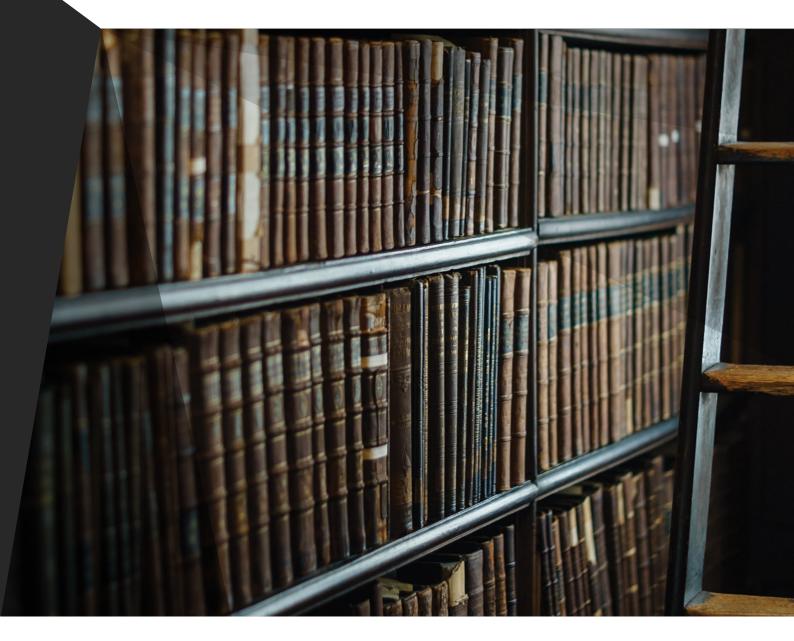


THE IMPACT OF THE UK'S EXIT FROM THE EU ON THE UK-BASED FINANCIAL SERVICES SECTOR





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EXECUTIVE SUMMARY

The UK's exit from the EU¹ and the new relationship with the EU are critical issues for the UK-based financial services sector, and for the wider economy it serves. To inform the UK Government's approach to the UK's exit from the EU negotiations TheCityUK commissioned Oliver Wyman to develop a comprehensive fact-base on the size of the sector and the potential impact of the UK's exit from the EU.

Oliver Wyman has worked with TheCityUK's Senior Brexit Steering Committee, senior industry practitioners and consulted the major sectoral trade associations to estimate the impact of the UK's exit from the EU.

The UK-based financial services sector is a significant contributor to the UK economy. The sector annually earns approximately £190-205BN in revenues, contributes £120-125BN in Gross Value Added $(GVA)^2$, and, together with the 1.1 million people working in financial services up and down the country, generates an estimated £60-67BN of taxes each year. It contributes a trade surplus of approximately £58BN to the UK's balance of payments³.

The UK-based financial services sector, together with the related professional services sector, has developed over many years into an interdependent and interconnected ecosystem comprising a large variety of firms providing world-class services, products and advice. This ecosystem brings significant benefits to financial institutions and to the corporations and households they serve.

Because of the interconnectedness of the activities and firms within this ecosystem, the effects of the UK's exit from the EU could be felt more widely than simply in business transacted directly with EU clients.

Our analysis suggests that, at one end of the spectrum, an exit from the EU that puts the UK outside the European Economic Area (EEA), but otherwise delivers passporting and equivalence and allows access to the Single Market on terms similar to those that UK-based firms currently have, will cause some disruption to the current delivery model, but only a modest reduction in UK-based activity. We estimate that revenues from EU-related activity would decline by $\sim £2BN$ ($\sim 2\%$ of total international and wholesale business), that 3-4,000 jobs could be at risk, and that tax revenues would fall by less than £0.5BN per annum.

At the other end of the spectrum, in a scenario that sees the UK move to a third country status with the EU without any regulatory equivalence, the impact could be more significant. Severe restrictions could be placed on the EU-related business that can be transacted by UK-based firms. In this lowest access scenario, where the UK's relationship with the EU rests largely on World Trade Organisation (WTO) obligations, 40-50% of EU-related activity (approximately £18-20BN in revenue) and up to an estimated 31-35,000 jobs could be at risk, along with approximately £3-5BN of tax revenues per annum.

- $1\quad Throughout the remainder of this document we use the term {\rm `EU'} to mean the EU excluding the UK$
- 2 The Office for National Statistics (ONS) define GVA as a measure of contribution to the economy of each individual producer, industry or sector in the United Kingdom. The GVA generated by any unit engaged in product activity can be calculated as the residual of the units' total output less intermediate consumption (that is, goods and services used up in the process of producing the output)
- 3 2014 trade surplus sourced from Office for National Statistics (ONS) Pink Book, 2015
- 4 The UK will become a third country when it moves outside the coverage of the EU Treaties, which confers Single Market access rights, "passporting" and the assumption of regulatory "equivalence"

In this scenario, the impact on the sector would be greater than the loss of direct EU-related business. For example, the knock-on impact on the ecosystem could result in the loss from the UK of activities that operate alongside those parts of the business that leave, the shifting of entire business units, or the closure of lines of business due to increased costs. An estimated further £14-18BN of revenue, 34-40,000 jobs and \sim £5BN in tax revenue per annum might be at risk.

This is not a "zero sum game" within the EU. Organisations will not shift activities and employment on a one-for-one basis out of the UK to the EU. For some institutions, the cost of relocation and the ongoing inefficiencies associated with a more fragmented environment could cause them to close or scale back parts of their business. Others, particularly those with parents located outside of the EU, could move businesses back to their home country, reducing their overall footprint in Europe.

There are likely to be opportunities arising from new networks of trade and investment agreements, that the UK will negotiate with its partners, and nurturing of growth areas in the sector (for example, FinTech), boosting jobs, taxes and the trade surplus delivered by the sector. Recent work by TheCityUK highlights a number of medium to long term opportunities for the UK, including the creation of Sharia-compliant central bank liquidity facilities, coordinated support for emerging markets wealth management, supporting masala bond trading and issuance, green finance and FinTech.⁵

A number of assumptions underpin the analysis outlined above, including the continuation of international norms in areas such as portfolio delegation, UK equivalence agreements with non-EU regulators⁶, continuation of agreements over issues such as data, Know Your Customer (KYC) and Anti-Money Laundering (AML) and continued access to skilled talent⁷ from the EU, and non-EU nations. If these assumptions do not hold, then the impact on the sector could be yet larger, particularly over the medium to long term (the next five years and beyond).

While it is impossible at this stage to predict what the UK's new relationship with the EU will be, the final outcome is likely to fall somewhere between these two ends of the spectrum.

Settling the new general legal relationship between the UK and the EU and formulating more specific financial services regulations are complex tasks and will take time. Failure to build sufficient transition arrangements, at both the end point of the negotiation of Article 50 and the implementation date of the new regulatory framework, could result in threats to growth, competiveness and financial stability as financial services firms need to change their operating models in order to continue to do business in a compliant way. Certainty on the transitional period is therefore needed as soon as possible.

EU businesses have an interest in retaining access to the UK as an international financial centre, not only for the services provided directly but also as a conduit for global investment into the EU. The best outcome would recognise these dynamics and deliver mutually beneficial results for the UK, the EU and the rest of the world.

⁵ See "UK Financial and Related Professional Services: Meeting the challenges and delivering opportunities", The CityUK, August 2016

⁶ The UK financial services sector is at the centre of global markets activity, which is facilitated by a large number of regulatory agreements that the UK has with other nations due to its membership of the EU. These will need to be replaced with UK specific agreements

 $^{7 \}quad \text{This does not presume complete free movement of people, but does require some immigration} \\$

THE SIGNIFICANCE OF FINANCIAL SERVICES FOR THE UK ECONOMY

The UK-based financial services sector, together with the related professional services sector, plays a critical role in the UK economy. It provides capital to invest in infrastructure and technology, which generates income and jobs for UK households, as well as services such as savings, pensions and insurance that households and corporates rely on.

Beyond this support for the wider economy, it is estimated that the sector annually earns £190-205BN in revenues, contributes £120-125BN in GVA, and, together with the 1.1 million people working in financial services up and down the country, generates £60-67BN of taxes each year.

Figure 1: Quantification of UK-based financial services industry

SECTORS	ANNUAL REVENUES (£BN)/ VOLUME (WHERE RELEVANT)	ANNUAL GVA ⁵ (£BN)	ANNUAL TAX ⁶ (£BN)	EMPLOYMENT ⁷ (′000)
Sales and Trading	~30	13-16	7-9	55-65
Investment Banking	10-12	5-7	3-4	~15
Retail and Business Banking	58-67	35-39	17-19	450-470
Private Banking and Wealth Management	5-6	3-4	1-2	21-26
BANKING	108-117	55-61	29-33	540-565
ASSET MANAGEMENT (REV/AUM¹) 20-23 /~7T		14-18	5-7	40-50
Domestic Retail and Commercial (GDP ³ /GWP)	27-29/150-155	21-23	9-10	260-290
Corporate and Specialty ² (GDP ³ /GWP)	8-10/50-53	7-9	3-4	43-46
Reinsurance ² (GDP ³ /GWP)	2-4/16-18	2-3	1-2	~5
INSURANCE & REINSURANCE ² (GDP ³ /GWP)	39-42/215-225	30-33	13-15	310-335
Exchanges, Clearing & Inter-Dealer Broking	3-4	2-3	1-3	10-12
Securities Services	3-4	2-3	~1	30-40
Technology, Data and Other ⁴	16-20	13-15	6-8	80-90
MARKET INFRASTRUCTURE & OTHER ⁴	22-26	16-20	9-11	120-140
TOTAL FINANCIAL SERVICES	190-205	120-125	60-67	~1,050

^{1.} AuM is assets under management

Sources: Oliver Wyman analysis; Please see the appendix for detailed sources for each figure on this page

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^{2.} Total UK "Corporate and Specialty" and "Reinsurance" figures include the London Market Group (LMG) £45BN Gross Written Premiums (GWP), of which Lloyd's is £26BN GWP, £19BN GWP is company markets and a further £24BN is not written in London

^{3.} For insurance, we use an estimate of Gross Domestic Product (GDP) as our measure of revenues as opposed to GWP to ensure a more accurate comparison of economic contribution with other sectors

^{4.} Includes a full range of technology, credit rating agency, payment and data services that may not be traditionally counted as financial services, but are increasingly central to the financial services sector and value generation

^{5.} The ONS define GVA as a measure of contribution to the economy of each individual producer, industry or sector in the United Kingdom. The GVA generated by any unit engaged in product activity can be calculated as the residual of the units' total output less intermediate consumption (that is, goods and services used up in the process of producing the output), or as the sum of the factor incomes generated by the production process

^{6.} Total tax contribution: tax collected and tax borne (including employment tax, national insurance, income tax, irrecoverable VAT, bank levy, other taxes borne and collected)

^{7.} Banking employment figures from granular ONS Business Register Employment Survey (BRES) 2015 data aligned to Oliver Wyman definitions, see the appendix for further details

The financial services sector contributes a trade surplus of approximately £58BN to the UK balance of payments per annum.

To identify potential effects of the UK's exit from the EU on the UK-based financial services sector, we looked across the entire range of products and clients served by the sector. Our research found that approximately half the sector's revenues in the UK are from international and wholesale business. This covers a range of activities, such as providing complex insurance against risks to which corporate clients are exposed; trading bonds and equities with investment firms managing savings and pension funds; hedging interest rate and FX exposures; providing currency for international trade; managing assets and allocating capital on behalf of investors; providing data and technology to businesses and consumers; raising capital for growth companies; clearing and providing the market infrastructure supporting these activities.⁸

Figure 2: Trade surplus vs. other industries and the key import/export nations UK TRADE BALANCE UK TOTAL TRADE³ 2014. £BN 2014. £BN DEFICIT SURPLUS **TRADING FINANCIAL PARTNER GOODS SERVICES** TOTAL EEA 399 123 27 548 EEA¹ -76 US 49 25 140 BRICS² 14 2 104 Other 163 84 26 273 +36 **TOTAL** 715 270 81 1,065 BRICS² Significant financial services export markets (financial services trade surplus): Japan (~£2BN) Other +26 Switzerland (~£1.5BN) Australia (~£1BN) Canada (~£1BN) Goods Other services Financial services Saudi Arabia (~£0.5BN) -124 +32 +58

1. The split of services trade balance between financial and other services is unavailable for Norway, Iceland and Liechtenstein so has been classified as other services

Source: ONS Pink Book 2015: UK trade data 2014

^{2.} BRICS includes: Brazil, Russia, India, China and South Africa

^{3.} Total trade is calculated as the sum of both imports and exports ${\bf r}$

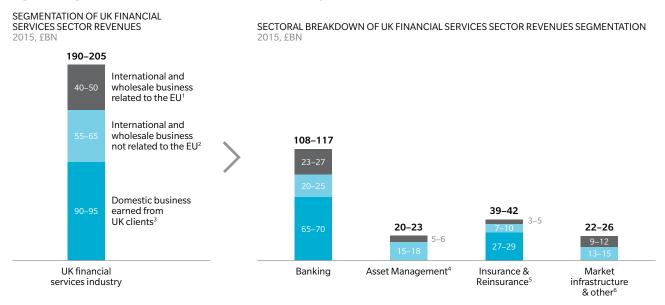
⁸ See "The UK: Europe's Financial Centre", The City UK, August 2016, for further information

The UK is a global financial centre with a material portion of business coming directly from EU clients or from activity that is related to the EU, such as trading in EU equities, or clearing Euro-denominated derivatives.

Of the ~£200BN of annual financial services revenues, we estimate that approximately:

- £90-95BN (45-50%) is domestic business⁹ earned from UK clients
- £40-50BN (~25%) is international and wholesale business¹⁰ related to the EU
- £55-65BN (25-30%) is international and wholesale business not related to the EU

Figure 3: Segmentation of the UK financial services industry



- 1. International and wholesale business related to the EU includes: all EU client activities with financial services firms based in the UK, UK & Rest of World (RoW) client activity in EU/Euro-linked products, UK and RoW activity occurring as a result of EU client activity (for example, portfolio delegation and risk management of trading positions)
- 2. International and wholesale business not related to the EU includes: financial services activity with UK and RoW clients that is not related to the EU
- 3. Domestic business earned from UK clients includes: UK personal and business banking, private banking and wealth management for UK clients, UK domestic and commercial insurance
- 4. Portfolio management for UK client funds included in the International and wholesale business not related to the EU
- 5. For insurance, we use an estimate of GDP as revenues as opposed to GWP to ensure a more accurate comparison of economic contribution with other sectors

6. All "market infrastructure and other" is considered potentially internationally portable. There is £10-14BN of UK client business included in the International and wholesale business not related to the EU category

Sources: Oliver Wyman analysis

⁹ Domestic business is defined as activities where it is not possible to transact on a cross-border basis. This is not at risk of leaving the UK under any of the modelled outcomes

¹⁰ International and wholesale business is that where a large number of the associated activities can be transacted on a cross-border basis. It is in these activities where the UK is currently an international hub

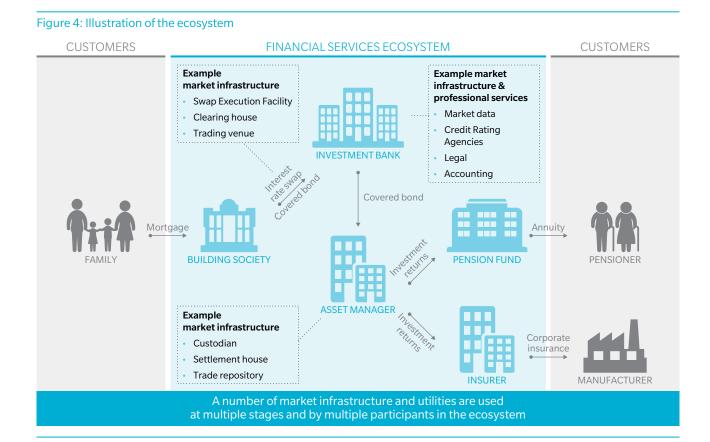
ECOSYSTEM EFFECTS IN FINANCIAL SERVICES

The UK-based financial services sector has developed over many years into an interdependent and interconnected ecosystem. This ecosystem comprises a large variety of financial and related professional services firms working together. An example is outlined in Figure 4 below.

Participants enjoy a wide range of benefits, including:

- **Enhanced service provision** with each part of the value chain able to provide high quality services due to proximity and understanding of each other's needs
- Innovation driven by the concentration of talent and intense competition
- **Economies of scale** in both operational costs and financial resource costs
- Centres of excellence providing services not available elsewhere, such as corporate and specialty insurance, and a wide range of specialist professional services firms working with the financial services sector
- A regulatory framework that facilitates efficient and innovative financial services

This ecosystem has enabled the UK to build an environment conducive to innovation and growth, providing a platform with which to maximise the potential growth opportunities that could arise from the UK's exit from the EU.



The high level of interconnectedness within this ecosystem means that the effects of any exit from the EU agreement are likely to extend beyond business done directly with EU clients. Impacts to one part of the ecosystem will invariably have knock-on effects elsewhere. For example, a firm that loses its EU customers may no longer have the scale to operate profitably in the UK, and so exit altogether. Or an activity that needs to operate adjacent to another linked activity may have to relocate if the activity it is collocated with were to leave the UK as a result of its exit from the EU. Taking the example outlined in Figure 4, it is clear that for each individual transaction in the ecosystem there are a number of related activities. If any of these activities or transactions was to be restricted or forced to migrate there would be knock-on impacts to any adjacent and potentially subsequent activities, which could lead them to leave the UK in order to retain the benefits of being part of this ecosystem. Examples of such effects are given in Figure 5.

Assessing the impact of ecosystem risks is imprecise, but it is reasonable to assume – particularly in the context of this changed environment – that some of these risks might crystallise, especially over the medium to long term (the next five years and beyond).

Figure 5: Examples of ecosystem impacts

AREA	ECOSYSTEM RISKS (EXAMPLES)		
Sales and trading	Ecosystem impacts: Fragmentation of liquidity, reduced capital efficiency and cost duplication as EU related activity is separated from non-EU related activity		
	Risks: Reduction in non-EU clients and related activity that had come through the UK		
Market infrastructure	Ecosystem impacts: Loss of netting and compression benefits in clearing between Euro-denominated derivatives and other currencies		
	Risks: Clearing of all currencies relocates away from the UK to retain capital efficiencies		
Asset management	Ecosystem impacts: Loss of proximity to the sell-side, are the associated skills and liquidity		
	Risks: Value of delegating portfolio management to the UK is reduced, leading to reduced assets under management		
Financial technology	Ecosystem impacts: Less activity and fewer people and businesses in the UK for firms to sell their products to and develop new technologies alongside		
	Risks: Slower rates of improvement in the services provided to clients, and alternative hubs emerge across Europe that benefit from future growth opportunities		
Specialty insurance	Ecosystem impacts: Loss of depth in the marketplace as EU activity shifted out of the UK		
	Risks: Fewer international business coming to the UK to take advantage of the scale in the marketplace		
Cross-cutting (talent)	Ecosystem impacts: Erosion of UK as a centre for internationally mobile financial service professionals		
	Risks: Fewer international businesses set up in the UK as its competitive advantages vs. other locations is eroded		

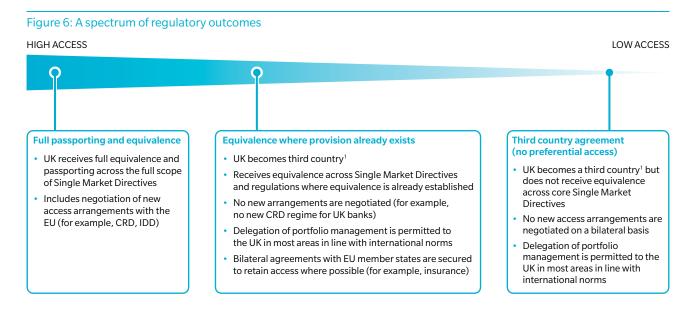
THE SPECTRUM OF REGULATORY OUTCOMES

The impact of the UK's exit from the EU on the financial services sector in the UK will partly be determined by the agreements between governments and regulators on many pieces of legislation, and how firms respond to this shifting landscape. We look at a spectrum of potential regulatory outcomes, which will have a varied impact on financial institutions' ability to continue to carry out EU-related activity from UK-based legal entities. In defining this spectrum we have reflected statements by the UK Government that the outcome of the Referedum on 23 June 2016 will be respected and that "Brexit means Brexit". We have therefore excluded membership of the EEA from the spectrum of potential outcomes.

In the highest access scenario the UK is recognised as having regulatory equivalence across a wide range of existing European legislation. In addition, new agreements would be needed in areas where no provisions currently exist in order to grant passports to third countries, notably around the Capital Requirements Directive (CRD) and the Insurance Mediation Directive (IMD) – soon to be recast as the Insurance Distribution Directive (IDD).

At the other end of the spectrum, the lowest access scenario would be a situation where the UK moved to a third country position with the EU, without any recognition of regulatory equivalence. This would place significant restrictions on the EU-related activity that UK-based financial firms are permitted to undertake.

Between these ends of the spectrum is a complicated web of interconnected laws and regulations, some of which have provisions in place to grant equivalence to third countries and some of which do not, such as CRD. If granted, these areas of legal and regulatory equivalence could give UK based firms and infrastructure access to EU clients and infrastructure across certain products and activities.



^{1.} The UK will become a third country when it moves outside the coverage of the EU Treaties, which confer single market access rights, "passporting", and the assumption of regulatory "equivalence"

Note: Outline of future relationship here is an outcome based summary of the relationship and key aspects, rather than a comprehensive detailing of all legal and regulatory agreements

The boxes below provide a brief explanation of the terms "passporting" and "equivalence", and outline some of the key pieces of legislation relating to financial services where provision for equivalence currently exists.¹¹

A BRIEF EXPLANATION OF "PASSPORTING" AND "EQUIVALENCE"

Being a member of the EU places the UK inside the coverage of the EU Treaties, conferring single market access rights, "passporting", and the assumption of regulatory "equivalence":

WHAT IS "PASSPORTING"?

- Being a member of the EEA and being bound by EU legislation confers the right to "passport" certain services across the EEA, either on a cross-border basis or through branches, without the need for additional local authorisations
- This legislation limits the extent to which Member Sates can impose additional regulatory requirements on businesses exercising their passport rights
- These passports are not yet available to third country firms (firms based in countries that are not within the EEA), although there is provision for third country passports in the Markets in Financial Instruments Directive II (MiFID II) and the Alternative Investment Fund Managers Directive (AIFMD)

WHAT IS "EQUIVALENCE"?

- Some recent EU legislation has included some "third country regimes" which allow non-EEA firms to provide services into the EEA if their home country regulatory regime is "equivalent" to EU standards. Equivalence sometimes also requires reciprocity (for example, European Market Infrastructure Regulation (EMIR), Central Counterparty (CCP) equivalence)
- These regimes cover a more limited range of services and provide fewer additional rights than the existing passports for EU firms, and may also be subject to additional conditions
- Unlike an EEA "passport", the rights under these regimes can be withdrawn at any time if a home country deviates materially from EU standards

 EU legislation generally requires that the European Commission makes the determination of equivalence, but in some cases this may be left to Member States or their national regulators

Becoming a third country with respect to the EEA, means not having standing to the Court of Justice of the European Union (CJEU), and has significant regulatory consequence with regards both single market access "passporting" rights and regulatory "equivalence":

SINGLE MARKET ACCESS "PASSPORTING" RIGHTS

- Once a third country, the UK will be outside the coverage of the EU Treaties and the preferential terms conferred on its members with respect to accessing the EU single market
- Businesses trading between the EEA and the UK lose their "passporting" rights, the freedom of service and freedom of establishment, that are conferred by the EU Treaties and legislation

REGULATORY "EQUIVALENCE"

- Becoming a third country removes the assumption of regulatory equivalence that is broadly embedded in EU financial services frameworks
- Instead, UK-based entities will need to rely on "third country regimes" created under EU law which recognise equivalence for limited purposes
- Equivalence must be requested, tested and affirmed, and is contingent on ongoing proximity to EU standards over time
- Equivalence is not available with respect to the provision of all services, or the servicing of all client types

Note: The basis for "passporting" is the Treaty for rights for freedom of establishment and freedom of services. The "Single Market Directives" are specific pieces of legislation which harmonise the approach of such free movement of services and establishment for specific types of firms, products and clients. There are two further freedoms conferred: freedom of movement of capital and freedom of movement of persons. Financial services firms use all four freedoms

Note: Asset Managers can delegate portfolio management of a fund to countries other than that in which it is distributed or fund managed as per global norms. There are existing delegation provisions in key EU financial services legislations (for example, UCITS and AIFMD). Delegation is subject to a number of conditions

 ${\color{red}\textbf{Sources: "UK exit from the EU: an orderly transition for banking", British Bankers' Association (BBA) \& Clifford Chance; Oliver Wyman analysis}$

¹¹ These boxes have been informed by work undertaken by the BBA with input from Clifford Chance

OUTLINE OF SOME OF THE KEY PIECES OF LEGISLATION RELATING TO FINANCIAL SERVICES WHERE PROVISION FOR EQUIVALENCE ALREADY EXISTS

European Market Infrastructure Regulation (EMIR): became law (UK and EU) on 16 August 2012 and applied from 15 March 2013

- EEA firms receive exemptions from clearing and margining requirements on intragroup transactions, including with their affiliates in equivalent third countries
- EEA counterparties can clear with UK CCPs, and UK counterparties can clear with EEA CCPs

Markets in Financial Instruments Directive II (MiFID II): will be transposed into law (UK and EU) by 3 July 2017 and apply from 3 January 2018

- UK based firms can distribute MiFID II products cross-border from the UK and from EEA branches of UK entities to EEA per se professional clients and eligible counterparties¹ without local authorisation
- UK based investment firms authorised under MiFID II can undertake investment business across the EEA, either on a cross-border basis (to per se professional clients and eligible counterparties¹) or through branches

Solvency II (S II): was transposed into law (UK and EU) on 1 January 2016 and will apply from 1 January 2020

 Freedom of establishment and services for UK entities must be agreed on a state-by-state basis

- Governs three areas of activity:
 - Reinsurance: deals are treated synonymously to those of EEA member states
 - Group solvency calculations: EEA firms can include their UK branches and subsidiaries in their group solvency calculations
 - Group supervision: third country firms' EEA branches can be supervised with Home State exclusive prudential supervision

Payment Services Directive II (PSD II): was transposed into law (UK and EU) on 12 January 2016 and will apply from 13 January 2018

- UK entities can access the EEA payment market with an EEA subsidiary
- UK entities can access the Single Euro Payments Area (SEPA)

Alternative Investment Fund Managers Directive (AIFMD): was transposed into law (UK and EU) on 21 July 2011 and applied from 22 July 2013

- UK based Alternative Investment Fund Managers (AIFMs) can market UK based Alternative Investment Funds (AIFs) to professional clients¹ in EEA member states, and vice versa
- AIFMs in the UK can act as management companies to AIFs in EEA member states (on a cross-border basis or through branches), and vice versa

1. Legal definitions of per se professional clients, elective professional clients, per se eligible counterparties and elective eligible counterparties provided in Conduct of Business Sourcebook (COBS) 3.5 and COBS 3.6, respectively, Financial Conduct Authority (FCA) bandbook

Note: Not all of the legislation above are "regulations" as some are "directives" that are incorporated into domestic law by country specific status

Sources: "UK exit from the EU: an orderly transition for banking" and "Product line analysis under basic withdrawal scenarios", BBA & Clifford Chance; "Brexit: potential impact on the UK's banking industry", Ashurst; "Brexit Series", The Investment Association; "Brexit: Long Term Implications for the Insurance Sector", Clifford Chance; "Actions for Government Post-referendum", London Market Group; "Brexit: Implications for the Insurance and Reinsurance Industry" Shearman & Sterling; Oliver Wyman analysis

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THE DIFFERENCE BETWEEN HIGH AND LOW ACCESS

Below we outline the different impacts on the UK economy of the low access and high access scenarios. Our results highlight just how much is at stake in the negotiations regarding the UK's future relationship with the EU.

Our estimates of the impacts of the UK's exit from the EU throughout this report assume that in the low access and high access scenarios, the following holds true:

- Continuation of international norms in areas such as portfolio delegation
- UK equivalence agreements with non-EU regulators¹²
- · Continuation of current UK tax treaties with non-EU nations
- Continuation of agreements over issues such as data, KYC and AML
- Continued access to skilled talent from both the EU and the rest of the world¹³

If these assumptions do not hold the impact on the UK-based financial services sector is likely to be much larger than outlined below. For each scenario we consider the first order impact and ecosystem impact.

1. THE FIRST ORDER IMPACT

The quantum of EU-related business that would leave the UK as a result of exiting the EU, and the associated GVA, jobs and tax reductions. We have assessed the impact at a granular business line and product level to allow us to assess the impact of outcomes on each business area. We looked at the value chain for each activity, which allows us to separate activities along this chain that are impacted by regulatory change from those that are not. Examples in the low access scenario are outlined below.

Sales and Trading

UK-based firms would no longer be allowed to sell products to EU clients directly, but EU entities could transfer positions to a UK entity for risk management purposes; products would still be priced from the UK.

Asset Management

UK-based firms would no longer be allowed to distribute to EU clients directly, but portfolio management could still be delegated to the UK (in line with international norms).

Corporate and Specialty Insurance

Unless agreements were reached with individual member states, UK insurers and brokers would not be able to service EU clients. The entire value chain, including underwriters, risk and portfolio management and brokers could move to an EU entity.

¹² The UK financial services sector is at the centre of global markets activity which is facilitated by a large number of regulatory agreements that the UK has with other nations as a result of its membership of the EU. These will need to be replaced with UK specific agreements

¹³ This does not presume complete free movement of people, but does require some immigration

2. THE ECOSYSTEM IMPACT

The additional activities that may also leave the UK as economies of scale are lost (either in the business itself, or to the wider ecosystem). Impacts here could extend beyond EU-related activities as economies of scale benefit all related international and wholesale activities. Examples of assumptions for the low access scenario are outlined below.

Sales and Trading

Restrictions on EU-related activity from their existing UK hubs may lead banks to establish entities within the EU. To retain the economies of scale these banks could move other activities that are not directly restricted into the EU and away from the UK.

Market Infrastructure

If clearing portfolios are split or fragment across jurisdictions, this could lead to an increase in the cost of clearing arising from a shrinking pool of participants in smaller segmented markets. Due to these inefficiencies, some firms could move their clearing to a new single place within the EU.

Asset Management

As sales and trading businesses migrate from the UK into the EU, the benefits of managing portfolios from the UK could be eroded, leading some companies to manage a greater portion of their assets from within the EU.

Corporate and Specialty Insurance

A loss of depth in the marketplace due to the loss of EU-related activity might lead some insurance firms to relocate outside of the UK.

In a low access scenario, the potential impact to the ecosystem could magnify the long-term impact of the UK exiting the EU. We estimate a total of £32-38BN in revenues, 65-75,000 jobs, £18-22BN in GVA and £8-10BN in tax receipts per annum are potentially at risk once ecosystem effects are accounted for.

At the other end of the spectrum, where a high degree of access is retained, potential losses would likely be much more limited, with approximately £2BN of revenue lost, 3-4,000 jobs at, <£0.5BN of tax and \sim £1BN of GVA at risk per annum. There probably would be very limited impact on the ecosystem.

These figures do not include any "multiplier effect" that the reduction of revenues, employment and tax in the financial services sector might have on other parts of the economy. The Office for National Statistics (ONS) has calculated such a GVA multiplier: 2.2x for insurance and reinsurance and 1.5x for the rest of the sector. These relationships are difficult to evaluate and are not the focus of our analysis. If they were to hold, the total impact to the UK economy could be larger than outlined above.

In addition to the ecosystem impacts, it should be recognised that any changes in operating models will be taking place in an environment where there is considerable pressure on the financial performance of many segments of the financial services sector, especially banks.

With wholesale banking delivering below hurdle returns of <10% in 2015¹⁴, it is likely that additional costs resulting from exiting the EU will accelerate the wave of restructuring currently underway. As such, any relocation of activity, employment and tax from the UK does not necessarily mean migration to an EU location. For some institutions, the cost of relocation and the ongoing inefficiencies associated with a more fragmented environment could cause them to scale back or close parts of the business. Others, particularly those with parents located outside of the EU, could move activity back to their home country. Both of these would represent not only a net loss from Europe (UK and EU), but would also entail a loss of services available to customers in both the UK and EU.

Figure 7: Quantification of first order and ecosystem effects of the UK's exit from the EU in different scenarios **HIGH ACCESS** LOW ACCESS High access scenario Low access scenario 1st order: ~£2BN (~1%) of revenues lost 1st order: £18-20BN (~10%) of revenues lost Ecosystem: ~£2BN (~1%) of revenues at risk Ecosystem: £32–38BN (15–20%) of revenues at risk **JOBS** GVA JOBS ~<£0.5BN (~1%) ~£1BN (~1%) 3-4,000 (~<1%) 31-35,000 (~3%) £3-5BN (5-8%) £9-12BN (7-10%) 3-4,000 (~<1%) ~<£0.5BN (~1%) ~£1BN (~1%) 65-75,000 (6-7%) £8-10BN (13-16%) £18-22BN (14-17%) 3333 3333333 3333333 3333333 2222222 3333333 2222222 2222222 2222222 2222222 2222222 3333333 ££ 1st order impacts: regulatory impacts on EU-related activity Ecosystem impacts 1,000 jobs £ £100MM tax € £200MM GVA Note: In this analysis we do not take into account other factors that may impact the size and scale of the UK financial services sector - for instance structural changes in the way that services are delivered or impacts of cost reduction programs (for example, outsourcing of activities). Nor do we include any impacts on the financial services sector due to changes in the wider economy as result of impacts of the UK's exit from the EU on households and corporates (for example, in changes in demand for loans, impacts on interest rates), or make any assumptions on changes to economic activity such as exchange rates or inflation changes

14 See "Wholesale Banking & Asset Managers: Learning to Live with Less Liquidity", Oliver Wyman, March 2016

Source: Oliver Wyman analysis

Recent work by TheCityUK in "Financial and related professional services: meeting the challenges and delivering opportunities", highlights a number of medium to long term opportunities for the UK, including the creation of Sharia-compliant central bank liquidity facilities, coordinated support for emerging markets wealth management, supporting masala bond trading and issuance, green finance and FinTech.¹⁵

There is also likely to be fresh scope for exploring opportunities arising from new networks of trade and investment agreements that the UK will negotiate with its partners. Next generation agreements that embrace market access, regulatory coherence, and a range of new issues have the potential to play a vital role in delivering these benefits. It is therefore critical to bear in mind that there is a huge advantage to the UK from aligning with standards in regulation that are set at the global level (for example, Basel, Financial Stability Board (FSB)), as these will be the pillars around which future agreements will need to be structured. The UK's ability to maximise these opportunities could be hindered if its status as a hub is undermined. Over the medium to long term, this is most likely to come about because of low access to the single market and the associated ecosystem effects this could have. In addition, future policy interventions, negative or positive, by either the UK or the EU will also be a key determinant of the shape of financial markets across Europe.

However, the hub status of the UK could be undermined in the short term if a suitable transition period was not agreed. This would lead to an immediate cessation of certain EU-related activity from the UK, regardless of the nature of the medium term solution.

THE IMPORTANCE OF A TRANSITION PERIOD

Settling the new general legal relationship between the UK and the EU and formulating more specific financial services regulations is complex and will take time. Clear transition agreements are in our view critical to minimise any threat to financial stability as well as growth and competitiveness. There are two points at which these could be threatened:

1. THE END POINT OF THE NEGOTIATION OF ARTICLE 50.

At this point it is possible that the regulatory framework will not be finalised. If there is uncertainty around the legality of the operating environment, there is risk of a "cliff edge effect" in cross-border service provision as UK-based firms are no longer able to serve EU clients. Given the UK serves as the EU's largest financial centre, this could have a large negative impact on financial stability, growth and competitiveness in the UK and the EU. In order to minimise this threat, a clear agreement will be needed on a transition period between the UK's formal exit from the EU and the implementation of the new rules.

 $15\,\,\mathrm{See}\,\,\mathrm{``UK}\,\mathrm{Financial}\,\mathrm{and}\,\mathrm{Related}\,\mathrm{Professional}\,\mathrm{Services:}\,\mathrm{Meeting}\,\mathrm{the}\,\mathrm{challenges}\,\mathrm{and}\,\mathrm{delivering}\,\mathrm{opportunities''},\mathrm{TheCityUK},\mathrm{August}\,\mathrm{2016}\,\mathrm{challenges}\,\mathrm{delivering}$

2. THE IMPLEMENTATION DATE OF THE NEW REGULATORY FRAMEWORK

Once the new rules are clear, financial firms will need time to make any required changes to their business models and avoid disruption in client service. The investment and regulatory demands surrounding major modifications of financial firms' business models mean that implementation is likely to take three to five years. This is especially the case if the "low access" scenario eventuates as the operational set up, capitalisation and licensing of new legal entities can be a lengthy process. The box below highlights some of the challenges associated with this. If firms have insufficient time to make the necessary changes it is likely they will be unable to serve clients when the new rules come into force. In order to minimise this threat, a sufficient transition period would allow firms time to implement the rules.

Financial institutions are currently planning their response for low and high access scenarios. Due to the long implementation timeframe, an absence of assurances from both the UK and the EU that there will be an orderly transition at the two points in time described above may lead them to start putting into action their contingency plans unnecessarily. The cost of doing so would, in large part, likely be passed on to customers. If there is no certainty around the transition period, the outcomes in terms of relocation and reduction in revenues, tax, GVA and employment, could be the same as in the low access scenario regardless of the regulatory outcome, as firms will work to ensure continuity in their ability to service customers.

CHALLENGES ASSOCIATED WITH CHANGING LEGAL ENTITY SET-UP AND OPERATING MODELS

OPERATIONAL SET-UP OF NEW LEGAL ENTITIES

Banking, insurance and market infrastructure are complex businesses, which rely on robust technology and operational processes. Installing these for a new entity could take several years

LICENSING

Relocating financial services firms must be licensed in their new host jurisdictions. Rigorous regulatory review processes mean that this typically takes between six and eighteen months of regulatory engagement, with capacity issues likely if large parts of the sector look to migrate at once

MODEL APPROVALS

Many banking and clearing products need risk models with approval from local regulators.

Obtaining "sign-off" from local regulators can take up to two years of dialogue

CAPITAL RELEASE AND REDEPLOYMENT

When business is moved between legal entities in different countries, the holding company will often find that it cannot simultaneously move capital

between the legal entities because the regulator of the legacy entity demands proof that the capital is no longer required before allowing it to be released. In effect, this means that the company moving business between entities has to hold double the capital for a period of time

SKILLS AND TRAINING IN OTHER GEOGRAPHIES

Financial services is a specialised sector, requiring specific skills. The European hub for financial services talent is currently London. It may take several years for similar talent pools to be built up in other European cities

INFRASTRUCTURE

London's decades long role as a financial centre means it has developed the infrastructure necessary to play this role, including not only what is required directly by the business but what is required by its customers and employees, including office space, airports, international schools and other amenities for high-income financiers. It could take many years to reproduce these amenities in an emerging EU financial centre

CONCLUSIONS

Our analysis suggests that the impact of the UK's exit from the EU on the financial services sector will vary dramatically with how much access to the EU is retained. In a high access scenario the disruption could be negligible. In a low access scenario the impact is likely to be much larger, and any resulting wider impact to the ecosystem could magnify losses.

A high access scenario, with a clear and sensible transition period, is likely to minimise disruption to the sector, benefiting customers who have come to rely on the UK as a uniquely skilled and connected centre for financial services. These customers come not just from the UK but also from the EU and around the world. It would also enable the UK to maximise the potential growth opportunities that could arise from the UK's exit from the EU (such as FinTech) as well as the continuation of the UK as a centre of regulatory excellence. For related professional services the following components will be especially important: access to talent, reciprocal rights around data, and equivalence of UK regulation.

Our analysis suggests that including the following five features in the future agreement between the UK and EU (outlined below in Figure 8^{16}) would lead to the highest levels of employment and tax revenues in the UK, and would deliver the highest service levels to consumers, be they from the UK or the EU.

Figure 8: Five features for the future relationship between the UK and EU for financial services to deliver mutual benefits to the UK and EU

FEATURE	REQUIRED ACTIONS	MUTUAL BENEFITS TO THE UK AND EU	
Adherence to global norms	Adhere to global norms that are in place, or are emerging, across the sector that allow cross-border activity, including but not limited to:	Improve efficiency of capital allocation and minimise costs	
	Delegation of portfolio management	Minimise the disruption to other	
	Clearing of global reserve currencies	international partners	
	Exemptions on intragroup margin requirements		
Retain current access to	 Ensure the UK retains the same level of access to international markets, and recognised equivalence with non-EU nations that is currently granted as part of 	Preserve access to international capital based in the UK	
international markets	the EU	 Avoid withdrawal from UK and EU by RoW firms if costs increase with fragmentation 	
Equivalence and grandfathering Agree mutual rights of "access" to both the UK and EU clients and infrastructure with equivalence agreements "grandfathered" where the UK shares common rules today,		 Preserve access to EU for UK households and corporates, and vice versa 	
between the UK and the EU	including but not limited to: Markets in Financial Instruments Directive (MiFID I & II)	 Retain access to EU clients for UK-based firms (UK, EU, and RoW) 	
	European Market Infrastructure Regulation (EMIR)	Reduce additional costs and reductions in	
	Solvency II (S II)	service to customers	
	Payment Services Directive II (PSD II)		
	Alternative Investment Fund Managers Directive (AIFMD)		
	Capital Requirements Directive (CRD)		
	 Insurance Mediation Directive (IMD), soon to be recast as the Insurance Distribution Directive (IDD) 		
Orderly transition	Ensure an orderly transition giving firms at least five years following the finalisation of the new regime to ensure services to customers are not impacted	Reduce disruption to customers from loss of services	
arrangements	as the sector makes the necessary changes to operating models	Minimise unnecessary spending by sector	
	Communicate this transition window as soon as possible	caused by uncertainty	
Ongoing	Continued close collaboration on the future regulation direction	Support future growth via efficient, well	
regulatory collaboration	 Working within global forums to pursue leading global standards in both the UK and EU that are aligned with international standards where appropriate 	regulated and low cost financial services provided to the real economy	
	Achieving future equivalence through adoption of leading global standards	 Support continued enhancements in services to customers 	
	 Consider UK inclusion in ongoing projects to benefit customers (for example, Capital Markets Union (CMU), Single Euro Payment Area (SEPA)) 	sei vices la custatiers	

¹⁶ Other factors, such as access to talent, agreements around data sharing, tax and judicial and insolvency processes are not considered in this. Securing sensible agreements in these areas will be important for all industries, not just the financial services sector

APPENDIX: FACT BASE SOURCES

GLOSSARY OF TERMS

SECTORS	DEFINITION/SCOPE		
Sales and Trading	All secondary trading in cash and derivative products undertaken between wholesale banks and their clients		
Investment Banking	 Investment Banking services (Mergers & Acquisitions (M&A), Equity Capital Markets (ECM), Debt Capital Markets (DCM), Syndicated Lending and Advisory) to all clients, including Corporates 		
Retail and Business Banking	Deposit taking and lending activities (excluding syndicated lending) for individuals and businesses including credit cards and payments services, etc.		
Private Banking and Wealth Management	• Private banking and wealth management services, including banking, advice and tax planning, etc.		
BANKING			
ASSET MANAGEMENT	• Fund and portfolio management, including alternatives such as, Hedge Funds (HFs), Pension Funds (PFs) and Real Estate (RE), etc.		
Domestic Retail and Commercial	All retail individual insurance lines, including Life and General Insurance		
	Domestic commercial insurance lines, with limited international elements		
Corporate and Specialty	Specialty insurance lines for corporates and other clients, including public sector		
	Global, international and multinational insurance lines for corporates		
Reinsurance	Reinsurance across all clients		
INSURANCE & REINSURANCE			
Exchanges, Clearing & Inter-Dealer Broking	 All post-trade activities, including clearing, settlement, the listing of companies and other securities and their trading on UK market infrastructure 		
Securities Services	Full range of securities services, including custodian services and collateral management		
Technology, Data and Other	Full range of data, technology and credit rating agency services provided to the financial services sector, including FinTech		
MARKET INFRASTRUCTURE & OTHER			

REVENUES

SECTORS	ANNUAL REVENUES (£BN)/VOLUME (WHERE RELEVANT)	SOURCES (OLIVER WYMAN ANALYSIS APPLIED TO ENSURE CONSISTENCY ACROSS SEGMENTATION AND DEFINITIONS)
Sales and Trading	~30	 Oliver Wyman proprietary data and analysis (annual investment banking benchmarking)
Investment Banking	10-12	 "Investment and corporate banking market study", FCA, April 2016 Dealogic Oliver Wyman proprietary data and analysis: to adjust for significant industry shrinkage 2014-2015 and add syndicated lending
Retail and Business Banking	58-67	Company reportsOliver Wyman proprietary data and analysis (annual retail banking profit pools)
Private Banking and Wealth Management	5-6	 "Key Statistics 2015" Wealth Management Association "A Wealth of Opportunities Private banking and wealth management in the UK: Economic impact, the view of the investors and latest trends" 2014, BBA, WAM, ComPeer, Oxford Economics
BANKING	108-117	
ASSET MANAGEMENT (REV/AUM)	20-23/~7TN	 "Asset Management in the UK 2014-2015", The Investment Association (IA) Annual Survey, September 2015 "Asset Management in Europe", 8th Annual Review, European Fund & Asset Management Association (EFAMA), April 2015 Oliver Wyman proprietary data analysis for remaining data points: year-on-year growth from 2013/14 data provided by EFAMA and IA; AuM not included in this perimeter; Oliver Wyman margin assumptions
Domestic Retail and Commercial (GDP¹/GWP)	27-29/150-155	Revenue not meaningful for insurance – an estimate of GDP is used as proxy to allow for addition between sectors
Corporate and Specialty (GDP¹/GWP)	8-10/50-53	 Association of British Insurers (ABI) Key Facts 2015 LMG Fact Book 2014 Oliver Wyman analysis for splits between activities and to remove duplication
Reinsurance (GDP¹/GWP)	2-4/16-18	Total UK "Corporate and Speciality" and "Reinsurance" figures include LMG £45BN GWP, of which Lloyds is £26BN GWP, £19BN GWP is company markets and a further £24BN is not written in London
INSURANCE & REINSURANCE (GDP¹/GWP)	39-42/215-225	
Exchanges, Clearing & Inter-Dealer Broking	3-4	Company reports; Oliver Wyman proprietary data and analysis
Securities Services	3-4	Company reports; Oliver Wyman proprietary data and analysis
Technology, Data and Other ²	16-20	Company reports; Oliver Wyman proprietary data and analysis
MARKET INFRASTRUCTURE & OTHER ²	22-26	
TOTAL FINANCIAL SERVICES	190-205	

^{1.} For insurance, we use an estimate of GDP as revenues as opposed to GWP to ensure a more accurate comparison of economic contribution with other sectors

Sources: As outlined, Oliver Wyman analysis to ensure consistency across segmentation and definitions

^{2.} Includes a full range of technology, credit rating agency, payment and data services that may not be traditionally counted as financial services, but are increasingly central to the financial service sector and value generation

GVA

SECTORS	ANNUAL GVA ² (£BN)	SOURCES (OLIVER WYMAN ANALYSIS APPLIED TO ENSURE CONSISTENCY ACROSS SEGMENTATION AND DEFINITIONS)
Sales and Trading	13-16	Company reports
		 Oliver Wyman proprietary data and analysis (annual investment banking benchmarking); calculation of GVA from revenue and non-employment costs
Investment Banking	5-7	 "Investment and corporate banking market study", FCA, April 2016
		Company reports
		Dealogic
		 Oliver Wyman proprietary data and analysis (annual investment banking benchmarking); calculation of GVA from revenue and non-employment costs
Retail and Business Banking	35-39	 "BBA UK banking industry structure 2014", BBA, August 2014
		 Oliver Wyman proprietary data and analysis (annual retail banking profit pools); calculation of GVA from revenue and non-employment costs
Private Banking and	3-4	"Key Statistics 2015" Wealth Management Association
Wealth Management		 "A Wealth of Opportunities Private banking and wealth management in the UK: Economic impact, the view of the investors and latest trends" 2014, BBA, WAM, ComPeer, Oxford Economics
		 Oliver Wyman proprietary data and analysis (annual retail banking profit pools); calculation of GVA from revenue and non-employment costs
BANKING	55-61	
ASSET MANAGEMENT	14-18	 "Asset Management in the UK 2014-2015", The Investment Association Annual Survey, September 2015
		• "Asset Management in Europe", 8 th Annual Review, EFAMA, April 2015
		Company reports
		 Oliver Wyman proprietary data and analysis; calculation of GVA from profit margins, revenue, non-employment costs
Domestic Retail and Commercial	21-23	ABI Key Facts 2015 and ABI statistical services
		ONS GDP(O) low level aggregates
		Oliver Wyman analysis to remove duplication with LMG data
Corporate and Specialty	7-9	ONS GDP(O) low level aggregates
Reinsurance	2-3	Oliver Wyman analysis for splits between activities and to remove duplication with ABI data
INSURANCE & REINSURANCE	30-33	
Exchanges, Clearing & Inter-Dealer Broking	2-3	Company reports; Oliver Wyman proprietary data and analysis
Securities Services	2-3	Company reports; Oliver Wyman proprietary data and analysis
Technology, Data and Other ¹	13-15	Company reports; Oliver Wyman proprietary data and analysis
MARKET INFRASTRUCTURE & OTHER ¹	16-20	
TOTAL FINANCIAL SERVICES	120-125	

^{1.} Includes a full range of technology, credit rating agency, payment and data services that may not be traditionally counted as financial services, but are increasingly central to the financial service sector and value generation

Sources: As outlined, Oliver Wyman analysis to ensure consistency across segmentation and definitions

^{2.} GVA is extracted directly from "ONS GDP(O) low level aggregates" database where this is sourced (including Insurance). The ONS define GVA as a measure of contribution to the economy of each individual producer, industry or sector in the United Kingdom. The GVA generated by any unit engaged in product activity can be calculated as the residual of the units' total output less intermediate consumption (that is, goods and services used up in the process of producing the output), or as the sum of the factor incomes generated by the production process. For sector specific breakdowns not provided by the ONS GVA is calculated as revenue minus non-employment costs

TAX

SECTORS	ANNUALTAX ² (£BN)	SOURCES (OLIVER WYMAN ANALYSIS APPLIED TO ENSURE CONSISTENCY ACROSS SEGMENTATION AND DEFINITIONS)
Sales and Trading	7-9	 "Total tax contribution of the UK banking sector", PwC, September 2015
		Company reports
		 Oliver Wyman proprietary data and analysis (annual investment banking benchmarking); calculation of tax from HMRC tax rates, employment costs and employment numbers
Investment Banking	3-4	 "Total tax contribution of the UK banking sector", PwC, September 2015
		Company reports
		 Oliver Wyman proprietary data and analysis (annual investment banking benchmarking); calculation of tax from HMRC tax rates, employment costs and employment numbers
Retail and Business Banking	17-19	"UK banking seminar 2015", Credit Suisse, 2015
		• "Total tax contribution of the UK banking sector, 2015", PwC, September 2015
		Company reports
		 Oliver Wyman proprietary data and analysis (annual retail banking profit pools); calculation of tax from HM Revenue and Customs (HMRC) tax rates, employment costs and employment numbers
Private Banking and	1-2	"Key Statistics 2015" Wealth Management Association
Wealth Management		 "A Wealth of Opportunities Private banking and wealth management in the UK: Economic impact, the view of the investors and latest trends" 2014, BBA, WAM, ComPeer, Oxford Economics
		 Oliver Wyman proprietary data and analysis (annual retail banking profit pools): calculation of tax from HMRC tax rates, employment costs and employment numbers
BANKING	29-33	
ASSET MANAGEMENT	5-7	 "Asset Management in the UK 2014-2015", The Investment Association Annual Survey, September 2015
		• "Asset Management in Europe", 8 th Annual Review, EFAMA, April 2015
		"The UK investment management strategy", HM Treasury, March 2013
		 "UK Fund Management – An attractive proposition for international funds", TheCityUK, September 2015
		"Fund Management in the UK", UK Trade and Investment (UKT&I), January 2015
		 Oliver Wyman proprietary data and analysis; calculation of tax from HMRC tax rates, employment costs and employment numbers
Domestic Retail and Commercial	9-10	ABI Key Facts 2015 and ABI statistical services
		 Oliver Wyman proprietary data and analysis; for splits between activities and to remove duplication
Corporate and Specialty	3-4	• LMG Fact Book 2014
0.		Company reports
Reinsurance	1-2	 Oliver Wyman proprietary data and analysis; for splits between activities and to remove duplication
INSURANCE & REINSURANCE	13-15	
Exchanges, Clearing & Inter-Dealer Broking	1-3	Company reports; Oliver Wyman proprietary data and analysis
Securities Services	~1	Company reports; Oliver Wyman proprietary data and analysis
Technology, Data and Other ¹	6-8	Company reports; Oliver Wyman proprietary data and analysis
MARKET INFRASTRUCTURE & OTHER ¹	9-11	
TOTAL FINANCIAL SERVICES	60-67	 "Total tax contribution of UK financial services eight edition", PwC, December 2015 Oliver Wyman estimation; based on proprietary data and ONS GDP(O) low level aggregates data

^{1.} Includes a full range of technology, credit rating agency, payment and data services that may not be traditionally counted as financial services, but are increasingly central to the financial service sector and value generation

^{2.} Tax collected and tax borne (including employment tax, national insurance, income tax, irrecoverable Value Added Tax (VAT), bank levy, other taxes borne and collected) Sources: As outlined, Oliver Wyman analysis to ensure consistency across segmentation and definitions

EMPLOYMENT

SECTORS	EMPLOYMENT ('000)	SOURCES (OLIVER WYMAN ANALYSIS APPLIED TO ENSURE CONSISTENCY ACROSS SEGMENTATION AND DEFINITIONS)
Sales and Trading	55-65	Includes ONS Subclasses: 64910 Financial leasing; 64991 Security dealing on own
Investment Banking	~15	account; 64999 Financial intermediation not elsewhere classified
		 Includes ~30K from ONS Class: 661 Activities auxiliary to financial services except insurance and pension funding
		 Oliver Wyman proprietary data and analysis (annual investment banking benchmarking); to split this total across sales and trading and investment banking
		 Reconciliation to 120K in the BBA report "Winning the global race", which includes ~50K corporate banking and securities services employees we have redistributed to the Retail and Business Banking and Securities services lines, but excludes Northern Ireland (we include)
Retail and Business Banking	450-470	 Includes ONS Subclasses: 64191 Banks; 64192 Building societies; 64921 Credit granting by non-deposit taking finance houses and other specialist consumer credit grantors; 64922 Activities of mortgage finance companies; 64929 Other credit granting not elsewhere classified; 64992 Factoring
		 Includes 20-40K from ONS Class: 661 Activities auxiliary to financial services except insurance and pension funding
		 Excludes ~15K from ONS Subclass: 64191 Banks due to private wealth banking, which is included in the Private Banking and Wealth Management line
		 Reconciliation to 250K in the BBA report "Winning the global race", which excludes ~150K of Mortgage financing, Credit granting, Corporate banking, and Auxiliary activities, and Northern Ireland (we include)
Private Banking and Wealth Management	21-26	"Key Statistics 2015" Wealth Management Association
		 "A Wealth of Opportunities Private banking and wealth management in the UK: Economic impact, the view of the investors and latest trends" 2014, BBA, WAM, ComPeer, Oxford Economics
		• Includes ~15K from ONS Subclass 64191 Banks due to Private Wealth Banking
		 Includes 5-10K from ONS Class 643 Trust funds and similar financial entities; 66300 Fund management activities
BANKING	540-565	
ASSET MANAGEMENT	40-50	 Includes ONS Class 643 Trusts funds and similar financial entities; 66300 Fund management activities
		 Excludes 5-10K from the above classes, which is included in the Private Banking and Wealth Management line
Domestic Retail and Commercial	260-290	ONS Business Register and Employment Survey 2015 – 313K
		ONS Annual Population Survey 2014 – 337K
Corporate and Specialty	43-46	 Including ONS Division 65 Insurance; reinsurance and pension funding: except compulsory social security
		Including ONS Class 662 Activities auxiliary to insurance and pension funding
		ABI Key Facts 2015 – 334K for the total industry
Reinsurance	~5	 LMG Fact Book 2014 – 50K for the London Market Group members Oliver Wyman analysis to triangulate across data sources – range across all three used
INSURANCE & REINSURANCE	310-335	ance used
Exchanges, Clearing &	10-12	Includes ONS Class 661 Activities auxiliary to financial services except insurance
Inter-Dealer Broking	10-12	and pension funding (minus portions split across banking)
Securities Services	30-40	Company reports; Oliver Wyman proprietary data and analysis to split across categories within Market Infrastructure & other sector, and to include additional data and technology pieces not included in the ONS Section K Financial Services
Technology, Data and Other ¹	80-90	Broad range applied due to lack of publically available data on this sector and intransparency across some ONS definitions
MARKET INFRASTRUCTURE & OTHER ¹	120-140	
TOTAL FINANCIAL SERVICES	~1,050	

^{1.} Includes a full range of technology, credit rating agency, payment and data services that may not be traditionally counted as financial services, but are increasingly central to the financial service sector and value generation

Sources: As outlined, Oliver Wyman analysis to ensure consistency across segmentation and definitions

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