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BREXIT TASK FORCE: JUNE 2017 UPDATE

Brexit Task Force

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Introduction

The quarterly report of the Brexit Task Force (BTF), provides updates on political, economic and financial market developments since the referendum, risks arising for firms supervised by the Bank and issues arising for the Bank itself in particular pertaining to authorisations. Within this report, the BTF aims to provide updated information on these topics alongside more in-depth analysis of issues and policy questions arising from Brexit. The report is attached in the accompanying Appendix.

The Commission is requested to note the overview and update of the Brexit Task Force: June 2017 Report.

APPENDIX

BREXIT TASK FORCE: JUNE 2017 UPDATE

Contents

Executive Summary

- Following the invocation of Article 50 and publication of the UK's objectives for the upcoming Brexit negotiations, the Heads of State and Government of the EU-27 have now agreed their guidelines for the negotiations. Overall, the guidelines are broadly constructive in tone and emphasise an ambition to establish a close partnership with the UK. There is also a note of caution that the EU will prepare itself to be able to handle the situation if the negotiations were to fail.
- [redacted]
- In terms of the future relationship, the guidelines outline a number of preliminary principles, notably that any Free Trade Agreement should be balanced, ambitious and wide-ranging; that it must ensure a level playing field in terms of competition and state aid; and that it encompass safeguards against unfair competitive advantage. Any future framework should 'safeguard financial stability in the Union and respect its regulatory and supervisory regime'.
- Since the March Report, financial markets overall have remained relatively calm despite a number of significant Brexit events occurring and there is a view that events related to Brexit will be better absorbed by markets given that the process is likely to be prolonged.
- There are differing views and some uncertainty regarding the implications of the 8 June election result for the UK's negotiating stance and the negotiations' commencement date. Sterling fell by circa 2 per cent against both the dollar and euro following the result, and is currently trading close to its post-Brexit referendum lows. However, beyond this, market reaction was relatively muted, with the FTSE 100 and 250 both gaining marginally since the election result and sovereign yields relatively unchanged.
- Having performed better than had been initially expected after the referendum, output growth slowed in the UK during Q1 2017, mainly reflecting weaker retail sales. Manufacturing output and exports continue to be supported by sterling depreciation. The Bank of England's May Inflation Report has minor downward revisions to growth in 2017 and minor upward revisions for 2018 and 2019. Current forecasts are still lower than the pre-referendum forecasts. Headline inflation continues to rise, coming in at 2.7 per cent in April, and is expected to stay above the 2 per cent target over the next three years.
- The Irish economy continues to perform well. Labour market and output data give little indication of pronounced Brexit effects while exports to the UK in value terms and consumer confidence indicators have improved during 2017. The weakening of sterling against the euro has contributed to weak inflationary pressures.
- [redacted]

- Across the insurance sector, while the majority of Irish regulated entities have little or no direct business with the UK, a number do have significant business and there will be a material impact on their business models – the extent of which will depend on whether they sell into the UK on a Freedom of Establishment or Freedom of Services basis. It is anticipated that Freedom of Services business between the UK and the EU will no longer be possible. The Report provides an update regarding some high-impact firms that are likely to be affected.
- The Report provides updated information with respect to authorisations queries and applications across all parts of the financial sector up to 24 May and a commentary on some related developments. [redacted]
- While the number of new enquiries with respect to banks potentially seeking to locate new business in Ireland has levelled off in Q2, the intensity of engagement with certain banks that are likely to choose Ireland has increased substantially. There has also been an increase in the number of banks looking to engage regarding potentially establishing investment firms in Ireland. Banking Supervision is actively engaged with the SSM with regard to decisions on credit institution authorisation requests.
- [redacted] Internationally there has been speculation about possible supervisory arbitrage in the sector with member states competing to attract companies in the wake of Brexit. As part of a wider peer review on authorisation approaches in this sector, EIOPA has visited the Central Bank and their informal feedback has been very positive about the Bank's approach. In its written submission to EIOPA, the Central Bank focused on the areas of substance, outsourcing and reinsurance.
- [redacted]
- [redacted]
- [redacted]
- [redacted] an Irish CSD was desirable. The Department of Finance are to issue a statement to this effect [redacted]

- The Central Bank is an active participant in the Brexit-related work at European regulatory and supervisory fora. Section 6 provides an overview of this work including key areas of focus for the ECB/SSM and the three European Supervisory Authorities (EBA, ESMA and EIOPA). The Bank's representation on the various Task Forces and Working Groups is outlined.
- The first special feature in this Report looks at the potential impact of Brexit on the Central Bank's responsibilities and functions as Ireland's national resolution authority. It considers the issues of (i) changes to the UK resolution framework, (ii) cooperation between resolution authorities, (iii) the scope of resolution planning activities, (iv) the impact on institutions, (v) intermediate parent undertakings and (vi) contractual recognition of bail-in.
- While the precise impact of Brexit on the resolution framework cannot yet be assessed, some of the key factors to be considered are noted. These include (i) the number of new entrants to the market as a result of Brexit, (ii) divergences between the Irish and UK resolution regimes which may emerge over time, (iii [redacted] (iv) any new resolution requirements that will be introduced as part of the Risk Reduction Measures package.
- This special feature concludes that while Brexit should not fundamentally undermine the resolvability of Irish institutions it is likely to result in an enhanced role for the Central Bank in ex-ante resolution planning and a greater need to cooperate effectively with the Bank of England on resolution matters.
- The second special feature looks at the potential impact that a significant relocation of firms from the UK to Dublin might have on the commercial real estate sector. The feature provides an overview of the existing Dublin office market as well as the significant development pipeline. It examines the potential scale of relocation to Dublin, referencing also the company announcements to date, and the capacity of the Dublin office sector to cope.
- The evidence indicates that there is likely to be sufficient office development in the pipeline to accommodate firms that seek to move to Dublin. Guaranteeing sufficient housing and adequate infrastructure to cope with this additional demand may be the bigger issue.
- The third special feature estimates the potential impact of a range of Brexit scenarios for the UK economy on Irish banks' residential UK mortgage portfolios [redacted] Using a probability of default model developed in FSD on data from 2009 to 2015, combined with scenarios for UK macroeconomic aggregates provided by the UK's National Institute of Economic and Social Research, the model estimates [redacted]

Introduction[1]

Following the Brexit referendum, the Central Bank's Financial Stability Committee (FSC) requested that a Task Force on Brexit implications be established on a permanent basis to monitor and assess developments in this area. The Brexit Task Force (BTF) provides updated information regarding political, economic and financial market developments, risks arising for firms supervised by the central Bank and issues arising for the Central Bank itself, in particular with respect to authorisations. Furthermore, each report selects a number of issues or policy questions related to Brexit and provides an in-depth examination of these areas.

This fourth BTF Report follows the third meeting of the BTF on 5 May. The layout of the Report is as follows. Section two provides an update on political developments, the performance of the UK economy and property market and financial market movements over the past three months. Section three discusses the changes to the outlook for the Irish economy and property market in the context of Brexit. Section four provides an overview of latest developments in relation to firms supervised by the Credit Institutions, Insurance, Asset Management Supervision and Securities and Markets Directorates, respectively. In Section five, information relating to queries received by the Central Bank in relation to potential applications for authorisations is presented. Presented in section six is an overview of the work conducted by the various European Supervisory Authorities, the ECB and the SSM in relation to Brexit. Sections seven through eight provide in-depth analysis on a number of special topics. These are the impact of Brexit on resolution planning and execution, the impact of Brexit on the Irish commercial real estate market and the impact of a range of Brexit scenarios on credit risk in Irish banks' UK mortgage portfolios.

[1] The following Divisions are represented on the Brexit Task Force: BSSD, CPD, FMD, FRG, FSD, IEA, IFFS, SMSD, INSA, MPD, ORD, Risk, SRD, PSSD, RES. The report has also benefited from discussions with the Department of Finance. The Chair (Mark Cassidy) and Secretariat (Ellen Ryan) are provided by FSD.

2. Political and Market Developments

2.1. Political developments[2]

2.1.1. *UK level developments*

On 29 March, the UK invoked Article 50 (TFEU) via a notification letter delivered to President Tusk, thus formally setting the process of its withdrawal from the EU in motion. In a speech to the House of Commons, to inform Parliament on the content of the letter, Prime Minister (PM) May outlined a number of the UK's objectives in the upcoming negotiations. The PM stated that "it is our aim to deliver a smooth and orderly Brexit, reaching an agreement about our future partnership by the time the two-year Article 50 process has concluded, then moving into a phased process of implementation in which Britain, the EU institutions and member states prepare for the new arrangements that will exist between us".

[redacted]

Within the letter, the following key points were presented;

- The intention of the UK to approach the negotiations constructively and respectfully;
- The UK seeks a bold and ambitious Free Trade Agreement (FTA) with the freest possible trade in goods and services;
- In recognition of the EU's position of no 'cherry picking', the UK will no longer be a member of the Single Market;
- The UK wants both the exit negotiations and an agreement on the future EU-UK relationship agreed within the two year Article 50 process;
- The UK seeks agreement on a phased process of 'implementation' (i.e. transition) to allow for preparation of the new relationship;
- The UK sees guaranteeing the rights of EU citizens in the UK and vice versa as an early priority.

[redacted]

In relation to Ireland, the letter devotes one of its seven paragraphs thereto - it notes the UK's unique relationship with the Republic of Ireland and the importance of the peace process in Northern Ireland and maintenance of the Common Travel Area. The letter refers to making sure that 'UK's withdrawal from the EU does not harm the Republic of Ireland. It is worth noting that, while the UK letter did not provide clarity on membership of the customs union, the conservative party election manifesto stated that the UK would no longer be a member thereof.

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[2] Our thanks to the Department of Finance for providing the background information on the latest political developments.

[redacted]

2.1.2. EU position and negotiation process

In immediate response to receipt of the UK's letter of notification, President Tusk issued a joint statement on behalf of the EU-27, specifying that the EU will approach the negotiations constructively, and will start by focusing on all key arrangements for an orderly withdrawal.

Negotiating Guidelines

The Heads of State and Governments of the EU-27 agreed guidelines for negotiations with the UK at the 'Special European Council' (Article 50) on 29 April 2017. Setting out a number of principles for the EU approach to the negotiations, the guidelines are broadly constructive in tone and emphasise an ambition to establish a close partnership with the UK. In terms of principles, these largely reaffirm those set out in the EU-27 Statement (June 2016) namely;

- that any future agreement will have to be based on a balance of rights and obligations;
- the integrity of the Single market (the indivisibility of the four freedoms) must be preserved;
- non-members cannot have the same rights and benefits; negotiations are to be conducted as a single package (individual items cannot be settled separately);
- negotiations are to be undertaken at EU-27 level (no separate negotiations between individual member states and the UK);
- until the exit, the UK remains a full member of the EU, subject to all rights and obligations.

There is also a note of caution that the EU will prepare itself to be able to handle the situation if the negotiations were to fail.

[redacted]

[redacted]

In the first 'exit' phase, the focus will be on the arrangements for an orderly withdrawal. The items to be negotiated are; citizen's rights, the financial settlement, and border issues in Ireland. In relation to the latter point, the guidelines contain a paragraph outlining the "unique circumstances on the island of Ireland', the need to support the peace process and the need to identify flexible and imaginative solutions with the aim of avoiding a hard border while respecting the integrity of the Union legal order". The guidelines also stipulate that negotiations should seek to prevent a legal vacuum once the Treaties cease to apply to the UK and, to the extent possible, address uncertainties (for business and contracts for EU funded programmes).

In terms of the future relationship, the guidelines outline a number of preliminary principles, notably that any FTA should be balanced, ambitious and wide-ranging; that it must ensure a level playing field in terms of competition and state aid; and that it encompass safeguards against unfair competitive advantages. [redacted]

Negotiating Directives

Subsequent to the adoption of the guidelines, on 3 May, the European Commission presented draft negotiating directives and it's "Recommendation for a Council Decision authorising the Commission to open negotiations on an agreement with the UK". Following discussions by the 27 member states, these were adopted at the General Affairs Council (GAC) on 22 May. The GAC also confirmed the establishment of an ad hoc Working Party on Article 50, which will prepare the technical aspects of the negotiations.

The negotiation directives build upon the European Council guidelines and set out the mandate for the European Commission to take forward negotiations with the UK. In line with the two-phase approach set out in the European Council guidelines, the first iteration of the negotiation directives is focused on the objectives of the first phase i.e. citizens' rights, the financial settlement, and border issues in Ireland. Additionally, with the view of avoiding a legal vacuum, the directives also contain a section on arrangements regarding goods placed on the market prior to the withdrawal date, as well as ongoing procedures e.g. judicial cooperation. The negotiating directives may be amended and supplemented as necessary throughout the negotiations, in particular to reflect the European Council guidelines as they evolve. Following agreement on the negotiation directives, the formal negotiations between the EU and UK can commence. This is expected be in mid-June, after the UK general election.

2.1.3. *Irish perspective, preparations and political developments*

[redacted]

On 2 May, a detailed position paper was published on the Government's approach to the Brexit negotiations. The paper reflects the findings and outcomes of the extensive preparatory work and consultations undertaken to date and demonstrates how these will be brought to bear in Ireland's approach to the negotiations. The paper also looks ahead to the future relationship negotiations and the issues that will need to be addressed in the second phase of the negotiations. In an accompanying Government Statement, the Government affirmed that now that the EU's initial negotiating position is clear and confirmed through the negotiation guidelines, the Government will intensify its focus on the economic implications of Brexit. This includes domestic policy measures to reinforce the competitiveness of the Irish economy. The Government has committed to preparing a further paper on the economic implications of Brexit.

Negotiation Process

[redacted]

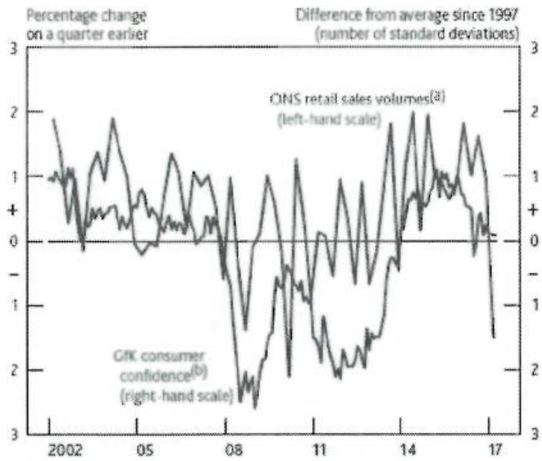
2.2. UK economic and property market developments

2.2.1. *Macroeconomy*

Preliminary estimates for Q1 2017 show a slowing of output growth in the UK to 0.3 per cent. Reduced growth was concentrated in the services sector, particularly consumer-facing subsectors. This is consistent with slowing in real household spending growth and a sharp fall in retail sales over the quarter (Chart 1). Consumption growth is expected to remain weak over the coming quarters due to weak household income growth arising from the effect of sterling depreciation on import prices. Growth in consumer credit, which has been elevated for a number of years, slowed slightly over Q1 and is expected to slow further (Chart 2).

Despite this, consumption may be supported by consumer confidence, which has remained slightly above average over the period.

Chart 1: Retail sales volumes and consumer confidence



Sources: GfK (research carried out on behalf of the European Commission), ONS and Bank calculations. (a) Quarterly average of monthly data.

Chart 2: Household borrowing (a)

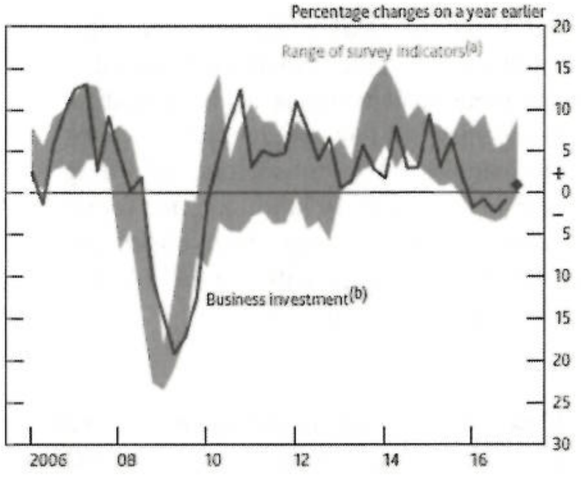
Source: Bank of England
(a) Monthly data. Sterling net lending by UK MFIs and other lenders. Consumer credit consists of credit card lending and other unsecured lending (other loans and advances) and excludes student loans.

Manufacturing and exports continue to be supported by the sterling depreciation. The positive conditions facing the export sector are expected to contribute to a modest recovery in business investment growth in 2017. Business investment fell over 2016; this has been largely attributed to heightened uncertainty and the postponement of large investment decisions. The pick-up in survey measures of investment intentions over the first quarter of 2017 (Chart 3) has been attributed to the resilience of UK demand, strong global demand, stable corporate credit conditions, and sterling depreciation. However, the effect of uncertainty surrounding the UK's future trading arrangement is expected remain and to weigh on firms' investment intentions over the coming years.

In light of these dynamics, the Bank of England (BoE) May Inflation Report makes small downward revisions to growth forecasts for 2017. Small upward revisions are made to forecasts for 2018 and 2019 due to the stronger than expected path of global growth. The role of Brexit in determining the outlook for UK growth is highlighted and it is explained that these forecasts are conditioned on the average of a range of possible Brexit outcomes. As such, they are considered to be based on a smooth Brexit assumption.

Inflation has continued to increase since the publication of the February report, coming in at 2.7 per cent for the month of April, up from 2.3 per cent in March. The rate is expected to remain above the 2 per cent target throughout the next three years, as the sterling depreciation feeds through to consumer prices. The Monetary Policy Committee (MPC) of the BoE highlights that forecasts also show a degree of spare capacity in the UK economy over this period. As a result, attempting to fully offset above target inflation would likely result in higher unemployment.

Chart 3: Business investment and survey indicators of investment intentions



Sources: Bank of England, BCC, CBI, CBI/PwC, EEF, IHS Markit and Bank calculations.
(a) Range includes BCC, CBI, EEF, Markit/CIPS and Agents measures of business investment

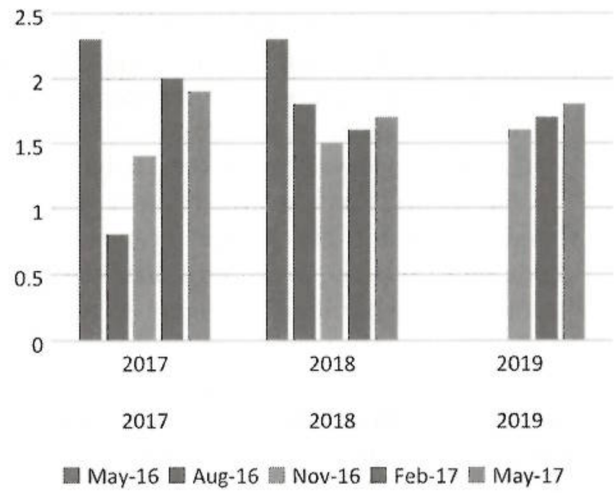
intentions, scaled to match the mean and variance of four-quarter business investment

growth since 2000.

(b) Chained-volume measure. Data are to 2016 Q4 and adjust for the transfer of the nuclear

reactors from the public corporation sector to central government in 2005 Q2. The diamond shows Bank staff's projection for Q1.

Chart 4: Bank of England GDP forecasts



Source: Bank of England
Calendar-year growth in real GDP consistent with the modal projection for four-quarter growth in real GDP. The MPC's projections are based on its backcast for GDP.

2.2.2. *Property market*

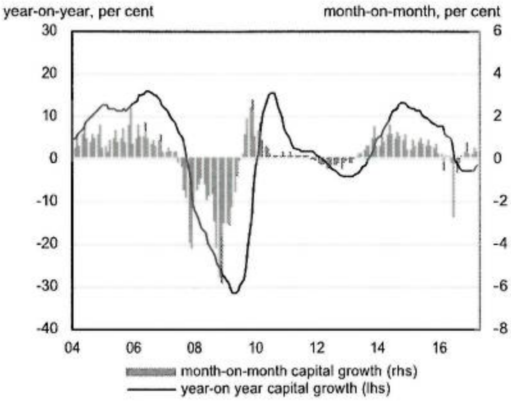
UK commercial property values continued to grow in the opening months of 2017. According to MSCI/IPD, commercial property capital and rental values grew 0.9 per cent and 0.3 per cent respectively in 2017Q1. The equivalent 2016Q1 figures were a capital value decrease of 0.2 per cent and a rental value increase of 0.7 per cent. On an annual basis, however, CRE values have weakened further. Year-on-year capital values have been negative since August 2016 and were 1.5 per cent lower in April (Chart 5). With an annual growth rate of 3.9 per cent in April 2017, the industrial sector recorded the largest capital value increase in of the main sectors. In contrast, the largest fall came in the retail market where capital values fell by 3.6 per cent over the past year.

There has been a moderation in the pace of annual UK commercial property rental inflation in recent months, to 1.5 per cent in April 2017, from 4.2 per cent in April last year (Chart 6). In terms of sectoral performance, year-on-year rental growth in the office sector has eased most notably in the past 12 months, from 7.8 per cent in April 2016 to 1.1 per cent in the same month of this year. Meanwhile, industrial rents posted the strongest annual growth of 4 per cent, while the retail market was up marginally at 0.5 per cent.

UK commercial property leasing activity remains steady according to MSCI. Vacancy rates remain low in comparison to long-term norms, while rental terms are no more favourable to tenants than before the Brexit referendum.[3] A significant amount of new space (13.3m square metres) awaits in the London office construction pipeline, however, raising concerns that the market could become oversupplied, given the post-Brexit prospects for the financial services sector in particular.

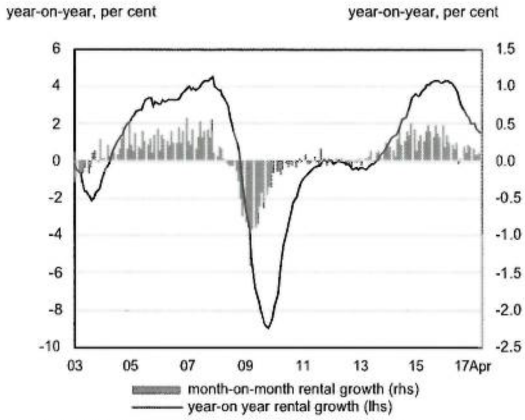
In terms of outlook, RICS 2017Q1 UK Commercial Property Market Survey finds that sentiment in the sector is picking up. Headline rental and capital value growth is expected to accelerate once again in the coming quarters, with sentiment still strongest in the industrial sector. Investment enquiries in central London rose at the sharpest pace since the tail end of 2015, while demand from overseas buyers continued to increase across all sectors, according to the report. Foreign investment enquires were lower in Northern Ireland, for the fourth straight quarter. The highest proportion of respondents seeing enquiries from businesses looking to relocate because of uncertainty about the future relationship with the EU (42 per cent against a headline UK figure of 16 per cent), was also recorded in the North.

Chart 5: UK commercial property capital growth: year-on-year and month-on-month



Source: MSCI/IPD and Central Bank of Ireland calculations

Chart 6: UK commercial property rental growth: year-on-year and month-on-month



Source: MSCI/IPD and central Bank of Ireland calculations

2.2.3. *House prices*

Broadly speaking there has been a slowdown in the pace of UK house price growth since the EU referendum (Chart 7). Residential house prices were 3.8 per cent higher year-on-year in April 2017 according to Halifax, down from 6.5 per cent at the end of 2016 and from the 9.2 per cent a year ago. Meanwhile, nationwide data show an annual increase in residential house prices of 2.6 per cent in April 2017, a drop from 4.5 per cent in December 2016, and 4.9 per cent last year.

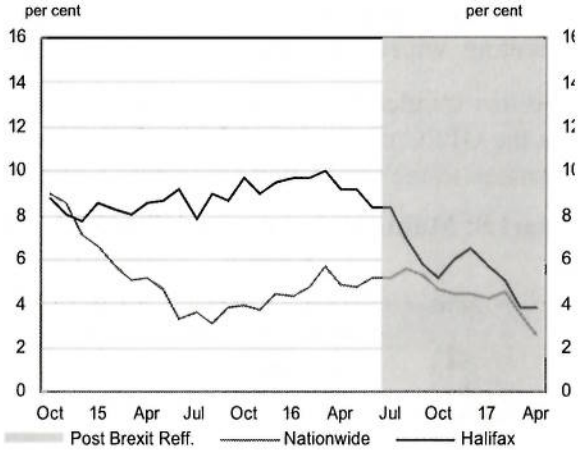
Momentum in the UK RRE market has been ebbing in recent months, according to the April RICs UK Residential Market Survey.[4] Sales declined slightly over the month. New buyer enquiries edged lower and the flow of new instructions/listings to estate agents weakened. In addition, there is a suggestion, based on anecdotal evidence, that the calling of an early election may have created an added layer of uncertainty in the market. Going forward,

[3] See "UK commercial property: Leasing trends holding up well despite Brexit uncertainty for tenants", Goodbody (May 2017).
See "UK Commercial Property Market Survey", RICS, 2017Q1.
[4] See http://www.rics.org/Global/1._WEB_%20January_2017_RICS_UK_Residential_Market_Survey_rte.pdf

national near term sales expectations are signalling a continuation of this flat picture over the coming three months.

In terms of the Irish housing market, one of the main issues surrounding Brexit concerns supply and the ability of the market here to cope with a surge in demand for accommodation should there be a widespread relocation of UK based firms/workers here. It is likely that this would put further upward pressure on prices, at a time when there is a severe shortage of units for sale or rent.

Chart 7: Annual growth in UK house prices



Source: Nationwide and Halifax

2.3. Financial market developments

2.3.1. *Key market themes*

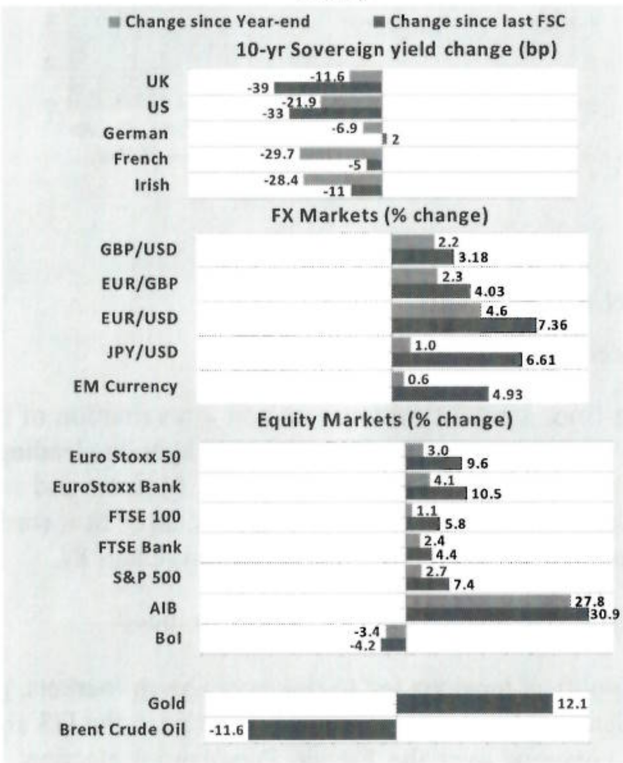
Initial concerns resulting from geopolitical tensions and a revaluation of the prospects of the Trump administration's capacity to pursue its legislative agenda (leading to a weaker U.S. dollar) were offset by the French Presidential victory of Macron and a brighter European economic outlook. Market volatility however, remains anchored at record low levels despite concerns over the ongoing investigation of President Trump (Chart 8).

In further detail, the key markets themes over the period included:

- An escalation in geopolitical tensions led to risk aversion in markets, pushing gold prices higher, following a deterioration in the relationship between the US and North Korea, the Syrian airstrike and concerns over the French Presidential election. The fears over the French Presidential election abated following the victory of centrist candidate Macron, and current projections for his party 'La Republique En Marche' to attain a large parliamentary majority, leading to euro area sovereign spreads tightening relative to Germany.
- There has been a further reassessment on the potential economic impact of the Trump administration's policies, with recent speculation regarding the President's links with Russia leading to a re-evaluation on the size and timing of any potential fiscal or taxation policy amendments. This also led to yields on longer-dated US Treasuries falling, and US banking sector equities underperforming European counterparts.

- Market volatility indices remained at multi-year lows, with the VIX index[5] reaching its lowest level since the early 1990s over the period.
- There remains a strong expectation that the Federal Open Market Committee will hike US interest rates by a further 0.25 per cent, bringing the target range to 1.00 - 1.25 per cent, at their June meeting, with members also indicating the potential for a change in their balance sheet reinvestment policy occurring by year-end. However, following President Draghi's relatively dovish press conference at the June Governing Council meeting, some analysts have pushed out their expectation on the timing of an announcement on tapering the asset purchase programme. However, there remains some expectation for the ECB's Governing Council to make an announcement on tapering at the September 2017 meeting, with such tapering anticipated from the beginning of 2018.
- A number of commodities trended lower over the period, with Brent crude oil losing around 12 per cent, as the OPEC meeting on 25 May failed to meet market expectations, despite a 9-month extension to the production agreement being reached.

Chart 8: Main market moves (13 March – 12 June)



[5] Measures the one-month implied volatility of the S&P 500.

2.3.2. *Update on Brexit process and related market moves*

Unlike the Brexit referendum-related volatility observed in June 2016, there is an expectation that the remaining process will be better absorbed by markets, given that it is likely to be prolonged. This was the case over the review period, with markets reacting in a relatively sanguine manner, despite a number of the uncertainty created by the general election. In particular, UK equities and equity volatility measures tended to trade in line with international counterparts. Similarly, UK bank equities also traded in line with European counterparts, gaining around 4 per cent over the period. Ten-year Gilt yields fell in line with US equivalents, amid lower global inflation and a softening in UK economic data over the period (Chart 9).

Prior to the general election, sterling had weakened marginally in anticipation of the Article 50 triggering event, but appreciated against the euro, the U.S. dollar and on a trade-weighted basis in the days immediately following the triggering (Chart 10). This sterling rally was somewhat halted by the response of the 27 EU members countries, who as, previously mentioned, issued their own draft guidelines for the negotiations soon after Article 50 was triggered. A significant level of disagreement was apparent in the negotiating stances between the UK and EU. The central difference being the UK's desire to hold 'phased' negotiations (with a transitional and final deal being agreed in tandem), while the EU prefers to conduct talks on a staged basis (where the transitional agreement is negotiated once the final deal has been progressed).

Chart 9: UK 2- and 10-year yields

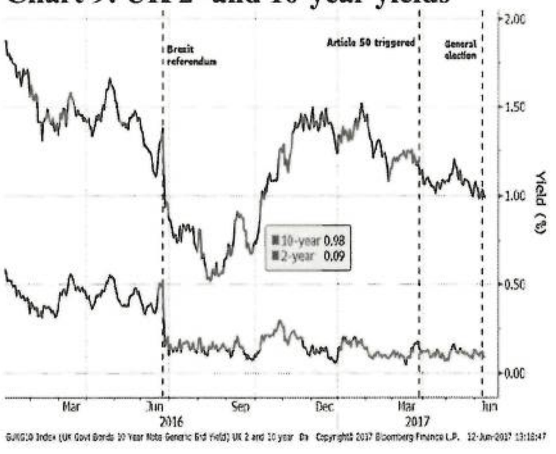


Chart 10: Selected sterling valuation

Subsequently, sterling gained following the 18 April announcement by PM May for elections to be held in the UK. Having held a strong lead over the opposition party (Labour) in late-April, expectations were that the Conservative party would add to its parliamentary majority. This was believed to enhance the potential for a 'soft Brexit' occurring, given that it would reduce the PM's reliance on any particular cohort within her party. However, with fading support in the run-up to the election, the Conservative party failed to attain the 326 seats required for an outright majority, and now appear dependent on the Democratic Unionist Party to form a coalition government. Sterling fell by circa 2 per cent against both the dollar and euro following this result, and is currently trading close to its post-Brexit referendum lows. However, beyond this, market reaction was relatively muted, with the FTSE 100 and 250 both gaining marginally since the election result and sovereign yields relatively unchanged.

The market continues to expect the BoE to keep rates at the current level of 0.25 per cent over the medium term, with any expectation of a hike occurring having been further pushed out following the general election result.

2.3.3. *Market expectations regarding the Brexit process*

Given the significant uncertainty still inherent in the process, with the uncertainty created by the UK general election results appearing to further push back potential negotiations, there is some divergence in market expectations at this time. A number of market participants, such as Commerzbank, remain relatively optimistic on the scenario, expecting a 'soft' Brexit to occur, but noting that negotiations between the EU and the UK will only conclude shortly before the deadline.

A number of market commentators see the general election result as increasing the potential for a 'soft' Brexit occurring. While Barclays note that it is too early to assess the full impact of the election, they believe that it does weaken PM May's ability to follow through on her previous stance of walking away from negotiations. Jefferies and Nomura, however, both outline their belief that the election result is indicative of the UK public's dissatisfaction with the hard-line approach adopted by the Conservative party in negotiations to date. Therefore, both counterparties have increased their expectation of a 'soft' Brexit in the wake of this result.

However, on a more pessimistic note, Société Générale maintain their scepticism of a 'soft' Brexit occurring, noting their uncertainty over a smooth final or transitional arrangement occurring.

3. Impact on Irish Economy

3.1. Macroeconomic impact

The Central Bank published its last set of macroeconomic forecasts in April (Quarterly Bulletin No. 2, 2017), summarised in Table 1 below. The projections accounted for likely assumed short-term Brexit related effects with 0.6 per cent shaved off GDP growth in 2017. Forecasts for the next Quarterly Bulletin are likely to see an upward revision to the growth rate based on the latest data and external assumptions. Overall, it is expected that there will be strong, albeit, moderating growth rates (over 3 per cent) in the short-term. Inflation remains subdued as prices continue to increase more moderately than in the euro area; the weakness of sterling is a factor in this divergence.

The economy continues to perform well as evidenced by strong labour market data. The Quarterly National Household Survey, published in May, showed employment growth of 0.9 per cent in Q1 2017, with gains recorded in 11 of 14 sectors. This brought the year-to-date increase in employment to 3.5 per cent (+68,600). The unemployment rate dropped to 6.8 per cent in the first quarter, its lowest level since 2008. The monthly unemployment rate was estimated to have declined further to 6.4 per cent in May. These data give little indication of any pronounced Brexit effects in the economy to date.

Table 1: Growth Outlook - Quarterly Bulletin No.2

Growth Rates, %	2015	2016e	2017f	2018f
Consumption	4.5	3.0	3.0	2.5
Government	1.2	5.3	2.0	2.0
Investment	32.7	45.5	8.4	7.9
Underlying Domestic **Demand**	5.4	3.3	4.0	**3.5**
Exports	34.4	2.4	4.4	4.0
Imports	21.7	10.3	5.8	5.2
GDP	26.3	5.2	3.5	3.2
GNP	18.7	9.0	3.3	2.8
BoP Current Account (% of GDP)	10.2	4.7	4.6	4.3
Unemployment rate (%)	9.4	7.9	6.4	5.6
Labour force	0.5	1.2	1.0	1.0
Employment	**2.6**	2.9	2.6	1.9
Inflation HICP rate (%)	0.0	-0.2	0.7	1.2

Domestic demand is the main driver of growth over the forecast period. Our preferred metric - underlying domestic demand is projected to rise by 4 per cent this year before moderating to 3.5 per cent over the period to 2018.[6] This is driven by the favourable outlook for consumer and investment spending supported by strong gains in incomes. Net exports are expected to act as a slight drag on output in 2017 and 2018. Overall, GDP growth in the region of 3.5 per cent is expected this year with 3.2 per cent growth projected for 2018.

Higher frequency data has been relatively positive since the turn of the year. On the consumer side, the ESRI/KBC Bank Consumer Sentiment Index has been stronger in comparison to the months following the Brexit referendum. The lack of immediate fallout

[6] This measure excludes volatile components of investment spending from domestic demand and appears to be more closely correlated with movements in employment. See Box B, Quarterly Bulletin No.1, 2016.

from Brexit has led to a more positive view of the economy from consumers, although the uncertainty surrounding future arrangements is cited as a concern by respondents. Retail sales remain robust with core sales (i.e. excluding motor trades) up 6.1 per cent in annual terms in the first 4 months of the year. VAT receipts have opened the year strongly, with receipts in April up 14.5 per cent year-on-year.

On the output side, headline PMI indicators continue to show expansion. The new exports orders in manufacturing index picked up significantly in the final months of 2016 and this momentum has carried through to 2017. The monthly industrial production series has shown significant volatility in Q1 2017, with the modern sector driving large falls in output (-11.2 per cent). This sector is heavily influenced by the activities of multinationals and the degree to which this series is correlated with wider economic activity is questionable. However, output from the traditional sector is not vulnerable to these distortions and this sector has shown steady growth of 2.8 per cent in Q1 2017.

Monthly merchandise trade is now available for the January to March period. Exports have performed strongly in Q1 2017, up 11 per cent year-on-year in value terms. A strong increase in the exports of medicinal and pharmaceutical products played a large role in this performance with exports of food and live animals also increasing strongly, by 10 per cent year-on-year to the first quarter. Separately, disaggregated data from the Eurostat Comext database shows that exports to the UK have rebounded in Q1 2017 with total exports increasing by 5 per cent in value terms year-on-year. Over the same period, exports of food and live animals increased by 8 per cent, reversing four consecutive quarters of contraction in 2016. In volume terms, exports of food and live animals decreased by 5 per cent indicating that price pressures seen in the latter part of 2016 may not have been as acute as in recent months.

Exchequer tax receipts have disappointed in 2017 to date. Total tax receipts to end-April while up in year-on-year terms (by 0.5 per cent) were 2.4 per cent (€344 million) below profile. This shortfall has been driven by weaknesses in income and corporation tax returns. The latter may be suffering from timing factors as the main months for returns are May, June and November. However, weak income tax returns are incongruous with consistently strong labour market data. VAT returns have performed strongly, as outlined above.

The main channel through which Brexit appears to have affected the economy to date has been via exchange rate movements. Research from IEA has shown that weakness in sterling relative to the euro exerts downward pressure on consumer prices in Ireland.[7] The appreciation of the euro against sterling in the period following the Brexit referendum appears to have contributed to weak inflation in Ireland through the latter half of 2016, even as prices in the euro area began to pick up.

3.2. Property sector

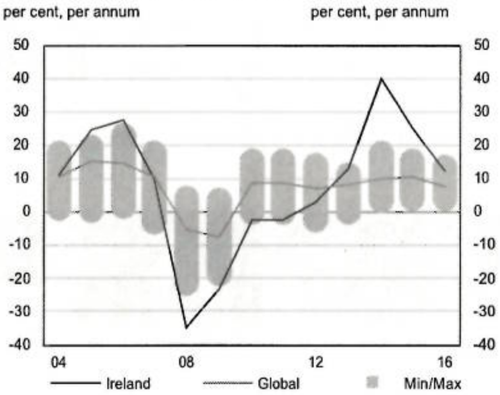
Total returns on Irish commercial property (11.2 per cent) in Q1 2017, were high by international comparison, but less than half those of Q1 2016 (Chart 11). Similarly, gains in capital and rental values were lower in Q1 2017, but remained relatively strong at just over 6 per cent each. While all three commercial property sub-markets recorded capital and rental value growth last year, supply shortages in the industrial sector helped make it the leading performer, with c. 10 per cent year-on-year increase in both.

[7] See Box C: Exchange Rate Pass-Through to Consumer Prices in *Quarterly Bulletin No. 1, 2017*.

The Irish commercial property market attracted €4.5 billion of investment in 2016 (Chart 12). This was the second highest total on record, (i.e. since 2006) and included a number of very large shopping centre/retail transactions. Overseas investors were responsible for approximately 70 per cent of the purchases, which occurred in 2016. Preliminary data show that €469 million of Irish properties were traded in the opening quarter of 2017. Two thirds of all transactions in Q1 2017 occurred in Dublin, with offices the dominant sector. Looking ahead, investment volumes may well be lower in 2017. JLL are forecasting that 2017 investment volumes will be closer to €2 billion, as NAMA and the Irish banks near the end of their deleveraging schedules and the availability of investment opportunities dwindles.

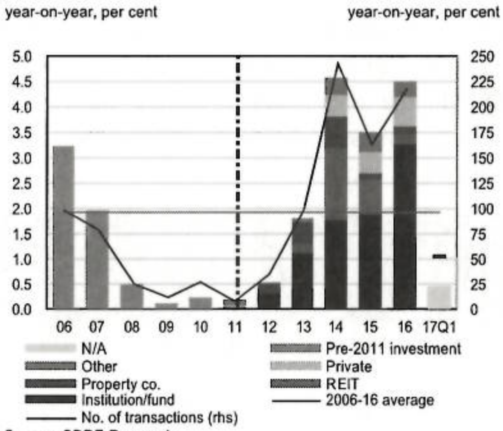
Since the referendum, there has been much talk of the potential impact of a significant Brexit-related transfer of firms from the UK to Ireland, on the Dublin property market. This issue is examined in greater detail in Special Topic 3.

Chart 11: Total annual returns across international markets



Source: MSCI/IPD and Central Bank of Ireland calculations
Notes: Grey bars signify the relevant maximum and minimum annual total
returns observation (in local currency) across a number of international markets; Belgium, Canada, France, Germany, Italy, Japan, Netherlands, New Zealand, Portugal, Spain, UK and USA.

Chart 12: Sources of Irish commercial property investment expenditure



Source: CBRE Research

4. Sectoral Developments

4.1. Banking

4.1.1. Domestic Banks (SIs)

Brexit Effects

[redacted]

[redacted]

The Deputy Governor of the BoE wrote a 'Dear CEO' letter to all banks on 7 April. This letter requested that banks in the UK provide written confirmation by 17 July that senior management has considered its contingency plans, and to provide a written summary of same. Banking Supervision within the Central Bank will engage with the banks to assess any material developments arising out of this exercise. [redacted]

Engagement with Banks

In terms of volume, the level of new engagements between Banking Supervision and firms potentially seeking approval to conduct banking activities in Ireland has levelled off in Q2 2017. However, the intensity of engagements with certain banks that have chosen Ireland as their preferred location has increased substantially. There has been an increase in the number of banks looking to engage on the potential establishment of investment firms in Ireland. The total number of banks from which enquiries have been received currently stands at [redacted] These are predominantly international banks and typically, the discussions revolve around; potential new authorisations, notifications of potential balance sheet expansion and changes of business activities.

[redacted]. The exploratory phase engagement comprises dedicated meetings, the objective of which is to:

- Provide the Central Bank with insight into the nature and scope of the enlarged entity;
- Provide the credit institution with a good insight into the Central Bank requirements and approach;
- Consider any areas of potential concern (already identified by the credit institution), or aspects of the proposal that may be subject to material change as the Brexit negotiations proceed; and
- Identify any potential 'red flag' issues.

[redacted]

As the SSM is the competent authority with respect to making decisions regarding credit institution authorisation requests, Banking Supervision is actively engaged with them through various channels to ensure that the Central Bank is operating effectively with ECB colleagues. [redacted]

Banking Supervision is also working with the Asset Management Supervision (AMS) Directorate in relation to investment firms where, if they proceed to application stage [redacted] to determine regulatory capital. Both directorates will jointly work on proposals where the applicant is seeking a banking and investment firm authorisation.

From a policy perspective, Banking Supervision is continuing collaboration with colleagues in the Policy and Risk, Credit Institutions (Insurance) and AMS Directorates, as well as others to ensure consistency in approach and message with regard to Central Bank approvals for establishment and expansion. Furthermore, Banking Supervision continues to contribute to Supervisory Board papers [redacted]

Potential Changes to the Banking Sector

[redacted]

Based on engagements to date and depending on actual applications received, it is likely that there will be a rebalancing of the profile of the Irish banking sector, with a more even split between the total size of banking assets broken down by international wholesale banking activities versus domestic retail focused banking activities. This will bring its own challenges with regard to the skillsets required in banking supervision, analytics and regulatory policy, however it is something that the Credit Institutions Directorate is aware of and is addressing in conjunction with other Central Bank directorates and national regulators.

A potential outcome of this type of a rebalancing in the Irish banking sector will be an increase in the level of banking operations and the size of the Irish banking sector as a whole. However, this would occur without a commensurate increase in competition for the provision of banking services to Irish retail consumers. This is in contrast to what was witnessed the last time the Irish banking sector expanded via new entrants in the period before the banking crisis.

It is expected that banks will finalise their decisions regarding potential applications and approvals towards the end of H1 2017 in order to allow sufficient time to conclude any potential applications and build out of operations by the March 2019 end of negotiations deadline.

Internal Considerations

With regard to resourcing requirements arising, the Governor's Committee has recently approved a request for an additional headcount of FTE 26, which will now go to the Commission for final sign-off. [redacted] A procurement process has also commenced to source internal modelling expertise, mainly in the market risk area.

Banking Supervision continues to manage the challenges presented by Brexit related activity [redacted] It ensures that existing resources are focused on the mandate, using a risk-based approach to supervising credit institutions, while ensuring a robust and transparent authorisation and approval process for credit institutions looking to establish or to expand activities in this jurisdiction.

[redacted]

4.2. Insurance

4.2.1. Authorisations

The main activity in the Insurance Directorate as a direct result of the Brexit vote has been in relation to the number of queries for possible new authorisations. It is not possible to be certain which queries are directly as a result of Brexit. As such, the below sets out a summary (as at 3 May) of the total authorisation activity within the Insurance Directorate:

- [redacted] applications have been received;
- [redacted] entities have stated firm intentions to apply, with applications anticipated in H2 2017/early 2018;
- [redacted] initial meetings and [redacted] initial contacts/phone calls have been held; and
- Of the above interactions, [redacted] are deemed Brexit related.

As a result of the current and expected activity the authorisations, resources within the Insurance Directorate have been expanded from two to nine FTE [redacted]

There has been much media focus on announcements by some companies not to seek an authorisation in Ireland. In particular AIG's decision to apply to Luxembourg and Lloyds' decision to apply to Belgium. [redacted]

This has led to speculation about possible supervisory arbitrage with member states competing to attract companies in the wake of Brexit. Whilst the new Solvency II regime applies to all member states of the EU, there is scope for different interpretations for some of the rules. EIOPA has a key role in ensuring convergence of supervisory practices under Solvency II and is conducting a peer review of authorisation practices [redacted] EIOPA have already visited the Central Bank and their informal feedback has been very positive towards the Central Bank's approach. In its written submission to EIOPA after the visit, the Central Bank has asked it to focus on three areas:

- Substance or establishment [redacted]

- Outsourcing [redacted]
- Reinsurance [redacted]

The Credit Institutions (Insurance) and Policy Directorates are working closely to consider the matters of reinsurance and substance and to develop position papers, which will be presented to governance framework of the Central Bank in due course. This should inform the decision-making processes within the Central Bank.

4.2.2. Update on the impact on and preparedness of entities

The majority of Irish regulated entities have little or no direct business with the UK. For these companies the impact of Brexit will be limited to the impact on financial markets in general and any economic slowdown in the markets to which they sell. However, a number of entities have significant business with the UK, and, as there may be a move towards a 'hard' Brexit, there will be a material impact on their business models.

The impact largely depends on how the company sells business into the UK. This can be done on a Freedom of Establishment ((FOE) the company sells via a UK branch) or a Freedom of Services ((FOS) no physical presence exists in the UK) basis. It is anticipated that FOS business between the UK and the EU will no longer be possible. For those entities currently selling on an FOS basis, changing to the use of a branch is possible however would likely incur additional running costs.

It should be possible to continue selling on a branch basis although this will require the setting up of a third country branch to replace any existing EU branch. There is likely to be increased regulation of any branches in the UK, as the branch could be subject to regulation in both the EU (through the parent entity) and the UK. The dual process will also apply to the authorisation of the new branch, as this will need to be approved in both the UK and the EU. In addition, under current rules, a third country branch could not be applied for, let alone authorised and established in the UK, until the UK has formally left the EU. Without some transitional measure, there is the danger of a hiatus while the new branch is established and the existing business is transferred to it.

Supervisory contact is being maintained with all companies whose business model will be impacted by Brexit. Below is the latest information that is available for some of the companies. [redacted] It should also be noted that the Prudential Regulatory Authority has written to some Irish regulated entities that sell significant volumes into the UK asking them for contingency plans by mid-July.

- [redacted]

A number of cross border life entities were established specifically to sell into the UK, many are subsidiaries of UK groups.

- [redacted]
- [redacted]

4.3. AMS and SMS Directorates

Preparations by the AMS Directorate to address increased authorisation and supervisory activity related to the UKs decision to leave the EU remains on course. In H2 2017, significant progress was made in relation to:

- Hiring specialist resources to address Brexit related authorisation activity;
- Improving current procedures and increasing efficiency of the existing authorisation processes; and
- Appropriately responding to the receipt of initial submissions in relation to authorisation applications.

Furthermore, AMS has undertaken a review of existing authorisation processes and procedures, with a view to improve efficiency and strengthen internal governance arrangements. Two initiatives currently underway include:

- The development of a detailed internal Authorisations Procedures Manual for staff to consult throughout the authorisation process; and
- The design of a bespoke workflow tracker intended to more efficiently record the status of applications (and related information) submitted to the Central Bank.

[redacted]

4.4. Market infrastructure

[redacted]

[redacted]

[redacted]

[redacted] the desirability of an Irish CSD being set up and for this process to begin as soon as possible. DoF are to prepare a statement to the effect that the setting up of a CSD was seen as a desirable outcome. [redacted]

[redacted]

5. Authorisation Activity

5.1. Overview

This section is a collation of information from various divisions on their engagement with firms and other activities in the context of Brexit. This document is updated on a monthly basis by the Supervisory Risk Policy team within the Supervisory Risk Division and provides a high level overview of the Brexit related pipeline in each division as at **24 May** and a commentary on some related developments.[9]

[redacted]

Table 2 outlines the number of Brexit related authorisation queries received by the Central Bank:

[redacted]

With respect to the Brexit related enquires, the following table provides a breakdown of the engagement progress (as at 24 May):

[redacted]

[9] These figures have been provided by various divisions on a best efforts basis and provide an indication of the Brexit related activities/engagements in each division.
[10] Figures presented in the Q1 2017 BTF report.
[11] An enquiry is considered "Live" if the Central Bank engaged with the firm in 2017. This gives a more realistic indication of the Brexit enquiries but it should be noted that this is not a definitive categorisation and may change.
[12] Payment Institution/Electronic Money Institution.
[13] In most divisions, further meetings have been scheduled with firms over the coming weeks.

While the number of firms the Central Bank has held meetings with has risen to [redacted], in reality the actual number of meeting engagements is significantly higher as the Central Bank has met with a large number of firms on several occasions since the Brexit vote. It is anticipated that this number will continue to rise significantly, as the process develops.

To date, [redacted] Brexit related applications have been received by the Central Bank, with [redacted] from the insurance sector and [redacted] received via our Consumer Protection division.

5.2. New authorisations versus extension of activities[14]

Some areas in the Central Bank (Banking and Markets Supervision) have experienced enquiries from firms seeking to extend activities based on current authorisations. In most cases, the information provided by these firms to date indicates that the proposed extension of activities can be considered material.

Within the Banking Supervision sphere, approximately [redacted] per cent of the enquiries received to date have indicated an extension of activities based on current authorisation, with the remaining [redacted] per cent of enquiries for new authorisations.

Focusing on AMS directorate enquiries, approximately [redacted] per cent relate to new authorisations with [redacted] per cent relating to enquiries in relation to an extension of activities. In the remainder of cases, it is unclear what the specific intentions are as information is limited at this stage.

In all remaining sectors, enquires have been for new authorisations (see commentary below for further information on each sector).

5.3. Banking

The Central Bank has received Brexit-related enquiries [redacted] These enquiries encompass a wide and diverse group of entities parented in several different countries, both within the SSM and from 3rd country jurisdictions within the EU and globally. [redacted]

As previously mentioned, approval for 26 FTE from the Governor's Committee has been received, with a decision on ultimate sign-off to be made by the Commission. [redacted] Overall, it is expected that finding a sufficient number of suitably skilled and experienced personnel will prove challenging, and the recruitment process will be time-consuming.

Banking Supervision has commenced a procurement process to provide additional expertise [redacted]

5.4. Insurance

Insurance have had [redacted] insurance authorisation enquiries of which [redacted] are Brexit related. The majority of these are seeking to establish bases for their pan-European businesses. At this stage, they are mainly non-life insurers, although some life insurers and reinsurers have also made contact. Overall, [redacted] applications have been received to date from firms.

[14] This breakdown is based on a rough estimation, as information is limited in many cases.

5.5. AMS and SMS Directorates

Since the April 2017 report, AMS has received new enquiries from [redacted] firms. These relate to a range of firm/entity types, which are currently examining a potential relocation from the UK. [redacted]

The total number of firms that have contacted AMS with Brexit related enquiries to date is [redacted] AMS has met with [redacted] firms, and a further [redacted] meetings are planned.

Following a number of engagements with large MiFID Investment Firms, it is expected that prospective applicants will make a final decision on preferred location post-Brexit by the end of Q2, 2017.

The MiFID application process initially involves the submission of a detailed 'pre application' or 'Keys Facts Document' (KFD). This provides an oversight of the intended application and summary of the key aspects of the applicant firms' proposed business model, governance, capital, outsourcing, services etc. To date, a KFD has been received in respect of [redacted] Brexit related applications. For the purposes of internal reporting (due to the amount of engagement involved), each KFD received is deemed as an initial application received.

With respect to resourcing, the Brexit Authorisation Team is now in place and comprises of an additional five FTEs. There will also be increased cross directorate and divisional cooperation to ensure expertise currently available is utilised for more complex applications.

[redacted], it was agreed that the Central Bank should set out in detail what is expected of applicant firms in relation to the pre-application and application stages of such an authorisation. The intention of this correspondence is to expedite the submission of any such authorisation application. [redacted]

[redacted]

5.6. Consumer Protection Directorate

The Consumer Protection Directorate have had contact from [redacted] firm's/industry bodies enquiring in relation to Payment Institutions and E-Money Institutions. [redacted]

To date, there has been a large volume of pre-application meetings increasing demands on current resources. If a large percentage of enquiries were to materialise as applications, resources would be severely stretched. It is noted however, that there has been a noticeable fall off in enquiries since the general election in the UK was called.

As per previous quarterly BTF reports, the most common specific enquiry received asks if there is a 'fast-track' for currently authorised firms.

Single Supervisory Mechanism and European Supervisory Authority work on Brexit

5.7. SSM[15]

SSM, with significant input from national competent authorities including the Central Bank through existing SSM groups and the Supervisory Board, has developed preliminary policy positions on a number of key Brexit related issues, [redacted]

The SSM has published FAQs on its website to assist banks considering relocation from the UK to the Euro area, covering topics such as procedures for authorisation, internal governance and risk management, internal models and on-going supervision. SSM also hosted a workshop in early May providing firms considering such relocation with information on authorisations and further detail on the approaches outlined in the FAQs.

SSM has emphasized the need to avoid any regulatory race to the bottom arising from Brexit and is keen to ensure harmonised approaches across the Eurozone. [redacted]

[redacted]

5.8. ECB International Relations Committee (IRC)

[redacted]

5.9. ESMA[16]

[redacted]

[redacted]

[15] Single Supervisory Mechanism.
[16] European Securities and Markets Authority.
[17] https://www.esma.europa.eu/press-news/esma-news/esma-issues-principles-supervisory-approach-relocations-uk

[redacted]

- [redacted]
- [redacted]
- [redacted]

5.10. EBA[18]

[redacted]

[redacted]

[redacted]

1. [redacted]
2. [redacted]
3. [redacted]

[redacted]

5.11. EIOPA[20]

[redacted]

[redacted]

-
- [redacted]

[18] European Banking Authority
[19] Including the Central Bank of Ireland
[20] European Insurance and Occupational Pensions Authority

- [redacted]
- [redacted]

[redacted]

EIOPA undertook to conduct a peer review of a number of member states in relation to authorisations, outsourcing and ongoing supervision. EIOPA visited the Central Bank at the end of April to gain an understanding of the Bank's authorisation processes. The objective of these visits is to assist EIOPA in developing an Opinion on whether more consistency can be achieved across national supervisory authorities.

[redacted]

6. Special Topic 1: Impact of Brexit on resolution planning and execution[21]

6.1. Introduction

This topic has been prepared by the Central Bank's Resolution Division (RES) in order to provide a brief overview of the potential impact of Brexit on the Central Bank's responsibilities and functions as Ireland's national resolution authority (NRA). It builds upon earlier Central Bank papers which highlighted resolution related implications of Brexit.[22]

Given the activities of Irish-parented institutions in the UK, as well as the presence of UK and third country-parented institutions in Ireland, Brexit will have an impact both at resolution authority level (both nationally and within Banking Union) and at the level of individual banks. On that basis, this report highlights a number of issues which are considered of particular significance from the Central Bank's perspective, namely:

- Changes to the UK resolution framework;
- Cooperation between resolution authorities;
- Scope of resolution planning activities;
- Impact on institutions;
- Intermediate parent undertakings; and
- Contractual recognition of bail-in.

6.2. Changes to the UK resolution framework

A fundamental objective of the Bank Recovery and Resolution Directive (BRRD) is to establish harmonised rules on resolution planning and execution across the EU.[23] The establishment of equivalent resolution regimes in each member state facilitates the execution of resolution tools on a cross-border basis and allows NRAs to cooperate closely during the resolution planning stage. By transposing the BRRD into national legislation, the UK has established a resolution regime that is equivalent to that of Ireland and other EU member States in terms of regulatory requirements and resolution tools.

Assuming a 'hard Brexit', once the UK leaves the EU, it will no longer be bound by the EU Single Rulebook.[24] As such, the risk of the UK's resolution framework deviating from the equivalent harmonised rules applying across the other 27 member states will increase with Brexit.

This divergence may not take place immediately; however, it is likely to occur over time. For example, in November 2016, the European Commission published its 'Risk Reduction Measures' (RRM) package, which includes the first set of proposed amendments to the BRRD. While the UK is currently taking part in the negotiations on this package, it remains to be seen whether the full suite of the proposed changes (other than those agreed as international standards at Basel Committee and the Financial Stability Board level) will be

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[21] Prepared by Christopher Morahan, Wesley Murphy and Patrick Casey (all RES).

[22] Potential Implications of Brexit – May 2016, Brexit Taskforce Report (Special Topic 1) – March 2017 [redacted] – March 2017.

[23] In this regard, the BRRD is a key element of the EU's 'Single Rulebook'.

[24] The Single Rulebook is considered the backbone of financial sector regulation in the EU. It consists of legal acts that financial institutions and authorities must comply with. The pillars of the Single Rulebook are the Capital Requirements Regulation & Directive, the BRRD and the Deposit Guarantee Schemes (DGS) Directive.

transposed by the UK. With the BRRD regime itself only in existence a number of years and with the full implementation of key aspects of the regime, such as minimum requirement for own funds and eligible liabilities (MREL), a number of years away, regime divergence is a distinct possibility.

Naturally, any divergence in the UK and Ireland's regulatory regimes will not necessarily be confined to resolution. More generally, the level of regulatory equivalence between the two jurisdictions will ultimately depend on the outcome of Brexit negotiations and the UK's relationship with the EU post-Brexit. Nonetheless, divergence between the two regimes may impede cross-border cooperation on resolution planning and could ultimately result in the resolution of a cross-border bank being a much more complex undertaking in the event of conflicting legal mechanisms and mind-sets. As such, it could negate a key aspect of the post-crisis framework for failure.

6.3. Cooperation between authorities

As noted above, cross-border cooperation between authorities is an area of crucial importance, both in the resolution planning stage, as well as during an actual resolution event. Under the BRRD framework, cross-border cooperation between EU resolution authorities takes place within the context of a 'resolution college'.[25] The resolution college acts as a forum for EU resolution authorities to consult with relevant stakeholders before taking decisions pertaining to resolution planning or a resolution event. Following this consultation, EU resolution authorities reach agreement on certain resolution matters by means of a 'joint decision'. Specifically, joint decisions are taken on:

1. The adoption of a group resolution plan and a resolvability assessment;
2. Measures to address substantive impediments to resolvability; [26]
3. MREL; and
4. The adoption of a resolution scheme.[27]

The resolution college and joint decision process allows for effective cooperation both between resolution authorities and with the wider stakeholder group. Moreover, where there is a disagreement between home and host authorities regarding a joint decision, as things stand the matter can be referred to the EBA for binding mediation. This ensures that the views of all resolution authorities are fairly reflected when taking resolution decisions.

Following Brexit, the BoE will no longer be a formal member of any EU resolution college. The Central Bank currently engages with the BoE on a number of banks through their respective resolution colleges (AIB, Bank of Ireland, Royal Bank of Scotland /Ulster Bank and Barclays). Once the UK leaves the EU, this formal mechanism for cooperation on specific banks will no longer apply. Equally, the BoE will no longer be bound by any mediation with the EBA in the event of a disagreement on a joint decision. [redacted]

[25] Resolution college membership consists of: 1) the EU group-level resolution authority (GLRA); 2) EU resolution authorities of subsidiaries, significant branches or parent holding companies within the group; 3) the consolidating supervisor and competent authorities of member states where the resolution authority is a member of the college; 4) competent ministries; 5) authorities responsible for the DGS of a Member State; and 6) the European Banking Authority (EBA). Resolution authorities of third-country subsidiaries and significant branches can be invited to join the resolution college as observers.

[26] Such as requirements imposed on an institution to enhance its resolvability.

[27] A resolution scheme sets out the actions that need to be taken to resolve the institution. The adoption of a resolution scheme effectively amounts to a decision to resolve an institution.

Furthermore, consideration will need to be given to the forum within which the Central Bank and Single Resolution Board (SRB) will engage with the BoE on institution-specific issues, particularly for those institutions where the Central Bank/SRB is a host authority. Bilateral memoranda of understanding and institution-specific cooperation agreements will also need to be negotiated between the relevant authorities to cover cooperation and information sharing.[28] For new cross-border groups[29] and banks designated as 'significant institutions' (SIs), the SRB will take the lead role as the Banking Union resolution authority in any such agreements. It should be noted however, that unlike the existing framework, these agreements are non-binding in nature.

While it may be possible to replace resolution colleges with similar fora post-Brexit[30], this will require further engagement with the BoE. However, it is possible that any such replacement will not contain the same safeguards for host authorities that currently exist under the BRRD. [redacted]

6.4. Scope of resolution related activities

It is clear that many financial groups are likely to restructure their operations as a result of Brexit. For those that choose Ireland as an EU base, this may involve: 1) relocating business lines to Ireland; 2) maintaining existing operations within the UK, while establishing a new entity in Ireland to act as an EU hub; or 3) expanding existing operations within Ireland in order to increase a group's EU footprint.

The scale of new entrants/expansion of existing activities will ultimately depend on individual business decisions and the eventual outcome of Brexit negotiations. However, it is likely that the increased volume of financial activity will imply a significant amount of further *ex-ante* resolution planning related work for RES and a greater role for the Central Bank as NRA within the Single Resolution Mechanism (SRM).

Under the BRRD, the Central Bank is required to prepare resolution plans for all Irish licensed credit institutions and in-scope investment firms.[31] The scale of the work involved in this process, depends on the chosen resolution strategy for the institution. For example, if an institution provides critical functions (e.g. deposit taking, lending, payment services etc.) or if the failure of an institution would have a negative impact on financial stability in Ireland or any member state, then the institution is likely to be 'resolved' on a going-concern basis should it fail. The *ex-ante* resolution planning work involved in the case of such a resolution strategy is typically much more intensive than for institutions whose resolution strategy would see them wound up in accordance with normal insolvency proceedings.

Moreover, where the institution in question is an SI, or belongs to a cross-border group, the institution would fall under the responsibility of the SRB for resolution purposes. This would mean that resolution planning activities would be completed in cooperation with the SRB, through an 'internal resolution team', and that resolution planning would need to be undertaken in line with agreed SRB procedures.

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[28] This task may need to be centralised within the Central Bank as the agreements may cover the functions of the Central Bank as supervisory, resolution and macroprudential authority.

[29] Under the SRM Regulation, a cross-border group refers to a group which has an entity established in more than one member state within the Banking Union.

[30] For example, a cross-border forum exists for G-SIBs in the form of Crisis Management Groups (CMGs), which include resolution and competent authorities of material legal entities, irrespective of geography or jurisdiction.

[31] Investment firms fall within scope of the BRRD, if they: a) hold client assets; or b) deal on their own account; or c) underwrite financial instruments; and have an initial capital requirement of at least €730,000.

A full assessment of the increased scope of resolution planning work for RES will therefore only be possible once there is further clarity on the number of newly authorised institutions that may be established in Ireland as a result of Brexit. Other factors regarding new entrants include the nature of their business model, their size, the critical functions they provide and the chosen resolution strategy for the institution. Nonetheless, given the expressions of interest shown by credit institutions and investment firms to date, it is likely that the UK's exit from the EU will result in a greater resolution related workload for the Central Bank.

The Central Bank is likely to become the NRA for a number of newly designated SIs within the SRM, in addition to becoming the host resolution authority for a number of third country parented 'less significant institutions' and third country branches. A knock-on impact of this is likely to be a heightened role for the Central Bank within the SRM as the scope of the banking sector in Ireland increases.[32] This role would be further enlarged should Ireland become a base for some of the EU Intermediate Parent Undertakings (see section 6.6 for further detail) of globally significantly important institutions (G-SIIs). In addition, as Ireland is already central to the relationship the SRB has with the BoE (being both a home and host to UK banks and vice-versa), it is likely to become even more important post-Brexit with additional UK operations based in Ireland.

6.4.1. Other financial institutions

Brexit may result in a number of new 'types' of financial institutions being licensed and supervised by the Central Bank, e.g. [redacted] CSDs and possibly central clearing counterparties (CCPs). [redacted]

6.5. Impact on institutions

In addition to the requirement that NRAs prepare resolution plans for all institutions in-scope of the BRRD, the BRRD also introduces a number of regulatory requirements for institutions themselves. Firstly, institutions are subject to MREL.[35] This requires them to issue a sufficient level of loss-absorbing capacity[36] (LAC) to ensure that the bail-in tool can be feasibly deployed at the point of resolution to absorb losses and recapitalise the balance sheet. The BoE's current policy regarding MREL is that institutions over a certain size threshold must meet MREL at the level of a UK holding company.

[redacted]

[32] This will involve greater involvement in SRB Executive Sessions, resolution colleges and CMGs.

[33] The Markets in Financial Instruments Directive 2004/39/EC.

[redacted]

[35] For Banking Union SIs, MREL requirement is expected to be set at a consolidated level for priority groups in 2017 and at a consolidated and solo level for all banks in 2018.

[36] That is, own funds and eligible liabilities.

[redacted]

From an Irish standpoint, the necessity for such will depend on a number of factors including:

1. Possible changes to the UK's resolution regime;
2. The SRB's position on third country institutions operating within the EU;
3. Post-Brexit requirements for Irish subsidiaries operating in the UK; and
4. The number and nature of UK licensed banks who choose to seek authorisation in Ireland as a consequence of Brexit.

6.6. Intermediate parent undertakings (IPU)

As part of the European Commission's RRM package, it is proposed that third country banking groups will be required to establish an EU IPU if: 1) the group has two or more EU-based subsidiary institutions (credit institutions and/or investment firms); and 2) the combined total value of those EU subsidiary institutions is greater than €30 billion (unless the third country institution is a G-SII, in which case the threshold becomes irrelevant).

Given that the UK would become a third country post-Brexit, a number of UK firms already operating in Ireland, in addition to other G-SIIs considering establishing operations in Ireland, may be required to establish IPUs in Ireland or other EU countries. The number of institutions affected by the proposal will depend on the final scope of the legislation, which may evolve from its current form before/if it is to enter into force.

Notwithstanding this, from a resolution perspective the establishment of EU IPUs would in principle be a positive development. An EU IPU could potentially act as the consolidating resolution entity for all of the third country entities operating in the EU, thereby forming a separate resolution group. The proposal introduces key enhancements to EU bank resolvability given that:

- Risks can be captured, assessed, mitigated during the ex-ante resolution planning phase and addressed through a requirement for MREL to be pre-positioned within the IPU and/or through operational continuity-related requirements;
- Should failure occur, authorities could require there to be locally available high quality LAC which could be utilised for loss absorption and recapitalisation by applying the bail-in tool to protect the provision of critical functions; and
- Decision-making would be centralised under an EU resolution authority (the SRB within Banking Union) which should allow for the effective implementation of EU-wide resolution strategies and closer cooperation with the third country resolution authorities.

[redacted]

[redacted]

6.7. Contractual recognition of bail-in

Under Article 55 BRRD, institutions are required to ensure that any liability issued under third-country law contains a contractual clause giving recognition to the fact that the liability is within scope of the bail-in tool. The absence of such a clause renders the liability ineligible for MREL purposes.

While Irish institutions do not currently issue a significant level of liabilities under third-country law, they do issue liabilities under UK law, particularly debt securities. As the UK will become a third country post-Brexit, it follows that these liabilities will need to contain a contractual recognition clause. Moreover, any new post-Brexit entrants domestically may look to issue a greater volume of third-country liabilities (from the UK) and will need to ensure compliance with this requirement.

The RRM package has sought to reduce the burden for institutions and resolution authorities by providing waivers from this requirement under certain scenarios. Nonetheless, the requirement may still imply a higher cost for institutions who routinely issue liabilities under UK law. [redacted]

6.8. Conclusion

It is clear that Brexit will have a significant impact on the resolution planning and execution activities of the Central Bank; however, its precise effect cannot yet be fully assessed. Key factors to be considered in that regard include:

[redacted]

- The number of new entrants to the Irish market as a result of Brexit, as well as the expansion of existing operations;
- Divergences between the Irish and UK resolution regimes which may emerge over time;
- [redacted]
- Any new resolution requirements introduced as part of the RRM package.

While Brexit should not fundamentally undermine the resolvability of Irish institutions, it is likely to result in an enhanced role for the Central Bank (and as a consequence the SRB) in ex-ante resolution planning and a greater need to cooperate effectively with the BoE on resolution matters.

7. Special Topic 2: Commercial Real Estate[38]

7.1. Introduction

The United Kingdom's decision to leave the EU and the single-market will see UK-based financial firms lose their passport to directly conduct business with EU-27 clients. As a result, speculation has increased that a number of EU cities, including Dublin, will benefit from a relocation of financial services and related professional sector firms from the UK over the coming years. Proximity to the UK, use of a common language and rental cost competitiveness increase Ireland's attractiveness as a location for UK firms wishing to establish an EU base here. In this note, the impact of a significant Brexit-related transfer of firms from the UK to Ireland, on the Dublin property market is examined. The potential scale of relocation to Dublin and the ability of the city to deal with this outcome are also explored.

7.2. Potential scale of relocation

The UK, and London in particular, is a major provider of corporate and investment banking services to the EU and beyond. In the absence of any agreement to the contrary, UK-based financial firms will lose their passport to do direct business with EU-27 clients once the country leaves the EU and its single market. To continue serving EU customers following a hard Brexit, financial firms will need to migrate significant operations from the UK to a remaining member state.

A number of major European cities; such as Frankfurt, Paris, Amsterdam and Dublin, are said to be under consideration as hosts for a sizeable portion of relocating firms.[39] Research from the European "think tank" Bruegel (2017)[40] shows that while strong financial centres already exist in these cities, the scale of London's financial sector dwarfs them all. More banking assets, capital and reserves are located in the UK than in any other EU country, London has more people employed in domestic credit institutions, hosts many more foreign-registered MFIs, is a European base for a greater number of large companies, and has a leading role in forex and over-the-counter derivatives turnover. A substantial wave of financial company resettlement is therefore likely to have a major impact on would-be host cities and their infrastructure.

The type and level of employment that will move out of London and into the EU-27 will largely depend on the rules and regulations put in place after the conclusion of Article 50 negotiations. While the outcome of talks remains uncertain, a number of estimates of what the Brexit spillover might translate to, in terms of migrating firms and jobs have been made under a range of scenarios in the run-up to, and in the months since the referendum (Table 4).

[38] Prepared by Gerard Kennedy (FSD).

[39] This is not an exhaustive list; other cities such as Luxemburg, Stockholm and Copenhagen are also mentioned frequently as potential beneficiaries for a range of relocations.

[40] See Batsaikhan, U., R. Kalcik and D. Schoenmaker, "Brexit and the European financial system: mapping markets, players and jobs", Issue No. 4, Bruegal (2017).

Table 4: Summary of reports on Brexit-related job losses

DATE OF ISSUE	AUTHOR	REPORT TITLE	EXPECTED JOB LOSSES/MIGRATION	SCENARIO
2016 April	PWC	Leaving the EU: Implications for the UK Financial Sector	70,000 in the period up to 2024, (may experience some recovery resulting in overall net job loss of c10,000 by 2030)	FTA scenario: the UK exits and negotiates an FTA with the EU, based on tariff-free trade in goods but not services.
			100,000 in the period up to 2024, (may experience some recovery resulting in overall net job loss of c30,000 by 2030)	WTO scenario: the UK exits and then trades with the EU on the World Trade Organisation's (WTO) MFN basis.
2016 October	Oliver Wynam	The Impact of the UK's Exit from the EU on the UK-Based Financial Services Sector	3,000 to 4,000	High Access Scenario (UK receives full equivalence and passporting across the full scope of Single Market Directives).
			31,000 to 35,000 (direct job loses) / 65,000 to 75,000 (when associated professional services are included)	Low Access Scenario (UK becomes a third country but does not receive equivalence across core Single Market Directives).
2016 November	EY (for the LSE - unpublished)	Losing euro-denominated clearing would cost London 83,000 jobs (Financial Times)	232,000 (inc. 83,000 related jobs if the euro-denominated clearing forced from UK to EU)	Worst-case scenario (UK loses access to the EU single market for euro-denominated clearing).
2017 February	Bruegel	Brexit and the European Financial System: mapping markets, players and jobs	30,000 (including related professionals - lawyers, accountants, etc.)	UK-based firms lose their passport to carry out business within the EU.

One of the first came in a PwC report from (April 2016) which estimated that between 70,000 and 100,000 financial services jobs would be "lost" to London in the immediate period post-Brexit, depending on the nature of the ultimate settlement.[41] Oliver Wynam considered two scenarios in its look at the impact of Brexit on the UK financial services sector. The first, more benign scenario would see the relocation of 3,000 to 4,000 roles, as UK firms retain full equivalence and passporting access to EU customers.[42] Under a less cordial exit agreement, where the UK becomes a third country and access to the single market is reduced, job migration is forecasted to be much higher, with perhaps as many as 35,000 direct roles and an additional 40,000 related support service positions such as accountants, lawyers and consultants leaving.

An unpublished paper by EY, commissioned by the London stock Exchange, made the most dramatic job loss projections.[43] The authors outline their "worst case" scenario, where no exit deal between the EU and the UK is agreed, and the UK does not secure "equivalence" for its clearing regulations. This the authors estimate, would result in a relatively immediate loss of 83,000 jobs, rising to 232,000 following a significant domino effect on jobs and revenues.

The most recent report examined here, comes from Bruegel, who estimate that around 30,000 jobs, 10,000 relating to wholesale banking and as many as 20,000 related to professional services, might move from London to the EU. Even if Dublin attracts only a modest portion of the numbers referred to in these estimates, accommodating the new arrivals in terms of infrastructure, office space and housing is likely to be a challenge.

[41] See "Leaving the EU: Implications for the UK financial services sector", PWC (April 2016).
[42] See "The Impact of the UK's Exit from the EU on the UK-Based Financial Services Sector", Oliver Wyman (October 2016).
[43] See "Losing euro-denominated clearing would cost London 83,000 jobs", FT (November 14 2016).

7.3. Company announcements to date

While it is still too early to assess what the final number of relocated jobs will be, some companies have already announced plans to move functions and staff. According to EYs Brexit Tracker , more than a quarter of the 222 UK financial services firms monitored had announced that they are moving some staff or operations from the UK, or that they are reviewing their domicile as a result of Brexit. Investment banks have been most vocal in respect of moving intentions. In early May, a Reuters study of corporate declarations on relocations made since the referendum, found that large banks have already signalled their intention to shift 9,000 roles from the UK, with Frankfurt and Dublin said to be the two financial centres making the most gains from London's loss. A separate piece of analysis by Colliers International showed that of recently signed property deals related to the movement of c. 6,000 jobs from London to Frankfurt, Dublin and Paris, the Irish capital has attracted 1,150, behind Frankfurt (3,700), but ahead of Paris (1,000).

The early movers include, US bank JP Morgan, which has announced plans to move approximately 1,000 staff out of London to multiple European capitals. While it is likely that Frankfurt will serve as the firms main European headquarters, its recent acquisition of a new 130,000 sq. ft. office building on Sir John Rogerson's Quay for €125 million, implies a significant increase in its Dublin staff. JP Morgan currently employs 500 staff in Dublin and the size of office space they have acquired would provide the investment bank with the capacity to double its Irish workforce.

In late May, insurance firm Legal and General announced it had selected Dublin as a European hub for its investment management operations. The move, which remains subject to regulatory approval, could see up to 50 jobs move to Ireland.

Insurer Standard Life recently informed shareholders that Dublin was likely to become the base for its EU subsidiary as Britain withdraws from the bloc. The company has established a substantial EU customer base and has an existing operation in Dublin, though no details of additional jobs appeared in the statement to shareholders. Deutsche Bank has announced that it may have to relocate many of its 4,000 UK staff. While most of these jobs are likely to go to continental Europe, its existing Dublin office could also benefit.

Elsewhere, there have been numerous newspaper articles examining the likelihood of firms relocating from London to Dublin, or boosting existing operations in the Capital. A recent Sunday Business Post report stated that Barclays, who hold a banking licence in Ireland and have an established corporate banking business here, are set to move 150 jobs to Dublin. Financial companies such as, Bank of America Merrill Lynch, M&G, Standard Chartered, Legg Mason and Beazley are said to be in advanced negotiations, or have given strong indications that they are headed for Dublin. According to the article, Ireland is also believed to be amongst a number of cities vying for jobs from Admiral Insurance, Citibank, Credit Suisse, DLA Piper (law firm), Morgan Stanley and RBS.

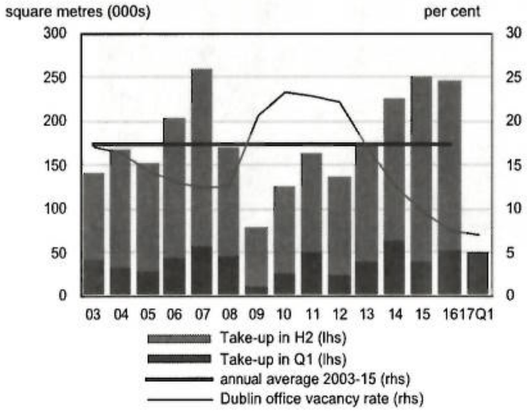
Efforts to attract the EBA and European Medicines Agency (EMA) from the UK to Ireland face serious competition from a number of other countries. A proposal to move the EMA to Strasbourg, as part of a deal that will bring to an end the European Parliament's dual-seat in the French city, may upset Ireland's bid to host one of the EU's largest bodies. Lastly, some high profile organisations have already confirmed that they will not be moving to Dublin. Insurers AIG and Lloyds of London are moving to Luxembourg and Brussels respectively.

Though many had expected the major US, European and Asian financial firms to be more revealing in terms of their post-Brexit intentions following the triggering of Article 50, greater clarity may now come around the middle of July, when firms must set out their plans to the BoE.

7.4. Overview of the Dublin office market and development pipeline

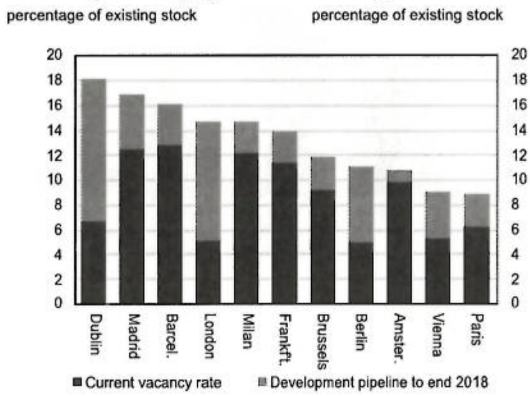
According to CBRE, the Dublin office market consists of more than 3.7 million square metres of space, 60 per cent of which is located in the city centre. Each year the majority of office leasing activity, about 70 per cent, occurs in the city centre region. Economic recovery and foreign direct investment has contributed to steady demand for Dublin office space in recent years. Approximately 250,000 square metres of Dublin office space, across 230 transactions, were leased in 2016 almost 40 per cent higher than the 2003 to 2015 annual average (Chart 13). Forty individual lettings saw a further 50,000 square metres of office space occupied during the first quarter of 2017. The strength of office take-up figures over the last few years has seen the Dublin office vacancy-rate drop to approximately 7 per cent. This is the lowest vacancy rate on record (i.e. since 2003), and places Dublin below the average vacancy rate for a list of other major European cities (Chart 14).

Chart 13: Dublin office market activity



Source: CBRE research and CBI calculations
Notes: Dublin office vacancy refers to the average of the available end-quarter data from the year in which they relate.

Chart 14: Vacancy rate and 2 year development pipeline: 2016Q4



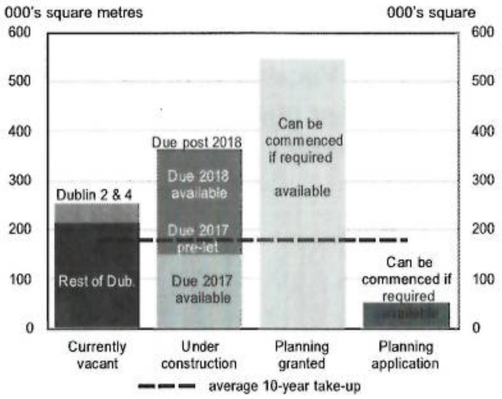
Source: CBRE Research

Excluding reserved/pre-let buildings, approximately 250,000 square metres (1.4 times Dublin's annual average take-up in the last 10-year period) of existing office accommodation was available to let in the Irish capital in Q4 2016 (Chart 15). In the Dublin 2/4 district, however, where demand for office space tends to be much higher, the availability (vacancy rate) of "Grade A" office accommodation is much lower, at approximately 36,500 square metres (or a 2.4 per cent vacancy rate). In addition to the current volume of vacant space, a considerable volume of development is now underway, after a number of years of inactivity. Over 360,000 square metres were under construction in the city centre in 27 individual schemes at the end of 2016, 60 per cent is due for completion in 2017. The vast majority of the remainder due to come on-stream in 2018.

A further 543,000 square metres of office development in 48 individual schemes across Dublin has been granted planning permission, and can be commenced if required. Finally, planning permission has been sought for 48,323 square metres of office space in the city centre. The addition of some or all of this stock ensures that Dublin compares favourably with other European cities in terms of availability of office space (Chart 14), providing comfort to potential occupiers that the city is more than capable of providing sufficient high quality office accommodation if required. Given the likely scale of development in the coming years, however, it is important that the construction cycle be managed prudently. It may also transpire that Dublin is not the only Irish city to benefit from Brexit-related relocations over the coming years.

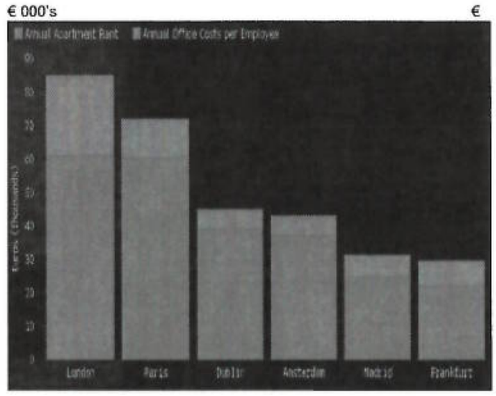
The tight supply and strong demand for Dublin office space in the years since the property crash have been reflected in rental costs across the city, with prime rents of approximately €620 per square metre being charged in 2016, up from just over €300 per square metre in 2011 and 2012 (Chart 16). Despite the increase in rental costs, Dublin remains a much more affordable than London as a place to live and work (Chart 16).

Chart 15: Dublin office space availability and development pipeline



Source: CBRE Research

Chart 16: Cross city accommodation costs: apartment and office costs



Source: Savills

7.5. Can the Dublin office market cope?

Having examined the potential scale of Brexit-related relocations and looked at the Dublin office market's capacity, attention turns to the ability of the capital to absorb a significant wave of businesses migrating from the city of London. According to the CBRE data above, a cumulative 1.2 million square metres of space is under construction, with planning permission or in application process and may come on stream over the medium-term. Following adjustments for obsolescence and open areas, Goodbody stockbrokers estimate that approximately 580,000m2 of net new office space will be delivered by 2020. This would accommodate over 56,000 employees, based on an assumption of 10.3 metres of space per worker. Under a more conservative set of assumptions, the Goodbody estimate falls to 37,000 employees, which they point out is still roughly equivalent to the current total number of workers in the International Financial Services Centre in Dublin.

In terms of the magnitude of job spillovers from London based on the estimates presented in Table 4, a flight of 80,000 to 90,000 financial services sector and related roles would seem reasonable. Assuming Dublin were able to attract 15 per cent or just under 13,000 of these positions, an office space of 131,00m2 would be required. This equates to less than one quarter of Goodbody's estimates for the total supply of office space over the coming years. It is probably safe to conclude that ensuring office capacity, therefore, will not be a constraint.

Guaranteeing sufficient housing and adequate infrastructure to cope with this additional demand, if and when it materialises, looks set to be the bigger issue. The number of residential properties listed for sale or rent on property website Daft.ie is at its lowest since early 2007, highlighting a severe shortage of new and second-hand homes in many locations across the country. The situation is particularly acute in Dublin, with just 2,700 units listed for sale and 1,600 properties available to rent in the capital. Meanwhile, 4,200 units were completed and 5,400 commenced last year, where the estimated equilibrium level of demand in Dublin is around 7,000 units per annum. Indications from some of the firms considering a move, that 50 per cent of hires would be local, may help ease the housing requirement strain to a degree, but it will remain a serious concern for some time.

8. Special Topic 3: Brexit scenarios and credit risk on Irish banks' UK mortgage portfolios[44]

8.1. Introduction

The exit of the United Kingdom from the European Union ("Brexit") poses significant risks to the UK and its trading partner economies. Significant effort has been made by think-tanks, researchers and policy-making authorities to understand the risks to the Irish economy potentially emanating from Brexit. A recent Department of Finance report[45] highlights the varying degrees of exposure for the various sectors of the Irish economy exporting to the UK, whereas Lawless and Morgenroth (2016) document the potential tariffs facing manufacturing sectors in the event of trade under minimal WTO terms in the absence of a bilateral UK-EU trade agreement. In both the aforementioned studies, domestic-focused and employment-intensive sectors, such as the food processing sector, are shown to be more exposed to adverse developments in Ireland's trade relationship with the UK than multinational-dominated sectors such as the pharmaceutical or chemicals sectors.

[redacted]

The aim of this study is to provide projections for credit risk implications of Brexit by using an internal Financial Stability Division (FSD) loan loss forecasting (LLF) model of the Irish banks' UK mortgage portfolios. Combined with macroeconomic scenario projections for the UK economy under Brexit from a UK research institute, the National Institute of Economic and Social Research (NIESR), we assess the possible increases in loan default predicted by the LLF model resulting from varying degrees of macroeconomic stress under Brexit.

8.2. The model

The forecasting model used is a discrete time logistic model, in which each UK mortgage is observed in each quarter until the first time that the loan enters default. Default is defined as ninety days past due (90 DPD), or the equivalent of three months' missed payments. Default is assumed to be an absorbing state in this type of model, i.e. there is no attempt to model the possibility of defaulted loans recommencing repayments and returning to performing loan status.

Loan data provided to the Central Bank at six-month intervals since December 2010 are used to create a panel data set of UK mortgages [redacted]. Because the arrears amount of each loan is recorded for each of the six months between loan data set submissions, it is possible to create a panel of arrears beginning in June 2008. For the purposes of the model used in this study, a

[44] Prepared by John Joyce, Fergal McCann and Edward Gaffney (all FSD).

[45] http://www.budget.gov.ie/Budgets/2017/Documents/An_Exposure_Analysis_of_Sectors_of_the_Irish_Economy%20_final.pdf

[46] https://investorrelations.bankofireland.com//wp-content/assets/BOI-Annual-Report-2016.pdf

[47] https://aib.ie/content/dam/aib/investorrelations/docs/resultscentre/annualreport/annual-financial-report-2016.pdf

quarterly dataset from 2008Q2 to 2015Q4 is used, resulting in roughly five million observations (over 300,000 unique loans, each with an average of 16 observations).

[redacted]

[redacted]

[redacted]

The loan covariates used to explain default status in the model can be divided into time-varying and time-invariant groups.

Time-varying parameters include the number of quarters that each loan has spent in the data, known as "spelltime". The inclusion of spelltime and its squared term specify the functional form on the "baseline hazard", i.e. the shape of the probability of default curve as time progresses through the sample period. The loan's interest rate, the loan-to-value ratio and the borrower's age vary on a quarterly basis and are observable in the data.[48] A Modified Loan dummy variable is also created, which signifies loans with a past or present mortgage modification or forbearance applied.[49] The inclusion of this flag reflects the possibility that financially stressed but performing borrowers, who receive relief via forbearance, may have a higher default risk than other performing loans. Unemployment rates from the Office of National Statistics are included, varying at the NUTS1 region and quarterly frequency. Finally, "Delta Instalment" is the ratio of current monthly instalment to origination instalment. This captures changes in repayment burden over the lifetime of the loan. In the case of tracker loans issued before 2008, this ratio will be low due to falls in policy rates, thereby factoring in the affordability benefits of accommodative monetary policy. For loans that begin on Interest-Only terms but move to full Principal and Interest (P&I) payments during the lifetime of the loan, this ratio will increase after the move to P&I.

[48] Where there is more than one borrower on a mortgage, the average age is taken.

[49] That is to say, this dummy variable can change for a loan from FALSE to TRUE when moving from earlier to later observations within the panel data set, but not *vice versa*, because past modifications are included.

Time-invariant indicator variables are also included in the model. These include collateral location (by region), Buy to Let status, interest rate type, First Time Buyer status and Multi-Loan facilities (these are typically properties which also have an equity release along with the primary mortgage).

[redacted]

[redacted]

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8.3. Macroeconomic scenarios

Given the lack of clarity on, inter alia, post-agreement tariff arrangements, freedom of financial flows and location decisions of large corporations, it is extremely difficult to specify the likely path for the UK economy resulting from the Brexit process. In this study, the approach taken is to begin with a range of paths for the three-year horizon between 2017 and 2020 provided by the NIESR, and to further stress the most adverse of these paths to generate an additional scenario in which post-Brexit economic developments are more detrimental to the UK economy than was envisaged by the relationships embedded in the macroeconomic models of the NIESR.

Ebell and Warren (2016) define three possible scenarios for the UK economy under Brexit.

1. 'Norway': membership of the European Economic Association (EEA); free trade in goods and services with the EU, including access to financial services markets via passporting;
2. 'Switzerland': bilateral agreements with the EU on free trade in goods, but no free trade in services and no access to EEA financial services markets via passporting;

3. 'WTO': no free trade agreements for goods or services with the EU above or beyond WTO rules; no passporting.

Each of these three scenarios is fed into the NIESR macroeconomic model, known as NIGEM, with three main channels in operation in each case:

1. a reduction in trade with EU countries;
2. a reduction in inward Foreign Direct Investment (FDI), particularly affecting services;
3. a reduction in the UK's net fiscal contribution to the EU.

An additional scenario is included, the "FSD scenario", to apply an additional stress to the UK economy beyond the scenario paths estimated by NIESR. This is entered into the model by multiplying the annual change for a given macroeconomic variable under the WTO scenario of Ebell and Warren (2016) by 1.5.

The three macroeconomic aggregates which pass into the FSD Resi UK LLF model are:

1. Unemployment, which is measured at a NUTS1 regional level in the LLF model;
2. Interest rates, which are observable at the loan level in the LLF model, and which directly indirectly affect PDs through the "Interest rate" and "Delta Instalment" variables;
3. House prices, which affect the loan-to-value (LTV) ratio of each loan.

The NIESR paths for these macroeconomic aggregates under the Norway and Switzerland scenarios are almost identical, so they are combined as a single scenario.

The paths for unemployment under the three NIESR scenarios and the fourth "FSD scenario" for the years 2016–2020 are shown in Figure 4. The most adverse scenario is for unemployment to increase by 0.3, 1.2, 2.55 and 1.8 percentage points in 2017, 2018, 2019 and 2020 respectively.

Figure 4: Unemployment changes (annual) under scenarios (%)

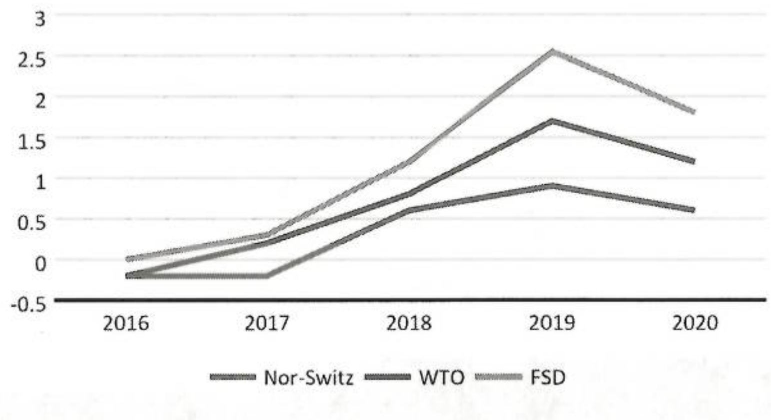
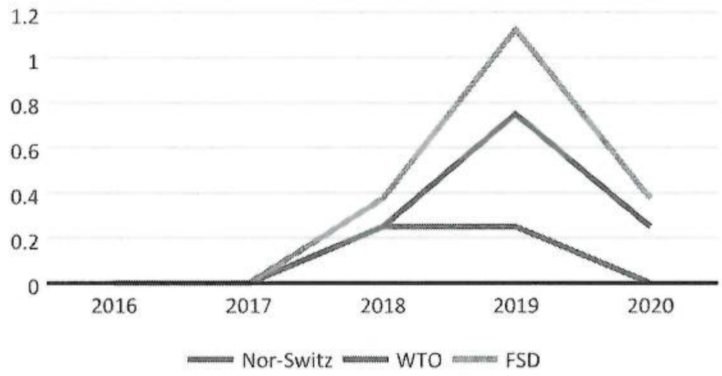


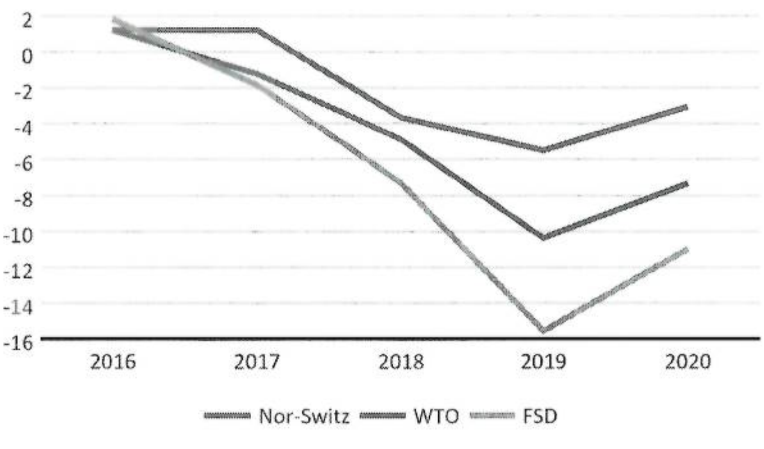
Figure 5 plots changes in the BoE policy rate under the three scenarios. Under all three scenarios, the policy rate is predicted to remain unchanged in 2016 and 2017, and predicted to rise by 25 and then 75 basis points in 2018 and 2019 under the WTO scenario, followed by a further 25 basis point increase in 2020.

Figure 5: Policy interest rate changes (annual) under scenarios (%)



The NIESR study does not directly provide a path for house prices in its scenario projections. We overlay a relationship between unemployment and house price falls from previous BoE adverse scenarios to infer a house price path consistent with the NIGEM model output of Ebell and Warren (2016).[50] Figure 6 plots these paths, with the FSD scenario imposing 7, 15 and 11 per cent house price falls in the years 2018 to 2020. While such dramatic consecutive year-on-year declines may appear particularly stringent, it should be remembered that Irish house prices maintained annual falls above 10 per cent for more than four years during the 2008 to 2012 period, suggesting that under pessimistic projections, such price falls are not outside the range of reasonable possible outcomes for an economy in major recession.

Figure 6: House price growth rates (annual) under scenarios



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Glossary

AMS	Asset Management Supervision
AIG	American International Group
BoS	Board of Supervisors
BTF	Brexit Task Force
BRRD	Bank Recovery and Resolution Directive
CBI	Central Bank of Ireland
CCP	Central Clearing Counterparty
CRE	Commercial Real Estate
CSD	Central Security Depositories
CSDR	Central Securities Depository Regulation
DGS	Deposit Guarantee Scheme
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
EEA	European Economic Association
EIOPA	European Insurance and Occupational Pensions Authority
EMA	European Medicines Agency
EMI	Electronic Money Institutions
ESA	European Supervisory Authority
ESMA	European Securities and Markets Authority
ESRI	Economic and Social Research Institute
EUI	Euroclear UK and Ireland
FDI	Foreign Direct Investment
FOE	Freedom of Establishment
FOS	Freedom of Services
FSC	Financial Stability Committee

FSD	Financial Stability Division
FTA	Free Trade Agreement
FTE	Full Time Employee
GAC	General Affairs Council
GDP	Gross Domestic Product
IPD	Investment Property Databank
IPU	Intermediate Parent Undertaking
IRC	International Relations Committee
ISE	Irish Stock Exchange
KFD	Key Facts Document
LAC	Loss Absorbing Capacity
LLF	Loan Loss Forecasting
LTV	Loan to Value
MiFID	Markets in Financial Instruments Directive
MPC	Monetary Policy Committee
MPE	Multiple Point of Entry
MREL	Minimum requirement for own funds and eligible liabilities
MSCI	Morgan Stanley Capital International
NIESR	National Institute of Economic and Social Research
NCB	National Central Bank
NRA	National Resolution Authority
PD	Probability of Default
P&I	Principal and Interest
PI	Payment Institution
PM	Prime Minister
PMI	Purchasing Managers Index
PwC	Pricewaterhouse Coopers

RES	Resolution Division
RICS	Royal Institute of Chartered Surveyors
SI	Significant Institutions
SRB	Single Resolution Board
SRM	Single Resolution Mechanism
SSM	Single Supervisory Mechanism