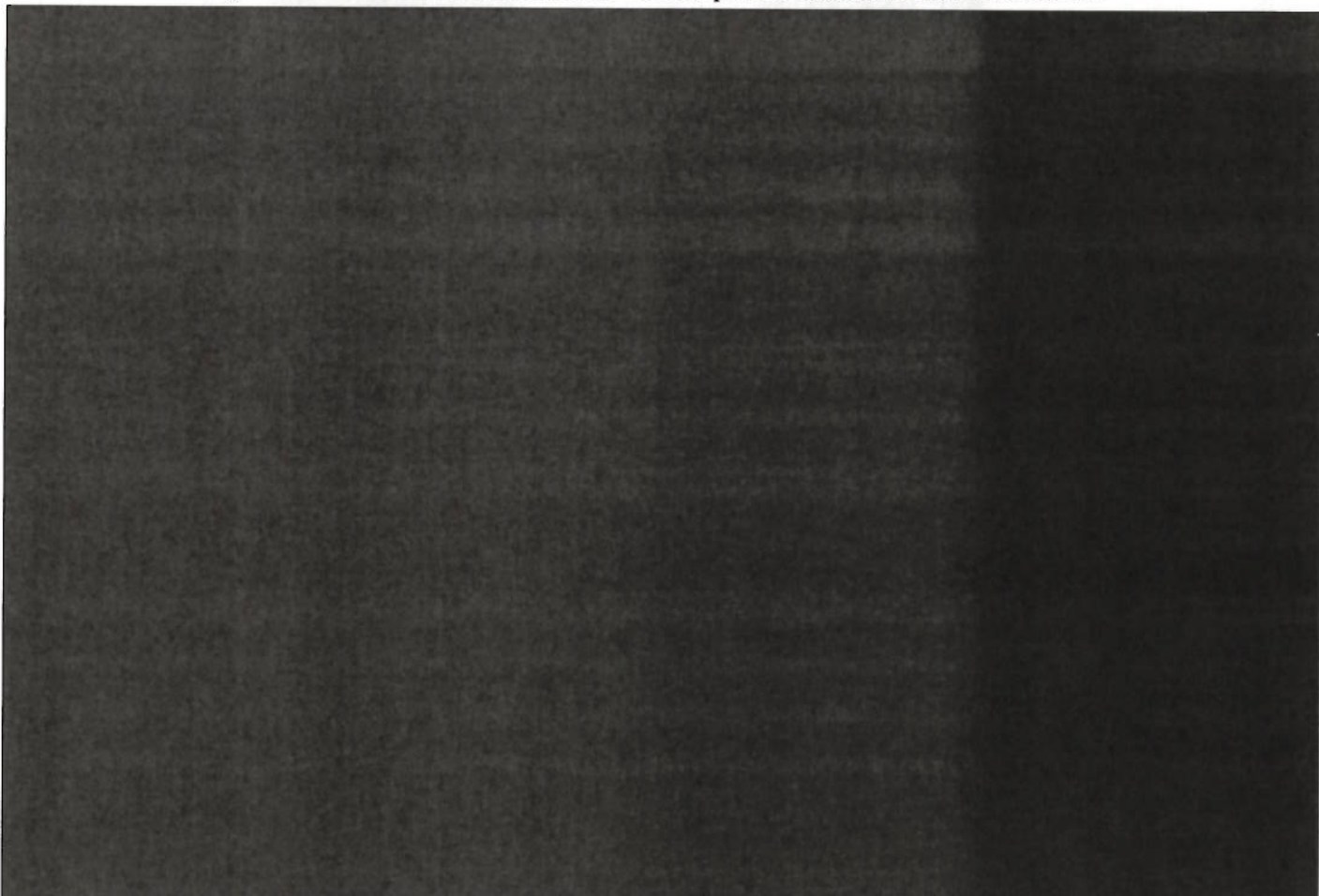
5.1 Overview of the Markets Directorate



Notes:

- figures for UCITS Managers / Dual UCITS Managers/AIFMS / AIFMs obtained from Supervision System, September 2015
- figures for Fund Administration, Depositories, Investment Firms obtained from Supervision System, September 2015

- figures for Serviced non-Irish Funds obtained from *non-Irish Authorised Funds Return*, June 2015
- figures for Investment Firms and Market Operators & MTFs / High Frequency Traders / Stockbrokers obtained from Supervision System, September 2015
- figures for UCITS funds and Alternative Investment Funds obtained from <http://www.centralbank.ie/regulation/industry-sectors/funds/Pages/default.aspx>, September 2015
- figures for debt prospectus approvals refer to typical number of prospectus approvals carried out on an annual basis.
- figures for Special Purpose Vehicles obtained from <http://www.centralbank.ie/publications/Pages/QuarterlyBulletinArticles.aspx>, July 2015
- figures for Non-financial derivative counterparties obtained from EMIR team



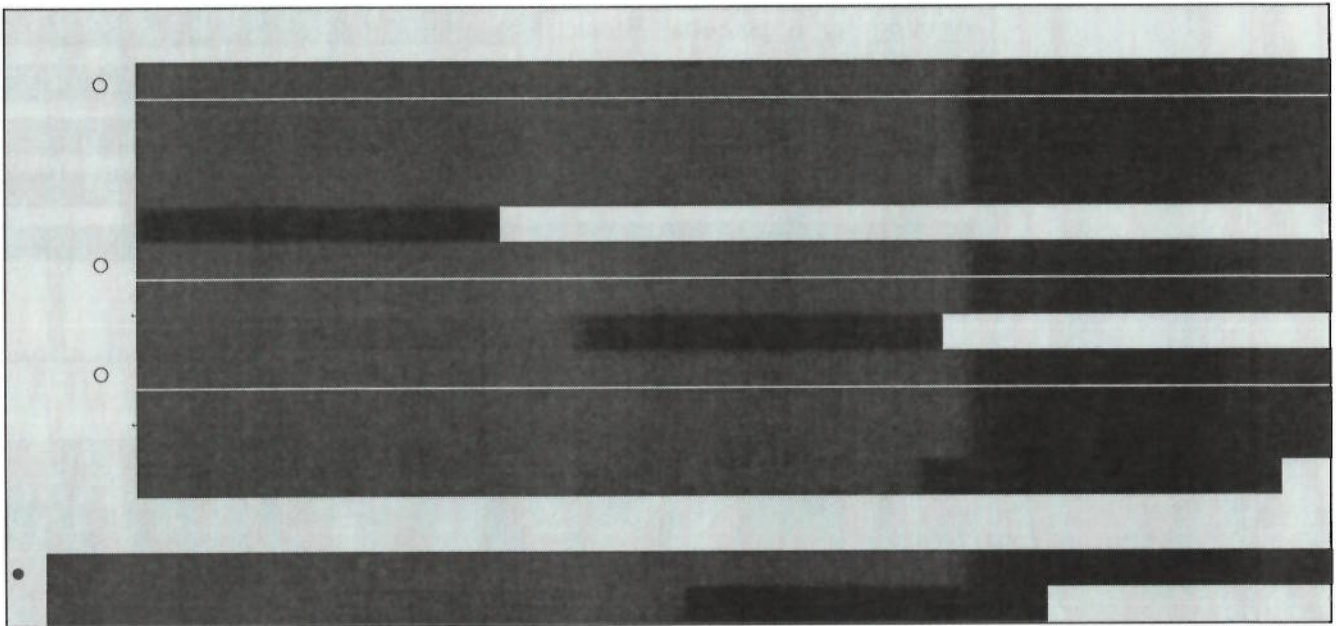
Notes: data table above shows the number of firms supervised by IFFS broken down by firm type and impact rating and is obtained from PRISM / the Supervision System, as at

	planning for a potential Brexit. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
--	---

A selection of Investment Firms with exposure to the UK market / clients were contacted to provided commentary on the impact of a potential Brexit on their businesses / business models. Some of the key messages from these firms are described below:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

Key potential changes considered by the firm from a Brexit are:



4.3 Fund service providers

Fund Service Providers – supervision issues			
Topic	Summary of issue		
Lack of excess capacity	<p>Any potential influx of business into Dublin would face challenges in the form of (i) shortage of supply with regards to office space in Dublin (451,111 square metres of vacant office space in Dublin, compared to 1.46 million square metres in Frankfurt, 941,000 square metres in Paris), (ii) increasing costs of office space in Dublin (CBRE - 34.9% rise year-on-year in 2014), (iii) workforce supply vs. influx of business.</p> <p>http://www.irishtimes.com/business/financial-services/uk-based-banks-exit-plans-hit-by-lack-of-european-office-space-1.2226272)</p>		
Branches of UK firms	<p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p> <p>[Redacted]</p>		
	Firm	Institution Type	Ownership Structure
	[Redacted]	[Redacted]	[Redacted]

A selection of Fund Service Providers with exposure to UK markets / clients were contacted to provide commentary on the impact of a potential Brexit on their businesses / business models. The response from a large asset manager regarding a potential BREXIT is described below:

[REDACTED]

4.4 Funds

Funds Scenario 1: UK goes it alone – No Treaty

Funds may re-domicile to Ireland / Luxembourg, which could mean a large increase in the number of newly authorised funds in Ireland and also re-domiciliation of Funds to Ireland. This would increase the work load in the Funds Authorisation and Funds Supervision Teams, [REDACTED]

[REDACTED] This in turn would also then have an increase on the levies being collected by CBI for authorised funds.

Should funds change their Service Providers to Irish providers (particularly Depositories); this could result in an increase in workload of the Funds Post Authorisation Team (i.e. changing fund documentation).

Increase in demand for employees with Funds Industry knowledge and experience, availability of office space and facilities for employees.

UK funds would be excluded from UCITS passporting and would not be able to market their UCITS funds to the EU / EEA. This could have the effect of UCITS funds moving to Ireland / Luxembourg. There would be no impact on Non UCITS / AIFs as they could use the role of the Non-EU AIFM. This would require a Depository based in Ireland but there would be no obligation to have other parties to the fund located in Ireland.

There may be an increase in the number of breaches / errors reported if number of funds being supervised increases. Impact on our relationship with the FCA regarding sharing of information in particular regarding any breaches/errors where they would be the owners of previous records relating to these funds. (E.g. if

there were any enforcement issues which CBI would not be aware of).

UK would possibly lose their right to contribute to ESMA.

Funds Scenario 2: UK concludes Bilateral Trade Treaty with EU

It is unclear where UCITS funds would stand in this scenario – i.e. whether they would still retain a passporting mechanism under a Treaty situation or whether there would be a scaled back authorisation process for UK UCITS style funds passporting into other EU countries.

Depending on the nature of the agreement reached, there may not be any need to re-domicile funds to Ireland / Luxembourg.

It is likely that there would be no increase in levies collected for newly authorised funds or in workload for the Funds Authorisation and Funds Post-Authorisation teams. Similarly, it is likely there would be little or no impact on the Fund Supervision team.

The Funds Industry model may operate in a similar fashion to Norway.

The below information was taken from a report entitled “*Asset Management in the UK 2013-2014: The IMA Annual Survey*” by The Investment Association (a representative body for UK investment managers). The information describes the percentage of Dublin domiciled funds with a UK asset manager from 2010 to 2013. Note that Dublin is the leading jurisdiction from 2011 to 2013.

Overseas-domiciled funds with UK asset management

The UK's attractiveness as a location for asset management is also reflected in the scale of overseas-domiciled funds that continue to be managed from the UK. This increased by 7% from 2012 to £775 billion at the end of 2013. One of the largest single components in this area is institutional money market funds, with the remainder comprising a range of institutional and retail products, including hedge funds and ETFs.

For a number of years, the overseas-domiciled funds with assets managed from the UK have exceeded the domestic funds industry in asset terms. Given faster growth in the latter, this gap has now narrowed (see Chart 6). The significance of the evolution lies mainly in the robustness of the UK market. There are a range of reasons why the comparative growth of the overseas-domiciled fund component is slowing, not least the decline in euro-denominated institutional money market funds (see p.21). Operational changes also contribute to year-on-year variations in this metric.

The relative market share of overseas fund domiciles within the UK-managed asset base seems to have remained fairly consistent year-on-year, with Dublin (41%) and Luxembourg (32%) accounting for a large majority of activity (see Chart 7).

North America (and therein predominantly the US) is the most frequently mentioned fund domicile location aside from Dublin and Luxembourg. Other jurisdictions include the Channel Islands and Cayman Islands.

Chart 6: UK authorised funds and overseas-domiciled funds managed from the UK (2010–2013)

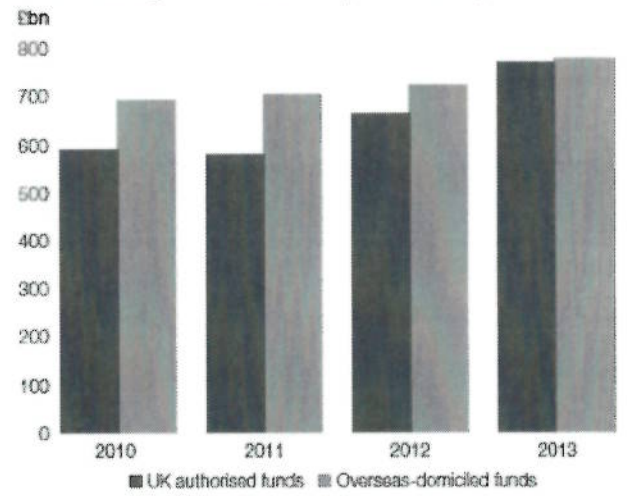
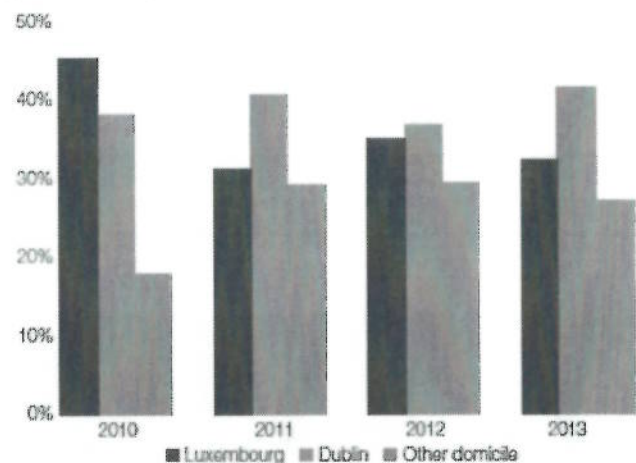
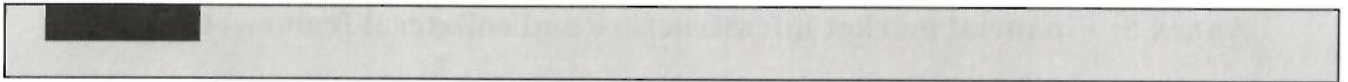


Chart 7: Location of overseas-domiciled funds (2010–2013)



Representatives of the Funds industry were contacted to provide commentary on the impact of a potential Brexit on their businesses / business models. Some of the key messages from industry are described below:

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]



Annex 5: Financial market infrastructure and collateral framework

5.1 Geographical scope of the Eurosystem collateral framework

[REDACTED]

[REDACTED]

[REDACTED] For example, in relation to all non-marketable assets (credit claims) mobilised as collateral under the permanent Eurosystem collateral framework, the debtor and the guarantor of the credit claim must be established in the euro area¹. The credit claim agreement and the mobilisation agreement must both be governed by the law of a (euro area) Member State. All credit claims must be denominated in euro.

In relation to marketable debt instruments accepted under the permanent collateral framework, the geographical scope is less restrictive. However, all marketable debt instruments eligible under the permanent collateral framework must be denominated in euro.

Under the permanent collateral framework, the issuer of a marketable debt instrument must be established in the EEA or in one of the non-EEA G10 countries (in the latter case under the condition that the Eurosystem ascertains that its rights would be protected in an appropriate manner under the laws of the respective non-EEA G10 country). International organisations and multilateral development banks are excluded from this rule and are eligible issuers irrespective of their place of establishment.

A marketable debt instrument must be deposited / registered (issued) in the EEA with a central bank or with a CSD which fulfils the minimum standards established by the ECB.

In relation to asset-backed securities (ABS), in order to be eligible, the acquisition of the cash-flow generating assets backing the ABS must be governed by the law of an EU Member State and be originated and sold to the issuer by an originator or, if applicable, an intermediary incorporated in the EEA. Further, if the cash flow generating assets are credit claims, the obligors and the creditors must be incorporated in the EEA and, if relevant, the related security must be located in the EEA. The law governing those credit claims must be the law of an EEA country.

¹ This does not however apply to a debtor/guarantor that is an international organisation or a multilateral development bank.

It may be noted that under the ABS purchase programme, in order to be eligible for outright purchase, no less than 95% of the outstanding principal amount of the cash-flow generating assets backing an ABS issue must be denominated in euro, any properties securing the cash-flow generating assets backing an ABS issue of residential mortgage-backed securities (RMBS) or commercial mortgage-backed securities (CMBS) must be located in the euro area, measured by the outstanding principal amount of the cash-flow generating assets attributable to such properties and the obligors of the cash-flow generating assets backing an ABS issue (other than RMBS and CMBS), measured by reference to the outstanding principal amount of the cash-flow generating assets attributable to such obligors, must be incorporated or resident, as applicable, in the euro area.

Similarly, in relation to the covered bond purchase programme, in order to be eligible for outright purchase, covered bonds must be denominated in euro, held and settled in the euro area.

There are additional temporary measures relating to the eligibility of collateral that allow for the potential eligibility of marketable debt instruments denominated in pounds sterling, yen or US dollars provided that:

- they are issued and held/settled in the euro area;
- the issuer is established in the European Economic Area (“EEA”);
- they fulfil all other Eurosystem eligibility criteria.

It may be noted that the Eurosystem applies the following valuation markdowns to such marketable debt instruments: (a) a markdown of 16% on assets denominated in sterling or US dollars; and (b) a markdown of 26% on assets denominated in yen.

5.2 Implications for the Central Bank of Ireland and its domestic monetary policy counterparties

The Central Bank of Ireland, as a national central bank of the Eurosystem, would continue to implement the Eurosystem collateral framework, so consequences would depend on how the Eurosystem would adapt the collateral framework to Brexit and how the Brexit would ultimately unfold. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] While this collateral is available under the temporary measures and President Draghi has announced publicly that ACC collateral will remain eligible until at least September 2018, the acceptance of such collateral is subject to the fulfilment of on-going eligibility criteria. [REDACTED]

[REDACTED]

5.3 Financial market infrastructures overseen by the Bank of England

This below are UK FMIs currently overseen by the Bank of England.

UK payment systems:

- CHAPS (operated by CHAPS Clearing Company Limited – this is the UK’s high-value payment system, providing real-time gross settlement (RTGS) of GBP transfers between members).
- Faster Payments Service (or FPS, operated by Faster Payments Scheme Limited, processes standing orders and electronic retail transactions, including transactions generated in telephone and internet banking).

Central Bank of Ireland - CONFIDENTIAL

- Bacs (operated by Bacs Payment Schemes Limited, processes high-volume/ low-value payments such as salaries and direct debits).
- CLS (provides a settlement service for foreign exchange transactions in 17 currencies, including GBP).

UK securities settlement systems/central counterparties:

- Euroclear UK and Ireland (or EUI – operates the CREST system, the securities settlement system for UK gilts and money market instruments denominated in GBP, euro and US dollars, as well as UK and Irish equities).
- LCH Clearnet Ltd. (clears a wide range of exchange-traded and OTC products).

ICE Clear Europe (clears a range of exchange-traded derivatives and OTC credit default swaps).

- CME Clearing Europe (offers clearing in OTC products including interest rate and commodity-based derivatives).

