www.pwc.com

Planning for Brexit

Operational impacts on wholesale banking and capital markets in Europe

Association for Financial Markets in Europe

January 2017

pwc

Contents

Important notice

Important message to readers who are not addressees

By reading this report you accept and agree to the following terms:

1. The reader of this report understands that the work performed by PricewaterhouseCoopers LLP was performed in accordance with instructions provided by our addressee client and was performed exclusively for our addressee client's sole benefit and use.
2. The reader of this report acknowledges that this report was prepared at the direction of our addressee client and may not include all procedures deemed necessary for the purposes of the reader.
3. The reader agrees that none of PricewaterhouseCoopers LLP, the Association for Financial Markets in Europe (AFME), their partners, principals, employees and agents owe nor accept any duty or responsibility to it, whether in contract or in tort (including without limitation, negligence and breach of statutory duty), and shall not be liable in respect of any loss, damage or expense of whatsoever nature which is caused by any use the reader may choose to make of this report, or which is otherwise consequent upon the gaining of access to the report by the reader. Further, the reader agrees that this report is not to be referred to or quoted, in whole or in part, in any prospectus, registration statement, offering circular, public filing, loan, other agreement or document and not to distribute the report without PricewaterhouseCoopers LLP's prior written consent.
4. Your receipt of this report is subject to paragraphs 3, 4, 5, 9, 10, 11 and 13 of the Terms of Use which are applicable to AFME's website (available at http://www.afme.eu/en/about-us/terms-conditions/) and, for the purposes of such Terms of Use, this report shall be considered a "Material" (regardless of whether you have received or accessed it via AFME's website or otherwise).

Executive summary

This report concludes that:

- *Brexit presents clear challenges to the EU banking industry and the uninterrupted supply of banking services around the EU.*
- *Brexit is likely to result in a significant transformation activity as banks, clients, market infrastructure and regulators simultaneously carry out their plans to prepare for the UK's departure from the EU.*
- *While banks are planning to take steps during the 2 year withdrawal period to minimise the impact of a 'hard Brexit' on the provision of client services and disruption to the market, these are interim mitigating measures and will not fully replicate the current ability of banks to service clients based on current access across the single market. During this period banks will need to work closely with regulators to agree a pragmatic approach to facilitate the required structural transformation within a compressed timetable.*
- *Once the terms of the permanent relationship between the UK and EU are known, banks will need further time to put in place strategic solutions to comprehensively service clients in the long term and to facilitate an orderly transition.*
- *Given the complexity and scale of the changes required, a transition period of 3 years would be needed to give banks (as well as other industry participants) time to transition to the new permanent arrangement.*

The UK leaving the EU ('Brexit') comes at a challenging time for the EU banking industry. It is still recovering from the financial crisis with ongoing restructuring work. This means that the potential upheavals that could result from Brexit further compounds the challenges faced by the whole banking industry and its stakeholders.

The Association of Financial Markets in Europe ('AFME') commissioned PwC to develop an impact assessment which can be used to inform policy makers and other stakeholders about the operational impacts and transformation challenges that Brexit poses to the provision of banking services in the EU. The objective of the study is to provide a granular view of the operational consequences of future UK-EU27 market access scenarios, with particular focus on a 'hard Brexit' scenario.

To inform this study, we gathered information on Brexit planning from 15 banks that span a range of sizes, activities, origins and legal entity structures. They include banks headquartered in the EU27, the UK and non-EU countries in broadly even measure. This diversity was important so that we could obtain representative impacts from across the EU banking sector. This report presents our findings.

European financial markets are dependent upon cross-border activity, which is at risk from Brexit

The development of market access arrangements (including passporting) across the EU has facilitated a growth in cross-border trade in financial services. Exports of financial services from one EU country to another (intra-EU exports) reached €96.6bn by 2014. EU financial services exports account for 39% of total EU financial services gross value added (GVA) – 22% is trade within the EU and 17% is trade outside the EU. The UK is heavily involved in these intra-EU trade flows of financial services. For example, 78% of European FX trading, 74% of European interest rate derivatives trading and 50% of European fund management activities (by assets) takes place in the UK.

This growth in cross-border trade has enabled greater specialisation, productivity and depth across the EU's wholesale banking and capital markets, which in turn has contributed to reducing the cost of, and improving access to, financial services across the EU. The severing of existing market access arrangements would force banks with cross-border activity to reorganise their activities in order to preserve service provision to their existing clients.

Banks have to plan for a 'hard Brexit'

The Brexit timescale is dominated by the requirement to complete negotiations within 2 years from the invocation of Article 50 of the Lisbon treaty (unless all member states agree to an extension). This 2-year timeframe is dominating banks' Brexit planning. While there are a wide range of potential outcomes from the Brexit negotiations, banks are focussing their planning efforts on a 'hard Brexit' scenario. Banks cannot assume in their planning that the current market access arrangement would continue as before, because should a hard Brexit scenario unfold, they would be at risk of regulatory breach and significant business disruption.

Banks are grappling with a complex array of concurrent regulatory reforms which overlap the Brexit timetable

There are critical implementation deadlines around MiFID II (January 2018) and for UK banks, the main provisions of the UK Financial Services Banking Reform Act (January 2019). The recently announced CRD V/CRRII and resolution package of reforms (which includes in the CRD a requirement for non-EU banks of a certain size and with two or more subsidiaries in the EU to have an Intermediate Holding Company, or IHC) is also expected to be implemented around 2019-2021 and beyond, although these have not yet been fully determined. In addition, there are many other ongoing regulatory change programmes including those involving TLAC issuance that banks will need to implement over the next few years. These implementation dates overlap with the timeframe for Brexit implementation, assuming that Article 50 is invoked at the end of Q1 2017. This overlap increases critical dependencies across different programmes of work (e.g. where technology solutions are required for both regulatory and Brexit purposes), as well as the risk of not meeting deadlines and thus causing service disruption.

Bank transformation programmes are complex, lengthy and resource-intensive

Banking transformation programmes are notoriously complex and some structural change programmes delivered to date have taken 4 years or more. This is because banks are systemically important to the global financial system, and it is critical that they continue to operate without errors or disruption to support financial stability and meet the expectations of customers, regulators, and other stakeholders. The reasons for lengthy implementation timelines include the complex nature of products/services provided, the need to make granular changes to technology coding and the heavily regulated environment, all of which affect client interactions. We have gathered 8 case studies of banking transformation programmes in recent years that have taken longer than 2 years, and some are over 4 years. These programmes typically cost many hundreds of millions of pounds and divert valuable resources away from business development and innovation, as non-discretionary investment and change dominate the agenda, senior management's time, and the focus of subject matter experts.

Brexit transformation programmes will be further challenged because change will impact all market participants in the same period

All market participants will be seeking to respond to Brexit during the same time window. These participants include not only other banks, but also providers of market infrastructure, other financial services institutions, regulators and banks' customers. This is expected to increase the complexity of the change required as banks will seek to change their interactions with other organisations, which are themselves changing. It could also result in constraints in the availability of the resources which banks will rely on across Europe (such as staff with the required skills and experience, suppliers of professional services, and regulator capacity) in responding to Brexit. This means that any planning timelines need to be constructed to allow additional lead times (as prior experience won't account for this effect).

Brexit transformation programmes have to manage uncertainty which will continue throughout the withdrawal process

For a normal regulatory change programme, the requirements are published by regulators and banks then have a window of time (often years) in which to implement them. In contrast, the terms of the UK's withdrawal from the EU will be negotiated in the period following the invocation of Article 50, with exit occurring when the withdrawal agreement comes into force or (in the absence of agreement) when the negotiation period expires. Banks will therefore need to implement their response to Brexit while the terms of withdrawal are still under negotiation, and at the same time, comply with other ongoing regulatory developments (including for certain non-EU banking groups, the IHC requirement in CRD V). This, by necessity, requires banks to make assumptions about the likely result of Brexit negotiations and regulatory reactions to post-Brexit organisational arrangements. Once the details of the final arrangement are known and there is greater certainty about the future relationship between the UK and EU, banks will need time to make additional changes to fully adjust to the new landscape.

Brexit transformation programmes involve a broad range of activities

Some (non-Brexit) banking transformation programmes involve merely a subset of products, or processes. However, adapting to the post-Brexit landscape potentially requires a wide range of interacting transformation activities. These range from restructuring legal entities, designing new ways of operating and transacting, gaining regulatory approvals, connecting to new market infrastructure providers (such as exchanges and central clearing facilities who themselves may be undergoing a similar transformation process), moving staff into new premises and drawing up new contractual arrangements with suppliers and clients. Whereas every activity has the potential to be substantial, individually they are likely to be manageable. However, any Brexit programme which needs to combine multiple activities will face the inevitable coordination challenges of combining and managing a complex programme within a tight timeframe.

Brexit transformation programmes vary considerably across banks. Some banks' implementation programmes are achievable within 2 years, but others would ordinarily require at least 4 years to implement a realistically planned transformation programme

We have found considerable variation in the required scope and scale of transformation activities required across different banks in our study. This is driven by banks' legal entity structure, European footprint and customers served. It is therefore helpful to consider Brexit transformation planning for different categories of banks rather than consider the likely impacts for a typical or average bank. Banks can be grouped into three categories:

- **Banks predominantly using a hub** (which can be either in a EU27 country or in the UK, but is typically the UK) as a basis to serve clients across the EU. Such banks face the greatest structural and associated operational challenges. For them a realistically planned Brexit transformation programme would take at least 4 years.
- **Banks with pan-European structures** (typically banks that have wholesale banking and capital markets activities and staff spread across legal entities located around the UK and the EU27) are better placed. They will still need to undertake considerable transformation activities in relation to their EU27/UK activities, but should be able to implement the necessary changes within the 2-year timeframe.
- **Domestically-focussed banks** who require continued access to UK and EU27 markets don't face the same scale of challenge as do banks predominantly using a hub structure. However, they nevertheless have a complex transformation task ahead. By virtue of the reduced scale of transformation activities required, a properly planed Brexit transformation programme could be completed in 2 to 3 years.

In Figure 1, at the end of this summary, we set out the realistically planned Brexit transformation programmes for these three categories of bank. This figure divides the transformation programme into 25 separate activities and demonstrates the breadth and timeframe required to undertake an orderly transition to post-Brexit market access arrangements.

Banks predominantly using a hub and some domestically-focussed banks will have to develop mitigating strategies to contend with a 2-year implementation timeframe in order to limit impacts on clients. This will involve making assumptions around likely Brexit outcomes and regulatory decisions

All the banks in our study are very focussed on maintaining existing client services with a transformation programme taking place within the 2-year timeframe set by the Brexit negotiations. This will require making a number of assumptions, taking mitigating steps and accepting short-term choices that don't represent their desired end-state way of operating.

Banks are accelerating their readiness for Brexit by starting early with 'no regrets' activities (such as retaining legal entities and premises which would not have otherwise been required). Within individual areas of transformation plans, there are a number of options for accelerating completion. Many of these are based on identifying where banks can use what they already have in place and minimising the extent of change required (e.g. moving the minimum amount of staff, at least initially). Some banks are also considering migration to a short-term or transitional way of operating in order to be ready for Brexit, then transforming further after the point of Brexit to achieve their chosen long-term preferred way of operating in a post-Brexit environment. Their plans are therefore dependent upon regulatory approvals for transitional operating arrangements. Such a two-step process necessarily compounds some of the challenges already noted such as risks from acceleration and diversion of activity from business development and innovation.

Accelerating Brexit transformation programmes increases the risk of delays, detrimental client impacts and higher end costs.

Banks are planning to take steps during the 2-year time frame to maintain client services to the greatest extent possible to mitigate the impact of Brexit on clients during this immediate period. However it is clear that this will only be an interim solution and may not be a complete or sustainable long-term solution. Banks will need further time in order to implement their long-term operational arrangements once the final terms of the negotiated outcome are known. Limiting the time available for testing, or for contingencies, risks unexpected problems which will require costly resolution and could have a knock-on effect on the rest of the programme. The hard deadline means Brexit programmes will take priority over other transformation programmes, with potential consequences for their delivery timelines. Finally, some activities are dependent upon input from customers and other external parties, so the timing of these activities are not fully within the control of the bank itself. Accelerating these interactions could result in activities not being completed as scheduled, causing detrimental impacts on customers and ultimately, the risk of not being able to provide compliant services.

Regulators can support the transition by providing as much clarity as possible

A big driver of the timeframe for implementing Brexit changes is banks obtaining the necessary clarity on likely Brexit outcomes, through discussions with regulators. Where there is uncertainty and ambiguity, banks are required to make assumptions and plan based on the available information. This is likely to lead to an inefficient transition, such as duplicated costs and potentially avoidable disruptions. Some degree of uncertainty is inevitable. However, the banking industry will be better placed to support the EU economy if regulators can reduce the uncertainty around the outcome of Brexit negotiations. A number of examples include:

- Providing regulatory leadership and collaboration across Europe in order to signal a consistent position on overarching themes in relation to Brexit (e.g. resources devoted to licence approvals).
- Indicating, in bilateral discussions with banks, the positions regulators will take around how individual banks will be able to operate across borders in the case of a 'hard Brexit'.
- Clarity on how equivalence provisions in existing and new regulations will be applied on the date when the UK becomes a third country.

There is a need for early agreement or signalling of legally binding grandfathering rights for trades and contracts which are executed prior to Brexit, but mature after the point of Brexit.

Appropriate grandfathering rights make the scale of transformation programmes substantially smaller than if there are no such rights. This is because new or up-scaled operations can be more focussed on new and ongoing business activities rather than dealing with migrated trades and contracts. Ultimately clients which require ongoing relationships with new banking legal entities will have to be transitioned to those new entities, but the ability to grandfather existing trades and contracts means both banks and customers do not have to put in place new arrangements for existing trades and contracts. This would avoid wasting resources on existing financing arrangements and instead means customers can devote resources to new financing activities.

A transition period of 3 years would assist transition to a post-Brexit trading environment in an orderly manner

The Brexit negotiation between the EU and the UK government will cover a wide range of potential areas concerning trade, migration, regulation and future cooperation. While the financial services sector is only one part of the economy, it has a clear interest in maintaining market access arrangements as close to those currently available. The purpose of this study is not to make suggestions on political trade-offs in any Brexit deal. However, regardless of any deal struck, this study does suggest there are strong grounds for a transition period to implement the necessary changes.

Our analysis of the activities required by different types of banks suggests that a transition period of 3 years following the date at which there is certainty about the future UK-EU27 market access arrangements (which may be at the point when the UK exits the EU) is required for every bank to implement their required changes. During this transition period, existing market arrangements would need to be maintained to provide certainty and stability to industry participants as they prepare to adjust their operations to the final permanent relationship. Not all types of banks require this time, but it will be beneficial to the whole sector to be able to transition on a more manageable timescale, being mindful that all financial market participants will be transitioning at the same time and those market participants which need the most time are some of the largest contributors to the cross-border provision of financial services.

A 3-year transition period assumes that those banks requiring it are able to make significant progress during the 2 years following the triggering of Article 50. However, this requires early agreement on transitional arrangements in order for banks to transition in an orderly way.

Accelerated transition plans are dependent upon banks working closely with regulators to agree a pragmatic approach

It is highly likely that banks will have different structural and operating solutions to meeting the challenge of operating in a post-Brexit environment. This means it would be unhelpful to prescribe a narrow set of permissible ways of operating; rather we suggest it is necessary for banks to work closely with regulators to agree a pragmatic approach to the new structures and ways banks propose to operate. This is particularly important in meeting the challenge of the 2-year Brexit timeframe especially given that political negotiations and outcomes will still be unclear during those 2 years.

Risk models typically undergo extensive development and review as part of obtaining licences. One example of regulatory pragmatism would be to allow the use of prior regulator-approved risk models (i.e. one EU regulator relying upon the approval of another EU regulator). Following this, the ECB and national regulators could consider how to update the approval model for the longer-term.

Timely completion of licence approvals is critical to meeting Brexit timelines

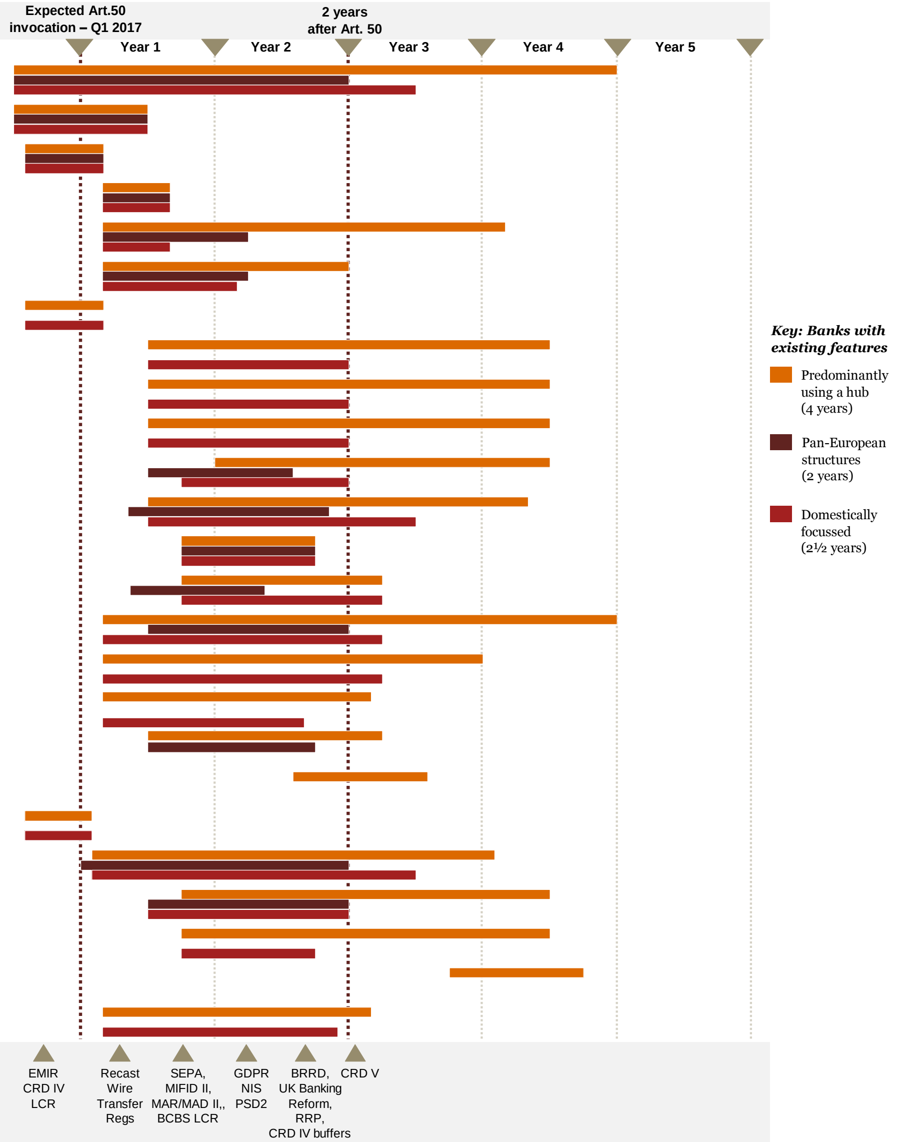
Most of the banks included in our study will require fresh regulatory approvals even when continuing their existing activities (because the basis of regulation will change following Brexit). The approval process can be lengthy (sometimes this has taken over a year) and regulators will face a peak of approvals related-activity following the invocation of Article 50. As obtaining necessary approvals is a necessary step to further implementation it is critical that this step is completed in a timely manner. Granting provisional licences on a timely basis will also enable the continued implementation of a Brexit programme, while remaining regulatory concerns are addressed.

Figure 1: Realistically planned Brexit transformations for different types of bank

Brexit timeline

Phase	Activity	Description
Programme management	Planning and managing overall response to Brexit	Assess scenarios to consider, select options for the overall approach to Brexit, develop a programme of activities, undertake ongoing programme management
Operations: Operating model	Designing the new operating model	Design the way in which the bank will do business after Brexit, including locations, processes/activities, people, technology, and management structures.
Legal entity and organisation structure	Designing the legal entity structure	Identify the jurisdictions in which the bank wishes to establish a legal presence, and design an appropriate structure of subsidiaries and branches.
	Establishing new legal entities	Undertake the legal and administrative activities required to set up new legal entities (e.g. subsidiaries) based on the planned legal entity structure.
	Restructuring legal entities	Implement the new legal entity structure, including transfer of assets and liabilities between entities
Regulation and licensing	Obtaining required regulatory approvals	Identify regulatory approvals required, submit applications for approvals and additional information requested, and manage process to completion.
Operations: Booking model	Designing booking models	Design how transactions are allocated to trading books and legal entities, and how risk is managed.
Operations: Updating processes	Changing middle and back office processes	Design updated middle and back office processes, including risk management, based on the new operating model including changes to sales and trading
	Expanding finance, governance and group processes	Update finance/governance/group processes (e.g. HR) based on new operating model and any need for activities to be performed locally in new locations
	Updating collateral management processes	Update collateral management processes following changes in the legal entities, or the collateral to be posted (e.g. if the new entity has a different credit rating)
	Changing sales and trading activity	Update sales and trading activities, including processes and controls, sales and trading relationships, and interactions with middle/back office.
Operations: Clients	Undertaking client management activities	Manage clients, including repapering clients and handling open trades following legal entity changes, and winding down/migrating clients where relevant
Operations: Market infrastructure	Maintaining access to market infrastructure, including clearing	Maintain access to market infrastructure (e.g. clearing, exchanges, payment systems), including meeting legal/regulatory requirements and planning IT
Technology	Re-engineering technology infrastructure	Design and implement changes to technology infrastructure, including changes required for market infrastructure access and for new premises
	Updating software and applications	Design and implement changes to software and applications to support the new operating model (e.g. changes in processes, controls, and reporting)
	Updating the approach to data residency	Identify data requirements under the new operating model, and ensure that these remain compliant with data protection laws
Premises	Establishing operations in new locations	Identify suitable premises, arrange leases and insurance, set up the premises to support operations, and migrate equipment and infrastructure
	Expanding operations in existing locations	Where existing bank premises can be used, set up the premises to support operations, and migrate equipment and infrastructure
	Ceasing or downsizing existing locations	Manage premises which are no longer required, including disposal of surplus premises, vacating buildings, and managing legacy premises
People and staffing	HR planning	Understand local employment law, update people management processes, and establish awareness and compliance of legal requirements
	Retaining staff in existing locations	Identify staff affected by Brexit (e.g. changes in immigration rules), and plan and implement ongoing response required (e.g. sponsoring visa/work permits)
	Relocating staff	Identify staff affected by planned relocation, manage compliance with immigration rules, and manage relocation logistics
	Recruiting staff in new or expanded locations	Identify roles required, find candidates (e.g. advertising, recruitment agencies), and assess them (interviews, background checks)
	Downsizing of staff in existing locations	Identify staff affected, and manage downsizing processes in accordance with employment law (relating to, for example, staff consultation, notice periods)
Suppliers	Managing suppliers in response to operational change	Manage suppliers, including engaging new suppliers (e.g. in new locations), and terminating arrangements with existing suppliers.

Major regulation implementation deadlines



1. Introduction

Objective

The UK leaving the European Union ('Brexit') comes at a challenging time for the EU[1] banking industry, which is still grappling with an unprecedented level of regulatory change and subsequent implementation. This means that the potential upheavals that could result from Brexit further compounds the challenge faced by the whole banking industry and its stakeholders.

To date, most of the published work on the impact of Brexit has focussed on legal entity structures that will be required to overcome the potential loss of passporting and the advantages and disadvantages of various locations where banks may move activities, rather than taking a holistic look at the broader range of changes required by banks to continue to serve their corporate and investor clients across the UK and EU27. Consequently there has been, to date, no objective view of the changes required to banks' operational and technology infrastructure to enable them to continue to service clients.

The Association of Financial Markets in Europe ('AFME') commissioned PwC to develop an impact assessment which can be used to inform policy makers and other stakeholders about the operational impacts and transformation challenges that Brexit poses to the EU banking industry. The objective of the study is to provide a granular view of the operational consequences of future UK-EU27 trading scenarios and relationships.

Scope of the study

This study focusses on cross-border wholesale banking and capital markets activities for all asset classes in the EU. This includes corporate banking, transactional banking, primary and secondary markets businesses and advisory services. A number of EU banks have considerable retail and other financial activities and some of their Brexit decisions are being informed by this group perspective; however, this focus of this study is wholesale banking and capital markets activities.

This is because wholesale banking and capital markets are more cross-border in nature (compared to retail banking) and therefore potentially more exposed to the impacts of Brexit. There are also significant impacts across the wider European asset management and insurance markets, but this is beyond the scope of this study.

The scope of this study covers operational impacts. This is broadly interpreted to include impacts ranging from legal entity structuring, obtaining regulatory approvals, changing operational models, updating technology, and premises, as well as staff and supplier impacts. The focus of the study is on Brexit planning from the perspective of banks. It therefore does not include the planning requirements of supervisors or other market infrastructure providers (but we do incorporate important dependencies across all market participants).

This study does not cover balance sheet impacts areas such as the cost and impact of higher capital and liquidity requirements driven as a consequence of fragmentation (although these are likely to be important drivers of strategic and structural choices with consequential operational impacts).

Our approach

We contacted AFME's members for willing participants in this study. We gathered 15 banks who span a range of sizes, activities, origins and legal entity structures. They include banks headquartered in the EU27, the UK and non-EU countries in broadly even measure. In total the balance sheet size of the 15 banks totals €17tn[2]. This diversity was important so that we could obtain representative impacts across the EU banking sector.

[1] Throughout this report we use the term EU to denote the entire EU (including the UK) and EU27 to denote the EU after the UK has exited.

[2] Based on total assets recorded on the balance sheet in the most recent audited financial statements.

Our work was broken into four phases:

- **Phase 1: Gathering Brexit implementation plans**. We requested participating banks' current Brexit plans, drawing on readily available planning materials, rather than requesting any bespoke analysis for the purpose of this study.[3] Some of this information is confidential, so the results in this document have been aggregated to maintain confidentiality.
- **Phase 2: Interviews.** We interviewed banks about their Brexit plans. This allowed us to capture the key drivers of their plans and explore alternative scenarios, particular dependencies on regulatory and infrastructure decisions and individual challenges.
- **Phase 3: Aggregation and comparison.** We aggregated and compared the plans using a standardised 'taxonomy' of 25 discrete operational activities (further described in Chapter 4).
- **Phase 4: Validation.** We validated our findings with a number of market participants, and our own network of experts across different areas of operational impact.

We were supported throughout this project by a Working Group of participant banks. Our findings therefore reflect the data we have collected and assimilated. In some areas where banks' plans were not sufficiently detailed we have drawn upon our own experience of supporting banks with delivering large transformational programmes to obtain the required granularity of impacts.

Structure of this report

The rest of this report is structured as follows:

In **Chapter 2 ('Banking and the European Union')** we set out the important contextual aspects that position the role of banks and cross-border trade across the EU; how market access is facilitated across the EU and the particular challenges raised by Brexit.

In **Chapter 3 ('Bank transformation programmes')** we review what makes bank transformations complex, lengthy and costly. We also review case studies of recent transformations that are not Brexit related but help to explain what drives the length of transformation programmes.

In **Chapter 4 ('Components of a Brexit transformation programme')** we set out what is required to respond to Brexit, and the steps banks are currently taking. This chapter describes the full range of operational impacts, from legal entity restructuring to staff movements.

In **Chapter 5 ('How banks vary in their response')** we segment banks into 3 categories and show how the activities and timeframes required to respond to Brexit can vary considerably according to type of bank.

In **Chapter 6 ('Meeting the challenge of a compressed timeframe')** we focus on what can be done by banks in a compressed 2-year timeframe, as well as its potential consequences.

In **Chapter 7 ('The role of public authorities')** we suggest how public authorities can support the transition to post-Brexit trading environment, particularly in a compressed 2-year timeframe.

[3] Not all banks provided documented evidence because of the commercial sensitivity of their Brexit planning. For these banks we relied on interviews with their Brexit programme teams.

2. Banking and the European Union

Key points from this chapter:

- *The development of market access arrangements across the European Union has facilitated a growth in cross-border trade in financial services with both greater specialisation and capital market depth. This has contributed to reducing the cost of and improving access to financial services across the EU.*
- *The Brexit timescale is dominated by the requirement to complete negotiations within 2 years of invoking article 50 (unless all member states agree to an extension). This 2-year timeframe is dominating Brexit planning.*
- *While there are a wide range of potential outcomes from the Brexit negotiations, banks have to focus their planning efforts on a 'hard Brexit' scenario.*
- *Banks are already implementing a complex array of concurrent regulatory reforms which overlap with the Brexit timetable, which increases the likelihood of inefficiencies and the risk of not meeting deadlines.*

In this chapter, we set out important context for our assessment of the operational impact of Brexit on the European financial services sector. This covers:

- Current access arrangements for banking services across the EU;
- The process of the UK's exit from the EU;
- The potential scenarios for the UK's exit from the EU; and
- The concurrent regulatory reforms that overlap with the Brexit timeline.

Current access arrangements for banking services across the EU

A key objective of the EU is the creation of a 'Single Market' where goods and services can be traded freely across borders among EU Member States. At its heart are the four freedoms, i.e. the freedom of movement of goods, services, capital and labour within the Single Market area. As an EU member, the UK has benefitted from the free movement of capital and financial services (a subset of services more broadly) within the Single Market. Since the Maastricht Treaty came into force in 1993, this freedom has resulted in the lifting of restrictions on the movement of capital between EU Member States.

The development of the passporting regime in the 1990s, was also a major step towards establishing the single EU market in financial services, by removing barriers to the sale and purchase of financial services across borders. At a high level, the passporting regime has enabled banks and investment companies authorised in an EEA state to provide services to clients in other EEA states by exercising the right of establishment via a branch or to provide services across borders, without further authorisation requirements.

The passport regime covers banking services such as deposit-taking and lending, insurance (life, non-life), reinsurance, investment services, the management and offering of UCITS, alternative investment funds, payment services and electronic money.[4]

These passporting rights are covered in eight single market directives:[5]

- Capital Requirements Directive (CRD IV) (2013/36/EU);
- Solvency II Directive (2009/138/EC);
- Insurance Mediation Directive (2002/92/EC);
- Markets in Financial Instruments Directive (MiFID) (2004/39/EC);

[4] See TheCityUK (2014).
[5] Source: PRA – passporting, http://www.bankofengland.co.uk/pra/Pages/authorisations/passporting/default.aspx

- Undertaking Collective Investment Scheme (UCITS) Directive (85/611/EEC);
- Payment Services Directive (PSD) (2007/64/EC);
- Second Electronic Money Directive (2009/110/EC); and
- Alternative Investment Fund Managers Directive (AIFMD) (2011/61/EU).

The regime is underpinned by a system of mutual recognition of each Member States' prudential standards, combined with minimum EU standards. Further regulatory initiatives via the Financial Services Action Plan (FSAP) led to greater harmonisation of legal and institutional standards across markets, followed by subsequent initiatives to establish minimum conduct standards and consumer protection requirements.

Many UK and EU firms alike have benefited from the passporting regime. For example, more than 8,000 EU firms hold at least one 'inbound' passport, i.e. a passport issued by an EU Member State competent authority to a firm authorised in that state, which enables it to do business in the UK (as well as other Member States). Vice versa, around 5,500 UK-authorised firms have been issued with 'outbound' passports by the PRA and FCA that enable them to do business in one or more EU Member States.[6]

The passporting and mutual recognition regime has enabled banks to conduct their EU operations via branches from a single hub location, and avoid the substantial operational and balance sheet costs associated with operating local subsidiaries.[7] It also obviates the need to obtain separate authorisations from other Member States, which materially reduces the cost of regulatory compliance when operating across borders. Lastly, it has enabled banks and other financial institutions to locate their capital markets business in a hub, such as London, where they can take advantage of market infrastructure located in other Member States remotely, such as trading, clearing and settlement services.[8] This leads to specialisation and deeper market participation, higher liquidity and ultimately lower cost of financial service provision.[9]

Together, these freedoms have facilitated the cross-border flows of savings and investments within the EU, which have subsequently supported the development of capital markets, including for debt, equity, foreign exchange, derivatives and other financial instruments. Exports of financial services from one EU country to another (intra-EU exports) reached €96.6bn by 2014. EU financial services exports account for 39% of total EU financial services gross value added (GVA) - 22% is trade within the EU and 17% is trade outside the EU.[10]

The UK is heavily involved in these intra-EU trade flows of financial services. For example, 78% of European FX trading, 74% of European interest rate derivatives trading and 50% of European fund management activities (by assets) takes place in the UK.[11] Lending from UK-based banks to EU corporates amounted to €1.2 trillion as of 2016 Q2, which accounts for around 9% of total lending issued to EU residents. Around one-third of insurance premiums in the UK have been written by the UK branches or subsidiaries of EU-based insurers. Other specialisms have developed across the EU, for example asset management in Luxembourg and Dublin.

The ability to access the Single Market is one of the factors in attracting international banking institutions to establish their European headquarters in the UK. The branches and subsidiaries of banks headquartered outside the UK account for around one-third of total banking sector assets in the UK. More than 80% of 2014 foreign direct investment (FDI) inflows into the financial services sector originated from non-EEA states (including Switzerland), emphasising the importance of non-EU investment in the UK financial services

[6] Letter from Andrew Bailey, CEO of the FCA, to Andrew Tyrie, Chairman of the Treasury Select Committee, 17 August 2016.
[7] The distinction between a branch and subsidiary is non-trivial from a regulatory perspective, as subsidiaries are usually required to have their own staff, governance and risk management systems, as well as being required to meet local regulatory capital and liquidity requirements, with restrictions on intra-group capital fungibility.
[8] AFME and Clifford Chance (2016).
[9] The European Commission's work on Capital Markets Union is part founded on the principle that reducing barriers to cross-border capital flows reduces the cost of funding for both individuals and companies. See: http://europa.eu/rapid/press-release_IP-15-3800_en.htm
[10] Source: Eurostat
[11] Source: TheCityUK

sector.[12] The UK is also the main destination for global financial institutions to establish their capital markets hub in Europe: an analysis of 10 global financial institutions suggest that almost two-thirds of their Europe, Middle East and Africa (EMEA) capital markets revenues were generated in the UK.

EU corporates have likewise benefitted from access to the UK's capital markets – analysis of capital raising activity suggests that around two-thirds of debt and equity capital raised by EU corporates was facilitated by banks based in the UK (both UK headquartered and non-UK headquartered). Nearly two-thirds of global cross-border banking flows involve EU institutions, including UK banks, and intra-EU banking flows have also grown at a higher rate than other forms of cross-border bank lending.[13]

The UK's exit from the European Union

On the referendum on whether the UK should remain a member of, or leave, the EU on June 23rd 2016, the UK public voted to leave by 52% to 48%. The procedural next step for the UK to formalise its exit, is to notify the European Council of its intention to leave the EU, as set out in the provisions of Article 50 of the Treaty on the European Union. A withdrawal would then be negotiated between the EU and the UK. This agreement would then be approved by the European Council, after obtaining the consent of the European Parliament.

The EU treaties would then cease to apply from the date of the agreement, or failing that, within two years of the initial notice, as provided by Article 50. However, the negotiation period could go on for a longer period if there is unanimous agreement amongst the remaining 27 Member States to extend the negotiation period. Therefore in practice, there is considerable uncertainty around how long the formal exit process would last, and this would likely depend on political appetite on both sides to agree an extension to the negotiation process.

The UK government has announced that Article 50 will be triggered by the end of March 2017, which would start the clock on the UK and EU's formal exit negotiations, and, assuming that no extension is granted, the UK's exit from the EU could become effective as early as March 2019.

Scenarios and their impact on banks

Given the importance of the financial services sector to the UK, the level of access to the Single Market granted to financial services firms following the UK's exit from the EU, is likely to form an important aspect of the negotiations. The UK's exit from the EU could impact the UK's continued market access via the passport and system of mutual recognition that is based on the EU framework for mutual regulatory reliance. This would have an impact on the ability of banks authorised in the UK to offer products and services in a number of key areas for EU clients, including lending and deposit-taking, investment banking services, and derivatives used by clients to manage or hedge their risks.

There is a spectrum of potential outcomes for the UK's relationship with the EU, from a 'soft' to 'hard' Brexit with regard to the provision of financial services. A 'soft Brexit' would imply limited reductions in market access compared to the UK's current level of access to the Single Market, whereas a 'hard Brexit' would imply relatively low levels of market access. Four potential models within this spectrum are summarised below.

1. **EEA membership ('Soft Brexit')**
   - Under this exit arrangement, the UK could become a member of the EEA, which consists of all EU Member States, and three non-EU Member States – Norway, Liechtenstein and Iceland.
   - Such an option would pose limited disruption to firms, as the UK would largely retain access to the Single Market, and would therefore, maintain most of its economic and trading relations with the EU, including continued access to the passporting regime.
   - Joining the EEA is also likely to entail the continuation of freedom of movement of labour between the UK and the EU, which means that financial services firms in the UK could continue to hire skilled labour from the EU without being subject to quotas or visa restrictions, and British employees could continue to be deployed for EU-based assignments.

[12] Source: ONS FDI data. This figure includes FDI from Switzerland, which accounts for 10% of inward FDI to the UK financial services sector.
[13] Bank of England (2015).

- However, UK banks would nevertheless have to conform to EU regulations (and be deemed 'equivalent') with little influence over setting regulations, in order to retain passporting rights.

2. **A free trade agreement (FTA) that offers full passporting rights and equivalence for financial services**
    - A generous FTA that is negotiated between the EU and the UK could potentially see UK firms being offered full passporting rights across the breadth of financial services, which means that firms would be able to provide services that are currently (or in the near future) covered within the scope of existing third country passport regimes, but also services that are not covered by these regimes (e.g. lending and deposit-taking, payments, access to market infrastructure etc.).
    - Provisions on the freedom of movement in FTAs varies but would generally include provisions that facilitate the temporary movement of people for specific business purposes.
    - This option poses limited disruption to the current delivery of services.
    - Such an agreement is also likely to be underpinned by the principles of regulatory equivalence and reciprocal access to UK markets.

3. **Access to third country passports (where they currently exist)**
    - If the UK does not agree any access arrangements with the EU, either via EEA membership or by agreeing an FTA with the EU that covers financial services, it is likely that market access would be assessed on the basis of the EU's existing third country regimes.
    - This means that the UK could be granted 'third country' passports for certain services. For example, the introduction of the third country entity passport under the Markets in Financial Instruments Directive and Regulation (MiFID II/MiFIR) from 2018 would enable non-EU financial institutions to provide cross-border investment and asset management services within the scope of MiFID II to eligible counterparties and professional clients without having to establish a branch in the EU. Financial institutions may avail themselves to the third country passport as long as it is registered with the European Securities and Markets Authority (ESMA), which is subject to the UK having an equivalent and reciprocal regulatory regime.[14] As part of the Alternative Investment Fund Managers Directive (AIFMD), the European Commission is also contemplating extending the marketing passport to non-EU AIFMs.
    - Similarly, UK based central counterparties (CCPs) would also have to operate to the same standards as EU CCPs in order to obtain equivalence and therefore market access under EMIR. In March 2016, the European Commission granted CFTC-regulated US CCPs equivalence which means they can be recognised under the EMIR process and also obtain qualifying CCP (QCCP) status across the European Union under the Capital Requirements Regulation (CRR). This is a separate EU-US determination and would not automatically transfer to UK CCPs.
    - This option would still cause some disruption, because this would not cover core banking activities for which a third country entity passport is not currently envisaged. This includes lending and deposit-taking, payments and other regulated markets, as well as the sale and marketing of Undertakings for the Collective Investment in Transferable Securities (UCITS) funds.
    - Many of the EU's third country regimes that enable market access are conditioned on regulatory equivalence and reciprocal access to UK markets. Therefore, if the UK wishes to enable UK banks and investment companies to continue accessing EU markets, it would need to ensure that it has an equivalent regulatory environment to that of the EU's, without having any say over the latter.
    - Another disadvantage of this scenario is the uncertainty of the time required for an equivalence assessment as previous experience suggests this is likely to be a lengthy process. Equivalence could also be potentially be easily revoked on technical grounds and with limited notice. As such, no bank can rely on it for business continuity. This option does not preclude the need for a transition period, as it may

[14] The EU's third country regimes allow non-EU financial institutions to access the EU Single Market, on the condition that they are authorised in a country with an equivalent regulatory regime to the EU's and reciprocates in providing market access to EU financial institutions as well.

not be possible for the Commission to begin an equivalence assessment in the period prior to Day 1 of Brexit as the UK will not be considered a third country until it officially leaves the EU.

4. **No access to third country passports ('hard Brexit')**

- Under this arrangement, the UK would have highly limited access to the EU, as a result of losing their existing EU passports and not being given third country passports. This is the most disruptive outcome among the four potential models.
- Such an arrangement would mean that in order to continue providing services to EU clients, firms may have to establish a presence in the EU and be authorised by each Member State in which their clients are based. For example, a UK-based firm that wishes to continue lending to German corporates, through a subsidiary or fully authorised branch, would become subject to local licensing requirements and approvals to establish local operations in Germany.
- In the case of UK headquartered financial institutions who currently operate via branches in EU Member States, they may be required to convert their branches into subsidiaries (i.e. 'subsidiarise'), and/or face additional regulatory requirements by the host regulator in order to address local systemic risks, such as capital, liquidity and reporting requirements that currently apply to non-EU banking entities. The reverse applies to EU headquartered financial institutions seeking continued access to the UK markets.
- Alternatively, firms may choose to relocate their European headquarters from the UK to another EU Member State and become authorised by the competent authority in that Member State in order to retain their passport. In so doing, they are able to retain the benefits of operating across the EU from a single hub, which enables banks and other financial institutions to comply with one set of rules rather than one for every EU Member State in which they operate. However, this still requires a separate subsidiary for continued provision of financial services in the UK.

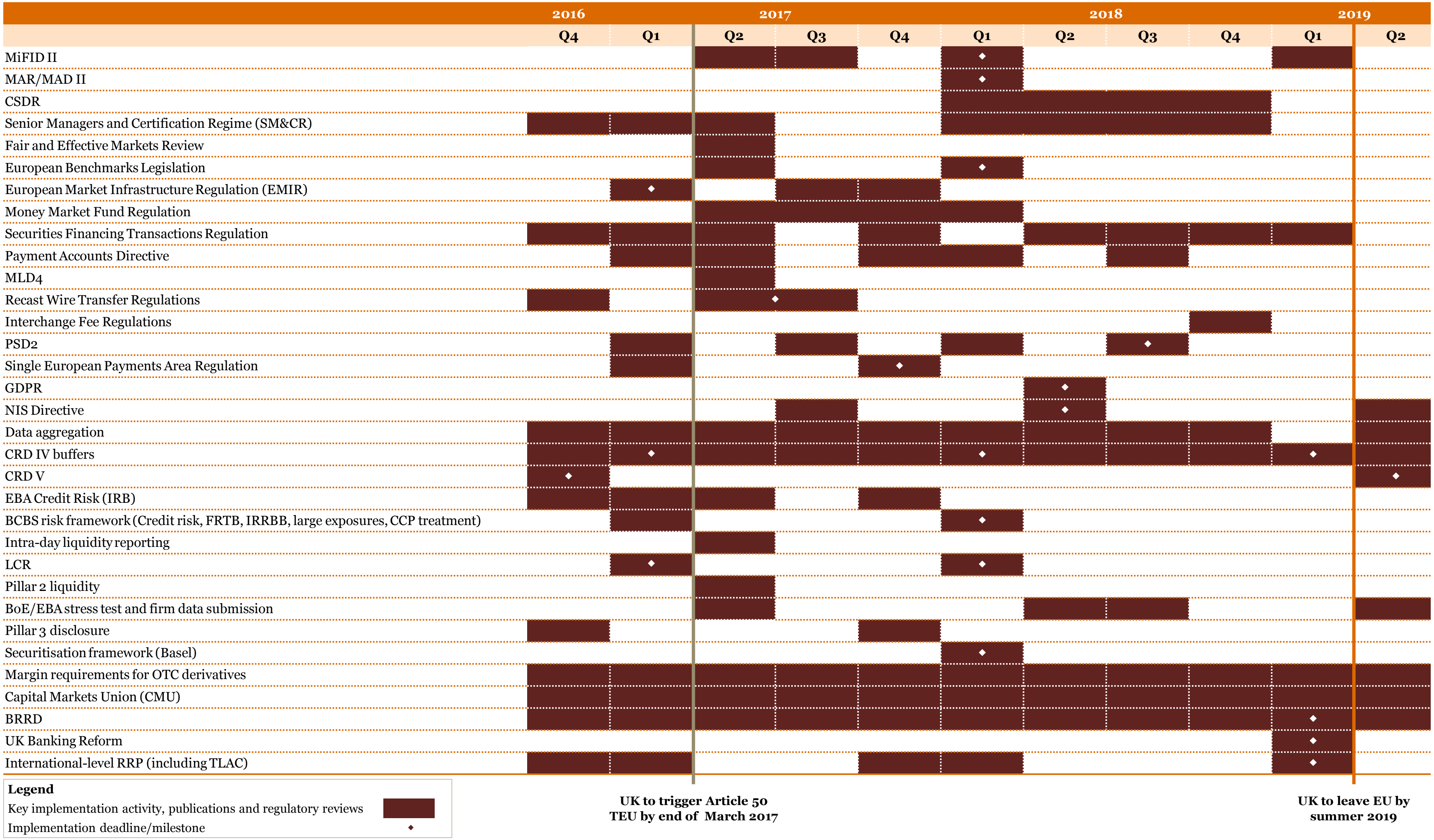
Concurrent regulatory reforms

The timing of the UK's exit negotiations with the EU and its likely eventual exit coincides with a raft of financial regulations that are expected to come into force over the 2017-2019 period. These include:

- **The implementation of MiFID II on 3rd January 2018**, which is anticipated to bring significant changes to market infrastructure by extending the range of financial instruments and investment services that are regulated in Europe, as well as introducing pre- and post-trade transparency requirements and trading obligations.
- The Commission's recent banking package includes **proposals to amend the BRRD and SRMR** to introduce an EU harmonised approach on bank creditors' insolvency ranking. It is proposed that the new rules will apply to all new debt issued after the date of application of the Directive. These changes are likely to take place following Brexit (assuming that this takes place in Q1 2019).
- The main provisions of the **UK Financial Services (Banking Reform Act)** 2013 come into force **from 1st January 2019**, including ringfencing requirements and depositor preference rules.
- **The recently announced package of proposed reforms in CRD V.** The CRD V/CRR II and the resolution package of proposals were published on 23 November 2016. CRD V implementation timelines are uncertain due to the political process and could require firms to implement the changes at any time between 2019 and 2021 and beyond. The reforms introduced by the proposed package include a number of Basel committee rules (e.g. notably leverage, NSFR, market risk rules, large exposures and interest rate risk in the banking book). The package also includes requirements for non-EU G-SIBs and other eligible credit institutions and investment firms with two or more subsidiaries in the EU to establish an EU parent entity, as well as changes to the Pillar 2 regime.

So banks now face the dual challenge of not only dealing with the pipeline of regulatory reforms over the next two years, but also potentially having to transition to a new operating model to adapt to the new post-Brexit market access arrangements. This diverts valuable resources away from business development and innovation, as non-discretionary investment and change dominate the agenda, senior management's time, and the focus of subject matter experts. The overlap of the reform timetable and the Brexit timeline is set out in Figure 2.2 below. This demonstrates the concentration of activity over the next few years.

Figure 2.2: Overlap of regulatory reform programme with Brexit timeline



Given that the UK's exit could be formalised as early as March 2019, it is unclear whether the UK would choose to remain compliant with these regulations if it has formally triggered Article 50. In principle, if the UK left the EU, it could remove some or all regulations which are linked to either EU Regulations or Directives, or revise these so that they are more suited to the UK's regulatory priorities.

However, it is unlikely that the UK would seek to change the outcome of its regulations to any significant extent, for the following reasons. First, many of the EU's third country regimes that enable market access are conditioned on regulatory equivalence. Any change resulting in significant deviation from the outcomes of the EU regulatory regime risks jeopardising the UK firms' ability to access EU markets on a cross-border basis. The costs of complying with diverging regulatory regimes could also be costly for firms, as new structures and controls will be required to ensure compliance with dual standards.

Second, some EU regulations effectively originate from the UK's international commitments, such as the G20 reforms to derivatives markets (implemented in the EU via the European Market Infrastructure Regulation, or EMIR), and the Basel III and IV capital and liquidity requirements for banks (implemented in the EU via CRD IV and VI).

If the UK distances its regulatory policy from the EU it could introduce further uncertainty, as well as an additional layer of complexity to banks already dealing with the current volume of regulations. Given the above factors, it is unlikely that the regulatory landscape would be initially expected to change significantly, which means that banks can expect to proceed with their internal reform programmes to ensure timely compliance with the above rules. The FCA also confirmed on the 24th June 2016 that financial regulations derived from EU regulations will remain applicable to the UK until changes are made by the UK Government and Parliament. For example, unless the terms of withdrawal are agreed before MiFID II is due to be implemented (3rd January 2018), the UK would still need to transpose these rules to domestic legislation in line with the original deadline set by the Commission, and to comply with these rules before the UK formally leaves the EU.

The implementation of the regulatory reforms was always, and still is, a complex process that often involves transformational changes within banks, including an overhaul of banks' operating structures and technology. As an example of this complexity, one of the reasons why the implementation of the MiFID II package has been pushed back by a year to January 2018 is to allow banks and market participants additional time to implement 'complex technical infrastructure' in order for the MiFID II package to work effectively.[15]

[15] European Commission press release (2016) "Commission extends by one year the application date for the MiFID II package", 10 February 2016.

3. Bank transformation programmes

Key points from this chapter:

- *Banking transformation programmes are notoriously complex and many structural change programmes have taken 4 years or more.*
- *The reasons for the lengthy implementation timelines include the complex nature of products provided, the need to make granular changes to technology coding and the heavily regulated environment which dictates client interactions.*
- *Although a bank's response to Brexit will have similarities to other transformation programmes, there are some distinctive features of Brexit. Article 50 imposes a fixed timeline on the withdrawal process, and all market participants will be implementing their changes during the same period. There will also be fundamental uncertainty over the nature of the withdrawal agreement and regulatory expectations throughout the withdrawal period. This means they are likely to be at the longer end when compared to other transformation programmes.*

In this chapter, we review why bank transformations are complex, lengthy and costly. We draw upon case studies from (non-Brexit) transformation programmes to illustrate the variety in length of bank transformation programmes. We then consider how Brexit programmes have some unique complexities which are likely to add to required timescales.

Why bank transformations are complex

The Brexit plans that are being drawn up by banks are likely to involve significant cost and resources to design and implement. Many banks can draw upon the experience they have obtained following large transformation programmes in recent years. These have been driven by the need to restructure following the global financial crisis and/or complying with the reformed banking regulatory rules. In addition, banks have also undertaken major change programmes as a result of mergers, acquisitions, spin-offs, and the need to achieve operational and cost efficiencies.

The main reasons why banking transformation programmes are both costly and require a long elapsed timeframe are:

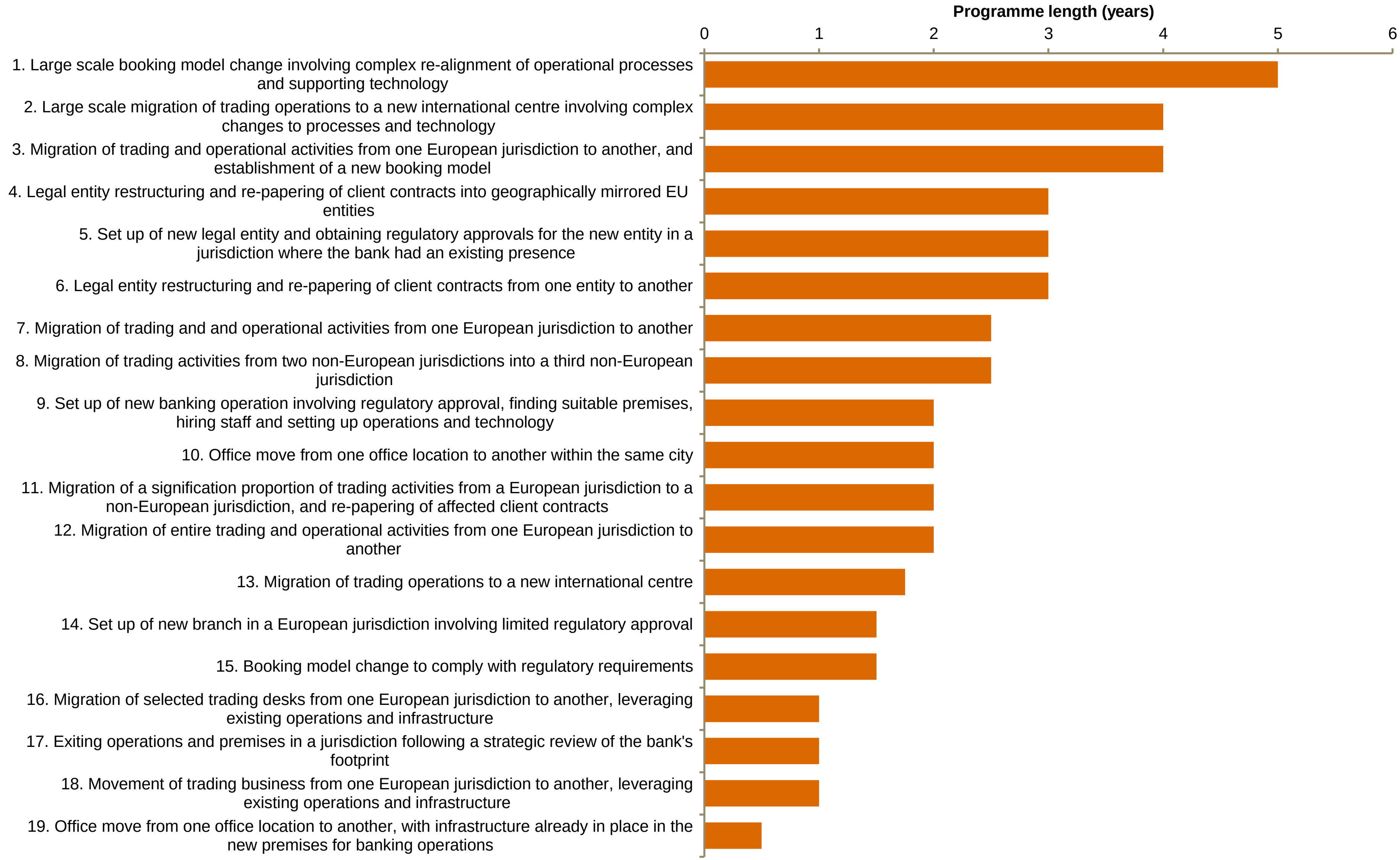
- The organisations are systemically important to the global financial system, and it is critical that they continue to operate without errors or disruption to support financial stability and meet the expectations of customers, regulators, and other stakeholders.
- Banks operate in a highly-regulated environment where sensitive customer and financial data are handled as part of these change programmes. Elements of a transformation programme will require regulatory approval, so additional time and resources will be required to provide regulators with the assurance required. The additional security protocols required to maintain data confidentiality also adds considerable complexity to any change programme.
- Large banks have a footprint across multiple jurisdictions, so changes need to be made in a way which meets the potentially differing regulatory requirements and expectations across these jurisdictions.
- Banks have complex front-to-back technology architectures that process very high volumes and values of transactions, the majority of which require execution in real-time. A transformation programme needs to address the components of these architectures in a coordinated way and take into account the many interdependencies between them. These are typically time-consuming to design, test and implement across a complex environment.

Case studies of large bank transformation programmes

Previous or current banking transformation programmes offer a useful guide to implementation timelines. We asked the banks in our study to provide case studies of (non-Brexit) transformation programmes, supplemented by some others from our prior experience of working with banking clients.

Figure 3.1 sets out a summary of time frames for undertaking large bank transformation programmes, based on 19 case studies of similar programmes in the past. The length of these programmes vary significantly, depending on the breadth and complexity of the programme. Relatively simple changes to the location of trading desks, or a movement in premises can be achieved within 1-2 years. However, structural and legal entity changes as well as detailed changes to operating procedures are significantly longer to implement.

Figure 3.1: Timeframe for bank transformation projects (case study examples)



Source: PwC Banking transformations database

The top 3 case studies above involved complex changes to booking models and trading activities, and took 4-5 years to complete. These changes involved significant updates to trading operations, changes to risk management processes, and updates to client servicing and contractual arrangements such as repapering of client contracts (i.e. setting up new trading and contractual arrangements where there is a change in the legal entities which are party to the arrangements or in the arrangements themselves). The operational changes required significant technology support to implement, particularly because large scale updates to multiple software applications were required. In addition, these complex changes were made across different countries and required regulatory approval.

Three of the case studies required significant changes to legal entity structures, which took 3 years to complete. This is demonstrated by case studies 4, 5 and 6 in Figure 3.1. These programmes involved changes to existing legal entities in different jurisdictions and/or setting up a new legal entity. The changes to legal entity structures required regulatory approval and resulted in repapering of large volumes of client contracts from one legal entity to another.

Moving trading activities from one country to another can take 2-2.5 years. This is demonstrated by 3 case studies in Figure 3.1: 7, 8 and 12. These programmes involved moving a significant amount of trading and operational activities from one country to another, whilst designing and implementing the technology changes required to undertake day-to-day business activities in the new location. These programmes also required regulatory approval and involved significant staff relocation and recruitment activity. Separately, case study 10 demonstrates that it can take 2 years to move activities from one office location to another just within the same city (and without the need for regulatory approvals).

Setting up a banking operation in a new location can take 2 years. 2 case studies in Figure 3.1 reflect this: case studies 9 and 14. These programmes involved setting up a legal entity, obtaining regulatory approvals for the banking operation, finding suitable office space, hiring new staff, and setting up operational processes and supporting technology to facilitate the day-to-day operation of the business.

Simpler changes to banking operations only require 1 year. This is demonstrated in 3 case studies in Figure 3.1: 16, 18 and 19. These programmes involved more straightforward operational changes, which could leverage existing operations and technology infrastructure. Therefore moving trading desks, support functions and staff from one location to another took less time and resources to complete. Updates to software applications were also less complex because a smaller volume of changes were required.

These case studies provide useful context for Brexit because banks face varying degrees of complexity when completing their Brexit programmes. Banks currently using a hub for their activities will need to make more complex changes as a result of Brexit, and therefore the scale of their activities will be nearer the top of the case study table. Banks with pan-European structures will not require programmes of change involving the same level of complexity, and therefore the scale of their activities will be nearer the bottom of the case study table.

These case studies demonstrate that banks are already familiar with transformational change. Once major changes to legal entity and operational models are required, then a multitude of operations, technology and client activities are necessary which can easily require programmes of 4 years and above.

What is different about Brexit?

A bank's response to Brexit will have similarities with other transformation programmes which it has undertaken, and much of the governance and management required for other programmes will be equally applicable to Brexit. However, there are some features of Brexit which make it unusually challenging for banks.

Article 50 imposes a fixed timeline on the withdrawal process. The terms of Article 50 impose a hard deadline two years after Article 50 notification. This differs from changes imposed by regulators, who have discretion to amend timelines for the implementation and coming into force of regulatory change if these are justified (e.g. MiFID II, Solvency II and UK ring-fencing implementation programmes have all been extended). The Article 50 negotiation period can be extended only if the European Council, in agreement with the UK, unanimously decides to extend this period: this is not expected to take place and the UK government has indicated that it does not intend to seek such an extension. If no agreement has been reached by that time then the UK will exit the EU without any withdrawal agreement in place and the EU treaties, which currently determine how UK business can operate in the EU, will cease to apply.

Change will occur across all market participants in the same period. All market participants will respond to Brexit during the same time window. These participants include not only other banks, but also providers of market infrastructure, other financial services institutions, and banks' customers. This is expected to increase the complexity of the change required as banks will seeking to change their interactions with other organisations which are themselves changing. It could also result in constraints in the availability of the resources which banks will rely on across Europe (such as staff with the required skills and experience, suppliers of professional services, and regulator capacity) in responding to Brexit. This means that any planning timelines need to be constructed to allow additional lead time (as prior experience won't account for this effect).

Uncertainty will continue throughout the withdrawal process. For a typical regulatory change, the requirements are published by regulators and banks then have a window of time (often years) in which to implement them. In contrast, the terms of the UK's withdrawal from the EU will be negotiated in the period following the invocation of Article 50, with exit occurring when the withdrawal agreement comes into force or (in the absence of agreement) when the negotiation period expires. Banks will therefore need to be implement their response to Brexit while the terms of withdrawal are still under negotiation.

Brexit may involve a broad range of activities. Whereas some transformation programmes can involve a subset of products, or processes, adapting to Brexit requires a wide range of activities (from legal restructuring to premises moves). Whereas every activity has the potential to be substantial, individually they are likely to be manageable. However, any Brexit programme which needs to combine multiple activities will face the inevitable coordination challenges of combining and managing a complex programme.

In the next chapter we set out the activities required within a Brexit transformation programme, and in Chapter 5 we bring these activities together for 3 different categories of bank.

4. Components of a Brexit transformation programme

Key points from this chapter:

- *In assessing the impact of Brexit, banks are considering two key provisions which they rely upon to undertake product and investment activities within the EEA from the UK and vice versa: passporting and access to market infrastructure.*
- *Many banks are likely to make an early decision on their legal entity structure and the jurisdictions where they plan to operate. To inform their decision, banks have been conducting an analysis of regulatory requirements, required legal entity structures and general suitability of different jurisdictions to enable continued service provision in the UK and the EU.*
- *The selection of jurisdictions and legal entity structure will drive the development and subsequent implementation of the new operating model for banks. This may cover legal entity and organisational structure, regulation and licensing, operations, technology, premises, people, and suppliers, although not all banks will require significant activity in all of these areas.*

In this chapter, we describe what is required to respond to Brexit and the steps banks consider they will need to take. This is based upon the banks' plans we have reviewed and additional interview discussions. We set out the approach taken to developing a response to Brexit and the main components of a Brexit transformation plan.

Developing a response to Brexit

An overview of the high-level activities for how banks have developed their Brexit responses is set out below:

- Managing Day One response.
- Impact assessment: overall impact, and product-level impact.
- Option identification and evaluation.
- Design and detailed planning.
- Implementing the post-Brexit structures and operating requirements.

The level of Brexit planning undertaken by banks varies significantly. The post-Brexit environment is not defined but is clearly dependent upon the level of cross-border access to markets that will be retained. Consequently, the planning that has been completed to date is based on a range of scenarios. Most banks have assumed a 'hard Brexit' scenario, with little or no provision for market access across jurisdictions. Banks are not relying on third-country equivalence provisions of EU regulation for the following reasons: first, they are not available consistently across different products; second, there may be a gap between the UK's exit from the EU and equivalence being granted by the EU; and third, there is a risk that equivalence could be revoked at a later stage. Banks also cannot assume in their planning that the current market access arrangement would continue as before, because should a hard Brexit scenario unfold, they would be at risk of regulatory breach and significant business disruption.

That said, should there be some form of negotiated Brexit arrangement, banks are concerned that they may be forced to expend significant resources which, ultimately, may not be required.

Managing the day one response

Following the referendum result, banks had to manage their internal and external response. The majority of banks had initial plans in place to address the possibility of a result to leave. This included contingency plans to manage financial market volatility. They also included communications to customers and to staff to provide reassurance. Following the referendum, banks started to focus more intensely on identifying the impact of Brexit on their business, and began planning their response.

Impact assessment

The majority of banks included in this study have performed an assessment of the impact of Brexit upon their business and operations. The impact of Brexit upon a bank depends on a variety of factors, including:

- Geographic footprint. Banks that have a significant level of cross-border activity, or use a UK hub to provide services across the EU, will typically be more impacted by Brexit than banks with a primarily domestic or intra-EU27 focus.
- Structure, including the structure of subsidiaries and branches. Banks that have a legal entity structure which provides suitable presence in both the UK and EU27 may have an easier time than banks that need to establish subsidiaries.
- Products and services offered. Although the focus of this study has been on wholesale banking and capital markets, banks are typically planning their response to Brexit on a whole-bank basis.

The impact assessment has been typically done by market, client and product to assess the overall amount of business at risk from a 'hard Brexit'. As a result the impact assessments vary considerably from one bank to another. For some banks in this study, the impact of Brexit is less than 5% of their business, but for others it is above 33%. The impact of Brexit is likely to be distributed unevenly and skewed towards those banks which have a significant cross-border (UK-EU27) activities with a legal entity structure that does not provide sufficient EU27 market access in the post-Brexit environment.

When assessing the impact of Brexit by product, banks consider the extent to which their current products and services are reliant on permissions to undertake EU27 product and investment activities from the UK and vice versa. For wholesale and investment banking, these are underpinned by:

1. EEA Passporting: Banks currently rely on a range of EEA financial services passports to undertake banking activities within the EEA from the UK and vice versa. Use of an EEA passport is dependent on membership of the European single market, and therefore the permission covers EU27 countries and EEA members such as Norway and Iceland. This permits UK-authorised entities to provider services either on a cross-border basis or via local branches within the EEA.[16]
2. Access to market infrastructure for EU products: Banks are currently able to access EU market infrastructure to undertake trading and investment activities from the UK. Specifically, this access provides banks with the ability to trade via regulated EU exchanges from the UK and use CCPs (central counterparties, also known as clearing houses) in London or Europe to clear their euro-denominated trades using centralised clearing services provided by CCPs.

A 'hard Brexit' scenario will restrict the ability of UK banks to provide services across the EU, and vice versa. Therefore this is expected to result in restrictions on activities currently undertaken with respect to wholesale and investment banking products, such as the proactive sale of these products from the UK to customers in the EU27 and vice versa.

There is also a risk that a 'hard Brexit' scenario will result in loss of access to EU market infrastructure from the UK, and vice versa. Whilst it is hard to generalise, being an EU regulated entity is a membership requirement for market infrastructure such as exchanges.[17] There is therefore a risk that UK-based banks will lose their ability to trade EU products on regulated EU exchanges and vice versa. If this is the case then either trading will need to be done via a regulated broker in the relevant jurisdiction[18] or, the bank will need to have a regulated entity in that jurisdiction. Should the final Brexit agreement result in such restrictions being imposed, this would have the effect of increasing the number of intermediaries involved in the trading process; or, in the extreme case where access is not allowed, this would have an adverse impact on

[16] Whereas the EEA passporting regime is effective, any post-Brexit market access arrangements based upon EEA membership would not provide full market access across EU27/UK, as aspects of European legislation, such as CRD IV, are not covered by EEA membership.
[17] There are provisions for third country entities to be members but these tend to be limited.
[18] Using an agent is a workable solution provided the regulated broker is willing to accept the cross-border institution requiring clearing as a new customer. Taking on new customers may introduce significant risk and capital impacts for the agent, which will affect the commercial terms and willingness to enter such arrangements.

market liquidity. The latter situation is not in the interest of any market participants including customers, Central Banks and regulators. For market participants the prospect of setting up new subsidiaries and providing all the equipment required to access the required market infrastructure will be challenging within a 2-year time frame. The situation is exacerbated, potentially to being impossible, if the majority of market participants are going through the same process at the same time.

While not in best interests of the European financial system, should London-based CCPs lose their qualifying CCP (QCCP) status, using them could become prohibitively expensive for EU27-based banks due to the associated capital charge, higher collateral requirements, and less favourable netting treatment. If this were to happen then market liquidity and trading costs would be adversely impacted. If the 2-year negotiation periods ends in a cliff edge with no transition and no grandfathering arrangements then there would be a significant threat to market stability.

In addition, there is a possibility that the clearing of euro-denominated trades through CCPs in London may be prohibited following the UK's exit from the EU. This was originally proposed by European politicians and the ECB has previously attempted to move clearing activity of euro-denominated trades from London-based CCPs to the eurozone. It is not clear how this might be achieved. One option for the EU might be to amend EMIR itself such that compliance can only be achieved if banks clear euro trades in an EU domiciled clearing house, but such a move could be deemed protectionist. By contrast, there are no such constraints governing the clearing of USD denominated trades in the US. Any move on the part of the ECB to compel banks to clear euro trades in the eurozone could require the Lisbon Treaty (Article 127) to be changed to extend the authority of the ECB to not just cover payments but also euro clearing.

Access to market infrastructure is critical to banks offering trading clearing and settlement services to clients. In the following table we assess the impact of Brexit across a number of broad product categories. Our assessment considers both the regulatory and infrastructure dimensions as there are clear dependencies between the two.

Figure 4.1: Summary of potential Brexit impacts by product type

Product type	Degree of cross border trade	Risk of impact from Brexit	Description of potential impacts post-Brexit
Over-the-Counter (OTC) Products	High	Medium	• UK legal entities authorised by MiFID to trade OTC products have a MiFID passport to undertake this activity with counterparties in EU27 member states, and vice versa. • MiFID II regulation coming into effect in January 2018 includes permission of third country equivalence for trading activities. • Following Brexit, it is not yet clear whether UK entities will be able to rely on third country equivalence in order to trade OTC products with EU counterparties and vice versa. This is dependent on whether the UK is deemed to be an equivalent regime by the EU. • European Market Infrastructure Regulation (EMIR) requires clearing of certain classes of OTC derivatives via Central Counterparty Clearing Houses (CCPs). The major clearing houses for OTC derivatives are located in London. • The assessment of the impact as medium is based on assumptions that some OTC clients are global in nature and unlikely themselves to move location and that there is no requirement to transfer clearing activities. If these assumptions do not hold, then the impact will increase.
Exchange Traded Products	High	Low	• Exchange membership rules typically specify that the members should be regulated by an EU competent authority or one in a recognised third country. • Continuation of membership of regulated EU exchanges for UK legal entities following Brexit depends to some extent on whether UK regulators have third country equivalence status for this purpose. • If UK legal entities' access to EU exchanges becomes restricted following Brexit, banks using their UK legal entities for this purpose will need to make changes to access arrangements (e.g. access via an EU27 subsidiary, access via an EU27 third party agent). • The assessment of the impact as low is based on assumption that UK legal entities will continue to have access to regulated EU exchanges. If this assumption does not hold, then the impact will increase.
Advisory Services	Medium	Medium	• UK legal entities currently have passporting rights under regulations such as MiFID to provide investment banking advisory services and primary issuance (e.g. debt and equity) to eligible EU27 customers, and vice versa. • Permissions to provide these services from a UK entity and vice versa will potentially be impacted if passporting rights are restricted. If restricted, this will need to be undertaken from an EU27 legal entity for EU27 customers, and from a UK entity for UK customers. Therefore banks will require local authorisation to provide advisory services (e.g. via an existing subsidiary). Banks who currently rely on cross-border investment banking advisory services will be affected. • It is not yet clear whether UK entities will be able to rely on third country equivalence under regulation such as MiFID II and AIFMD in order to provide advisory services to EU27 customers and vice versa following Brexit. This is dependent on whether the UK is granted third country equivalence by the EU.

Product type	Degree of cross border trade	Risk of impact from Brexit	Description of potential impacts post-Brexit
			• The assessment of the impact as medium is based on an assumption that equivalence under regulation such as MiFID II and AIMFD is achieved. If this assumption does not hold, then the impact will increase.
Payments	Medium	Low	• UK legal entities need to meet certain criteria to access euro payment systems directly (e.g. to access TARGET 2, banks require an account at an EU-domiciled central bank). • If restrictions arising from Brexit mean that UK legal entities can no longer meet these criteria, banks using their UK legal entities for this purpose will need to make changes to their access arrangements (e.g. access via an EU27 subsidiary, access via an EU27 third party agent– which could increase concentration risk if many banks adopt this approach and increase costs to clients – of holding an account at an EU27-domiciled central bank). • However many banks already use agents to access the infrastructure or have accounts at EU27 central banks. In addition, payment systems tend to serve local markets (eurozone or UK) and it is not yet clear if access will be restricted due to Brexit. • The assessment of the impact as low is based on an assumption that UK legal entities will be able to continue to access European payment systems. If this assumption does not hold, then the impact will increase.
Corporate Lending and Deposits	Low	High	**Lending:** • UK legal entities currently have passporting rights to conduct lending activity in EU27 states. • Certain EU27 states require specific authorisations for a bank or credit institution from a non-EU state to conduct lending activity (e.g. France, Germany). This will be required for UK legal entities if passporting rights are restricted. • Banks who do not have local authorisation to undertake lending activity in the EU27 (e.g. via an existing EU27 subsidiary) will be impacted by this. Therefore banks who currently rely on undertaking this activity on a cross-border basis or from a passported branch will be affected. **Deposits:** • UK legal entities currently have passporting rights to sell deposit services to customers in EU27 states and vice versa. • Permissions for proactive selling of deposits to EU27 customers from a UK entity and vice versa will be impacted if passporting rights are restricted. This applies either cross-border or from a branch of a UK legal entity located in the EU27. • If this materialises, this will need to be undertaken from a EU27 legal entity for EU27 customers, and from a UK legal entity for UK customers. Therefore banks who do not have a local authorisation to sell deposits (e.g. via an existing subsidiary) will be impacted by this. Banks who currently rely on selling deposits on a cross-border basis or from a passported branch will be affected. • The assessment of the impact as high for both lending and deposits is based on requirements for local authorisations for these activities in the absence of passporting.

Source: Bank Brexit plans, PwC analysis

Most banks interviewed are using the impact assessment as an input to the next stage of option identification and evaluation. Some banks expect a limited impact from Brexit due to the way that they are structured, their geographic footprint and the location and service needs of their customers. For this reason, these banks have not performed substantial further planning at this time. There is also a sense that detailed planning is a relatively futile exercise due to the current level of ambiguity and uncertainty. However, the institutions that have taken this view are in the minority.

Option identification and evaluation

Following the impact assessment, banks are identifying and assessing their options for responding to Brexit. A key early decision is the selection of jurisdictions where the bank will operate, and of the structure of subsidiaries and branches that the bank will use. This will determine the regulatory approvals that are required, and the design of the post-Brexit operating model.

Many banks are undertaking an analysis of the various jurisdictions in which they plan to operate, in order to understand each jurisdiction's regulatory requirements and their broader suitability from a regulatory perspective. Within this analysis, banks are assessing what is required to maintain the current level of service to their clients and identifying factors that will impact the products and services that they intend to offer clients in these jurisdictions.

They are also assessing their existing legal entity structure, and the extent to which it will meet the future requirements of the business. Where changes may be required, they are identifying their options for updating their structure (e.g. converting an existing branch to a subsidiary, or establishing a new subsidiary). For example, some UK or international banks seeking to maintain access to the EU27 market are considering whether existing EU27 subsidiaries can form the basis of their European presence or whether changes are still required.

Although many banks have been identifying and evaluating options, none of the banks interviewed have committed to a plan of action at this stage. Instead, they have prepared plans based on a range of scenarios and set out the strategic choices that are available to them. This is because of the current uncertainties relating to both the Brexit negotiations and regulatory requirements around equivalence, delegated authority and in-country activity.

Many are exploring options that offer flexibility and to allow more time before final operational decisions need to be taken, as well as limiting the resources that need to be committed from an early stage. While some banks do not envisage starting implementation well into 2017, some are planning to start implementation early in 2017.

As they evaluate their options, those banks with small cross-border activities may consider that the transformation costs and duplicated ongoing costs mean that certain geographic businesses will become uneconomic, so withdrawal from those activities becomes the likely option.

For other banks, Brexit builds on a trend towards greater geographic subsidiarisation. The impact of regulatory capital and associated implications of restructuring a bank are outside the scope of the study. However, it was noted by some respondents that if they were unable to operate commercially using the current structures this would pose a problem for the business going forward. Some banks indicated they would have to stop providing cross-EU services out of London if it became necessary to set up an EU27 subsidiary with the capital and liquidity this entails. This is likely to result in greater focus and retrenchment to home markets (continuing a trend which began after the global financial crisis). There is therefore a risk that concentration in geographic markets rises, thereby reducing client choice.[19]

[19] Our analysis of capital market liquidity for the GFMA showed that reductions in market makers had a detrimental impact on liquidity and increased the liquidity risk premium, thereby increasing the cost of finance to companies and individuals. See https://www.pwc.com/gx/en/financial-services/publications/assets/global-financial-market-liquidity-study.pdf

Design and detailed planning of Brexit programme

In order to support our analysis of banks' responses to Brexit, we have developed a 'taxonomy' of activities which banks need to undertake as part of their response. This provides a common framework for analysing different banks' planned responses to Brexit, and for assessing the timelines and dependencies between activities. It is intended to capture activities taking place within the EU27, the UK, and in some cases the rest of the world.

The classification is structured around eight broad categories of activity, within which 25 discrete activities have been identified. Not all banks will need to complete all of the activities identified, and the scale of activity will vary across banks. In this section we summarise the main activities required across the eight broad categories of activity and the likely timeframes required. These timeframes are drawn from the case studies and banks' Brexit planning. They are based upon the timeframe which would be required in a realistically-planned Brexit programme. We then consider the main dependencies within these activities. In the next chapter we put these activities together to form illustrative plans for three different categories of bank.

Brexit plan development and ongoing programme management

Key activities

For a bank to plan its response to Brexit, it needs to develop a view of the likely post-Brexit environment. Given the fundamental uncertainty around factors including the outcome of Brexit negotiations between the UK and EU27 and the views of regulators, this view is expected to include a number of assumptions. The bank can then proceed to develop its planning to respond to Brexit, though plans may need to change as clarity on the end state emerges. Typically when requirements change there is significant rework involved which will increase costs and extend completion timelines.

To support their assessment of the future environment, banks are monitoring management, industry, and legal views. They are also making assumptions about the type of scenarios to support their own internal planning.

Once the bank has identified the scenarios and assumptions for outcomes which they are considering, it can develop the overall response approach to Brexit. This includes consideration of the products and services it will offer and the territories within which it will operate (and those for which it plans a withdrawal), and the location of its customers, who may themselves be relocating. Based on this overall approach, it can proceed with identifying the programme of activities required, and assessing the timescales, costs, resources required, risks, dependencies, and other constraints. This programme planning will then drive the rest of the activities relevant to the bank. Ongoing programme management resource costs are not insignificant and can consume up to 10% of programme budgets. It will be the responsibility of programme leadership to coordinate with other transformation programmes (so that activity requests are efficiently scheduled).

Timeframe required

The development of Brexit plans has begun and ongoing programme management will continue throughout the Brexit transformation programme.

Legal entity and organisation structure

Key activities

Banks will have to review their existing legal entity structure to ensure they have an appropriate presence in the required jurisdictions to enable them to continue providing products and services in the event of a 'hard Brexit' where the UK loses access to the single market. The extent to which banks would be affected by the loss of passporting varies considerably, depending on their existing footprint. Banks are considering a number of factors when looking at alternative jurisdictions, from very practical concerns around language and infrastructure, to the end-to-end regulatory experience. They will also need to consider the implications of recent proposals that require non-EU global systemically important banks (G-SIBs) and other eligible credit institutions and investment firms with two or more institutions in the EU to establish an EU parent entity (an intermediate holding company).

There are a number of alternative restructuring options under consideration for UK entities to maintain access to the EU27 and vice versa, including: establishing an EU27 passport vehicle supported by UK infrastructure and capital; establishing an EU27 passport vehicle supported by UK infrastructure only; and establishing an EU27 passport vehicle with EU27 infrastructure and risk functions. Other options include a UK entity supported by an EU entity providing sales function only (an agency model) and a UK entity with a network of EU27 branches.

There is a close interaction between the establishment of new legal entities and obtaining the required regulatory approvals to conduct business. The outcome of discussions with potential host regulators to explore operating models will impact legal restructuring design.

Once the target new legal entity structure has been decided, banks then need to migrate to this desired end-state. There are a number of options for migrating existing trading positions, assets, people and contracts (e.g. transfer of assets or transfer of businesses), or alternatively it may be simpler to run down existing activities and only start new activities in new entities (thereby limiting the amount of activities transferred). Each option may trigger different tax and accounting impacts.

Timeline required

Where the requirement for legal entity restructuring is significant, a realistically planned program of change is going to **take longer than 2 years**. In some cases this can stretch to 5 years, when including all the activities that need to be transferred.

Regulation and licensing

Key activities

Depending on the bank's restructuring plans, it will need to ensure that its proposed operating model (see below) has been approved and that it has the appropriate regulatory licences to enable it to provide products and services from any new or expanded entity. Banks will need to consider carefully which EU jurisdiction they will choose as a base for their EU activities and engage with their chosen host regulator early to secure the necessary authorisation to do so.

Banks are investigating the cost and timelines for obtaining a licence as well as risk and capital model approvals, booking model constraints, regulators' attitudes to outsourcing and presence requirements.

Timeframe required

The process of obtaining approval can be difficult and complex and will depend on the bank's chosen location. Some banks that are regulated in Europe will also fall within the scope of the ECB's single supervisory mechanism and they will need to work through the implications of this. There is a concern among many banks that some regulators may not have the bandwidth or sufficient staff to manage an influx of new applications, which may lengthen the time required to obtain licences. The process is likely to be less complex for banks that already have existing legal entities in their chosen location and some of the necessary approvals.

While the statutory timeline for approving licence applications is between 6 months and one year[20], banks are planning for longer elapsed timeframes to achieve full regulatory approval, and are setting aside up to **a year and a half** for this process in Brexit plans**.** This is based on prior experience of licence applications that have gone over the one-year mark and the expectation of peak activity levels constraining regulatory capacity.

Operations

Key activities

A fundamental part of the response to Brexit will be the design of the new operating model. The operating model describes the components of the organisation and how they interact, including business processes and activities, the locations in which the business operates, the technology used, the people working for the business, stakeholder interactions, and management structures. This will be closely tied to the legal entity structure and selection of jurisdictions (which will drive the location where activities are conducted). Another key activity that will interact with the development of the operating model is changes to the booking model of the bank, which determines the legal entities which trades are booked to, and how risk is managed within the bank. Banks will also need to ensure that they continue to have access to market infrastructure (e.g. payments

[20] https://www.bankingsupervision.europa.eu/banking/tasks/authorisation/html/index.en.html

schemes, exchanges, clearing) while changes to the operating model take place, and while market infrastructure providers themselves undergo change.

If legal entity restructuring results in a change to the location from which certain products and services are marketed and delivered to customers, then there will inevitably be an impact on the supporting operational environment. Over the years, banks have taken steps to manage their costs, such as using off-shore locations, or, outsourcing and processing hubs. Changes to the business model, including changes to the location where trades are booked and the legal entity responsible for managing and bearing the risk of the trade, will have to be accommodated within the operational environment.

Where required by changes in legal entity structure, regulatory expectations on the location of sales and trading activities, or shifts in their client base, banks will have to consider moving sales and trading activities and making associated changes to processes, technology, and people. The extent to which this will be required will depend on the final Brexit agreement and the outcome of discussions between banks and local regulators including those relating to delegation and outsourcing arrangements.

In the event that banks have to move to locations where local laws and regulations limit the use of cost saving arrangements such as off-shoring, then this may require establishing, not only a sales capability, but also the operations and infrastructure needed to support the business conducted by the new entity. This will have the effect of significantly increasing the length of time taken to establish a fully operational presence as the amount of work required to replicate the operational environment in a new jurisdiction will be significant. In addition, the ongoing costs of supporting such an organisational structure will be significant. Even if such a significant change is not required, there are still likely to be smaller-scale changes required to middle and back office processes, and to finance, governance, and other group functions in the new operating model.

Changes in the bank's operating model will also entail changes relating to client services and management. Where there are changes to the legal entity structure, a repapering exercise will be required for affected clients to set up the trading arrangements with the new client-facing legal entity and to continue providing services to them. If a transfer of the stock of existing trades to the new entity is planned, in parallel with the execution of new trades, then the transfer of those trades will also have to be managed, for example by novating the trades. Related to these activities, there may be a need to update collateral arrangements, to reflect changes in the legal entities where collateral is posted to/from, and the composition of that collateral (driven, for example, by changes in the credit rating of the new legal entities). Even where the bank itself is not making significant changes in this area, it will need to be ready to work with customers to respond to changes they are undertaking themselves.

Consistent with a 'hard Brexit' scenario, many organisations are assessing plans involving establishment of the full front-to-back trading and operational capability in new locations. There is also active engagement with regulators in selected jurisdictions to understand, among other things, what limitations and restrictions might be placed on the operations of the organisation should a new entity be established within their jurisdiction.

Timeframe required

Designing the new operating model, including governance and sign-off will take around **6 months in many cases**. Once this has been done it will be necessary for detailed workflow planning and front-to-back process designs to be prepared. This will draw upon technology activities in an iterative manner as the operating model will be primarily driven by business needs, but also technological constraints. **3 to 4 years** is typically required to implement a transformation programmes with largescale operational and technology re-configuration.

Technology

Key activities

Technology is a fundamental element of banks' operations, and significant changes will be required to technology to support the new operating models required in the post-Brexit environment. In particular, the technology changes will be driven by relocation of activities and establishing operations in new premises, changes in access to market infrastructure, and changes in business processes. Initial planning based on previous bank transformations suggests that technology will in many cases account for the majority of time and resources for the transformation required.

Technology changes required for a bank to maintain access to market infrastructure will be driven by changes in the bank's own operating model – for example, a change in the legal entity or location from which the bank accesses market infrastructure – and the changes introduced by the market infrastructure providers themselves. The elements of technology infrastructure required for market infrastructure access include gateway servers, which act as an interface between the bank's systems and the infrastructure provider (which may need to be updated or relocated), and the network connectivity between the bank and the infrastructure provider.

In response to Brexit, changes will need to be made to applications, and technology infrastructure such as network connectivity, data storage, servers, and desktop PCs. Changes to applications will be largely driven by changes in business processes (e.g. changes in booking models) and potentially the locations in which those processes are performed. Changes in infrastructure will be driven by where a bank is establishing operations in new premises which will need to be equipped with the required technology, and where change to network connectivity and gateway servers is required in order to maintain access to market infrastructure, in response to changes in the access offered by infrastructure providers. Depending on the changes to applications, there may be a requirement to update the infrastructure which supports them, but this is not expected to be a major driver for infrastructure change.

Large banks rely on complex technology environments reflecting the nature of their business. A typical bank systems environment comprises hundreds of systems with millions of lines of code, many of which are interdependent and hence require detailed analysis, amendment and testing prior to any change being implemented. The timing for carrying out such change is constrained by change freezes over the winter period each year to avoid the risk of disruption caused by changes at the time of year-end processes. The limited window of opportunity for making changes, system complexity and ongoing implementation of other changes driven by regulatory requirements, means that additional Brexit-driven change is an additional complication. Completing the necessary changes within acceptable levels of risk will be demanding within a 2-year timeframe and for some it may not be possible to execute to their ideal end design structure within this time.

Another driver for technology change may arise if changes in the data privacy and protection rules limit the transfer of data between the EU27 and UK. This could require technology changes in relation to where data is held and processed. At this stage, banks who have considered the issue have not yet identified significant change required in this area. However, if there are changes required in this area, then this could result in significant additional time and resources.

Timeframe required

The time required for technology changes is typically **between 2 and 5 years**. The activity requiring the greatest time and resources is the changing of software and applications. The time required for this will be driven by the extent of change required, and the current technology environment. If the existing architecture is flexible and re-configurable, that will reduce the time, while a more complex and hard-coded architecture will take longer. Changes to data residency and processing will be undertaken in parallel with software and application development. In contrast, changes to technology infrastructure, while important, are expected to be more straightforward.

Premises

Key activities

When banks evaluate the jurisdictions where they will undertake their activities post-Brexit, they will need to confirm whether their existing premises have sufficient capacity to absorb the expanded operational activities and additional staff. Where this is the case, banks need to manage the expanded premises to meet the requirements of a wholesale and investment banking business and relocate activities from one premises to another. Where existing premises do not have this capacity or in places where banks are not currently present, banks need to set up new premises in the jurisdiction where they will operate their post-Brexit activities. Banks will need to identify the location for these premises that is suitably close to its clients and local support structures, organise property leases and insurance for the new premises, and set up the new premises to manage the day-to-day operation of the business.

In addition, banks will need to establish whether it will cease or downsize operations in current locations. In these cases banks need to terminate lease arrangements for their surplus premises, vacate buildings, and manage legacy premises if unable to terminate existing lease arrangements in the short term.

Timeframe required

It is possible to source new premises within 6 months, assuming that existing premises with the necessary infrastructure are presently available. It is likely that more time is required realistically to identify suitable premises, and to contract and outfit the premises for business. Case studies suggest a time of between **18 months to 2 years**. A brand new building (including planning and construction) would take significantly longer.

People and staffing

Key activities

The impact of Brexit on the banking sector results in two key drivers of change in relation to banks' people and staffing. This is driven by the change in the level of activity and where it takes place, the second is the change in rules around immigration and permission to work. These rules are currently expected to become more restrictive in the post-Brexit environment.

Where activities are being transferred to a new location, the bank will need to recruit staff locally, relocate existing staff to the new location, or adopt a mixture of the two approaches. Conversely, where a bank is winding down some activities in a location (either by transferring them elsewhere or ceasing some activities altogether), it may need to consider headcount reductions. All of this must be done in accordance with local employment law and (particularly relevant when relocating staff cross-border) immigration rules. These can vary considerably between jurisdictions, so banks will need to obtain an understanding of those requirements – particularly if making changes in a location where it does not currently operate.

The other impact of changes in immigration rules is on existing staff remaining in their current locations. Some restrictions to freedom of movement may be introduced for EEA nationals working in the UK and UK nationals working in EU27, and the process to obtain the correct registration/right to work permission remains unknown. Indications from policymakers suggest that current staff are unlikely to be affected by such changes, but no binding commitments have been made in this area. Depending on the outcome of negotiations on freedom of movement and its impact on their own operations, banks may need to identify staff affected by immigration rules and support applications for work permits or visas for staff in order to be able to retain them.

Timeframe required

Whereas some Brexit transformation activities are necessary to complete in full prior to the point of Brexit (e.g. regulatory approvals), changes to staffing can be phased in gradually. Initial staff transfers/recruits will be required to support the transition, and then staff transfers/recruits will be required to support the business as it begins commercial operations. Indeed short-term arrangements with temporary transfers can be used plug short-term resource shortages. The time when staff can be a critical dependency is when there are specific skills to recruit (e.g. board level, risk, governance and even trading), or if recruiting in particularly large numbers. In such instances it can take **18 months** to complete difficult staff relocation programmes.

Suppliers

Key activities

When a bank designs its post-Brexit operating model, it will need to assess what changes need to be made to supplier arrangements. A key driver for this will be changes to the bank's legal entity structures, where a bank will need to identify existing supplier contracts that will be affected by changes to the bank's legal entity structure. Existing supplier contracts affected by this change will need to be novated to the new legal entity.

Changes to a bank's operating model may also result in a bank needing to engage new suppliers for goods and services, or cease or downsize existing supplier arrangements. For example, banks may need to engage new suppliers where they are setting up operations in a new location, and cease or downsize existing supplier arrangements if they are ceasing or reducing operations in an existing location. Banks also need to consider termination clauses in existing contracts and the costs of early termination. For new suppliers, banks will need to identify potential suppliers, negotiate new supplier contracts and agree service level arrangements to meet the operational needs of the bank.

Timeframe required

Supplier contracts should be renewable over a **one year** timeframe. There are risks that new contracts require prior transformation steps to be completed, such as creating new legal entities and obtaining full regulatory authorisations, so these new supplier arrangements are likely to be executed towards the end of transformation programmes.

Dependencies

There are inevitable dependencies between some of the activities required. Below we list the most critical dependencies.

- **Obtaining clarity on the regulatory environment and market access and developing working assumptions.** While more clarity will be available if a bank delays its Brexit planning, most banks will need to start planning before certainty is available, so each bank will need to develop a set of working assumptions on which to base that planning.
- **Selecting the jurisdictions in which the bank plans to operate.** This selection is dependent upon regulatory, tax, infrastructure and other environmental factors. The choice of jurisdiction then drives the location-specific implementation activities.
- **Selecting and implementing structural options.** Another area that is dependent on the working assumptions for the post-Brexit environment is the identification and selection of the structure of subsidiaries or branches. It also includes decisions relating to where some internal activities will take place. The jurisdictions in which the bank plans to operate will drive the structural options chosen, and conversely, structural considerations may make it infeasible or undesirable to operate in a particular jurisdiction.
- **Obtaining regulatory approvals.** The regulatory approvals required by the bank will depend on the jurisdictions where it plans to operate, and the structural option it has selected. Where new legal entities are being created, the formal application for regulatory approvals will also depend on the establishment of those entities themselves. The regulator will also want to understand how the bank plans to structure its operations and how business will transition to the new operating model. It will therefore be necessary for the operating model to be developed as a prerequisite to the application process. However, it will not require full implementation of the new operating model, as some elements of the operating model can be developed and implemented in parallel with obtaining regulatory approvals.
- **Development of the new operating model.** The development of the new operating model will depend on the jurisdictions and the structural options. Some elements of the operating model design will feed into the application for regulatory approvals, and in turn, regulatory expectations will also influence operating model design.

In addition to the high-level (and more critical) dependencies described above, some individual activities have more specific dependencies.

5. How banks vary in their response

Key points from this chapter:

- *The impact of Brexit varies between different types of banks, depending on the extent of their geographic footprint, the extent of their cross-border trading activity, and the extent to which their legal entity structure provides a suitable presence in both the UK and EU27. Some banks will face limited impacts, while for others, the impact will be significant.*
- *This section describes three categories of banks, and shows which activities they need (and need not) undertake, and the implication on the timescales required.*
- *The first category covers banks predominantly using a hub as a basis to serve clients across the EU (which can be either in an EU27 country or the UK). These banks need to undertake substantial Brexit programmes, taking at least 4 years.*
- *The second category covers banks with pan-European legal entity structures and operations. Brexit programmes for these banks are estimated to take up to 2 years.*
- *The third category covers domestically-focussed banks requiring continued access to UK and EU27 markets. Brexit programmes for these banks are expected to take between 2 and 3 years.*

The impact of Brexit on different banks varies due to their geographic footprint, the extent of their cross-border trading business activity and the extent to which their existing legal entity structure provides suitable presence in the UK and EU27. Another factor is the scale and complexity of the institution. A bank that accounts for large amounts of cross-border trade and contributes greater liquidity to the global financial system will require more time and resources to implement their Brexit transformation plans. Conversely smaller banks with less cross-border activity are likely to see relatively smaller Brexit programs. That said, the costs of the change demanded by Brexit may not be justified in maintaining an existing client franchise where revenues are not so significant.

The different responses required by banks to Brexit are summarised in three bank categories:

1. Banks predominantly using a hub as a basis to serve clients across the EU (which can be either in an EU27 country or the UK).
2. Banks with pan-European legal entity structures and operations.
3. Domestically-focussed banks requiring continued access to UK and EU27 markets.

In the next section, for each of the three categories of bank, we set out a description, how these categories of banks are currently responding to Brexit, the activities required within their Brexit plan and overall plan for how the activities interlink.

Bank categories

Category 1: Banks predominantly using a hub as a basis to serve clients across the EU.[21]

Description

These banks typically have their largest European presence in London where the majority of their operational activities are undertaken and a sizeable proportion of their European-based staff are located. These banks typically sell wholesale and investment banking products to a wide range of financial institutions and corporate customers across the EU27 countries, with whom the banks want to maintain their current level of customer service. These banks want to maintain access to the global workforce

[21] Given the importance of this category of banks to meeting Brexit transformation challenges, we have sought to estimate their importance within the European banking system. Based on our allocation of European banks into those predominantly using a hub model, we estimate capital markets revenues for these banks accounts for around 60% of total capital markets revenues generated in the EU.

and talent pool that is available in London. In addition, these banks want to maintain access to EU market infrastructure from the UK, to the extent that this is possible.

Preparing to respond to Brexit

To prepare to respond to Brexit, banks in this category have typically undertaken a detailed impact assessment covering the impacts by clients, products and jurisdictions in which the bank operates. The banks have also developed plans to respond to Brexit, which cover a range of Brexit scenarios and potential options for their post-Brexit operating model. However, the decision to proceed with implementing the post-Brexit operating model is dependent on obtaining sufficient clarity from governments and policy makers on the type of Brexit that will take place (e.g. EEA scenario, bespoke scenario between the UK and EU or 'hard Brexit' WTO scenario) and regulatory decisions on acceptable operating models.

Activities required

In a 'hard Brexit' scenario, these banks will typically need to transfer part of their UK operations to one or more existing EU27 jurisdictions where they have an existing footprint. Therefore the bank will need to undertake a large scale programme covering all Brexit-related activities identified in this study. These activities will therefore cover:

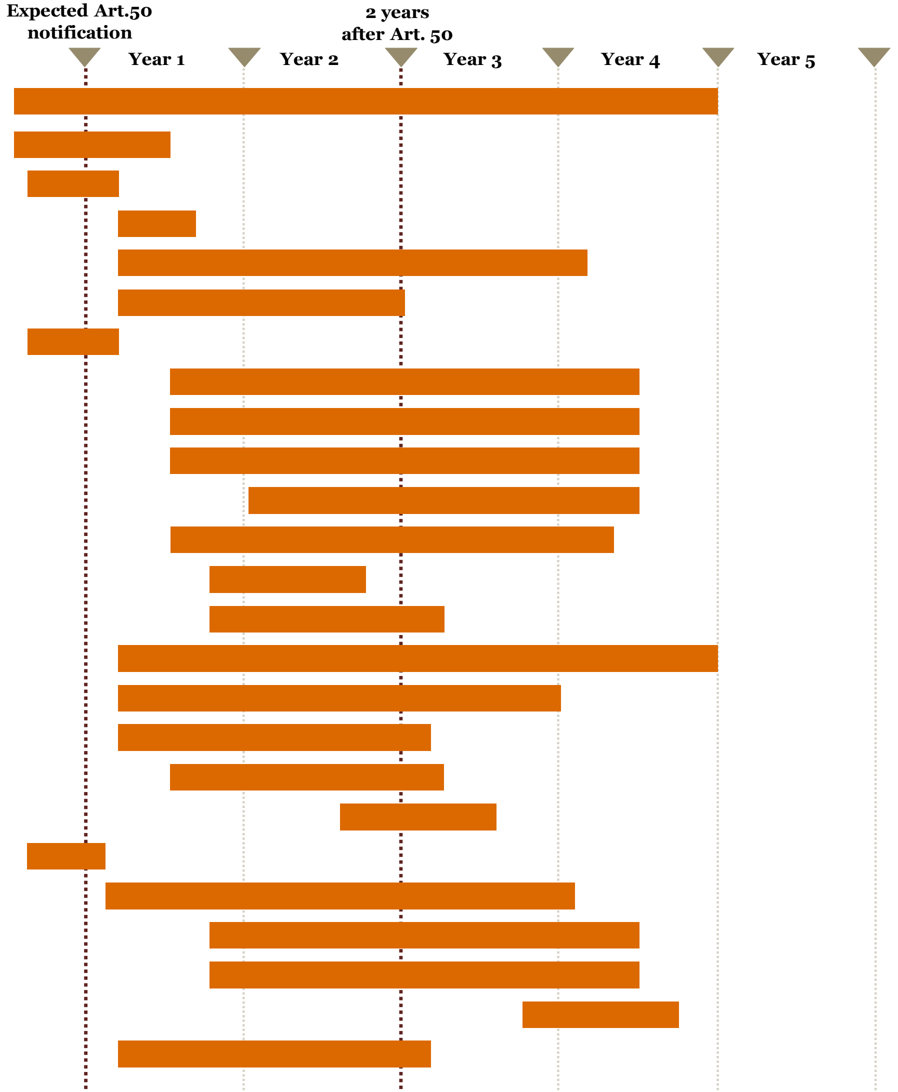
- Making large scale changes to legal entity structures and operating models to undertake activities in both the UK and EU27. Regulatory approvals in one or more jurisdiction of the updated legal entity structures, licenses to undertake expanded wholesale banking and capital markets activities, and operating models will be required.
- Migrating customer contracts from UK to EU27 legal entities.
- Changing trade booking models and associated operational activities. Sales, some trading and essential support activities will need to be migrated from the UK to the expanded EU27 location. A certain amount of trading and other support activities would need to be maintained in the UK, thus giving rise to duplication of functions.
- Changing access to market infrastructure.
- Changing technology infrastructure to provide IT support for expanded operations in its EU27 jurisdictions, and updating software applications and data to reflect changes to legal entities and trade booking models.
- Absorbing migrated operational activities and additional staff into existing premises as far as possible, and setting up new premises where additional capacity is required.
- Relocating staff from the UK to EU27 jurisdictions, and hiring new staff locally in one or more EU27 jurisdictions in compliance with local employment law.
- Identifying existing staff affected by Brexit (e.g. UK citizens in EU27 locations and vice versa) and responding to any changes in immigration rules that affect these staff.

Timescales for delivery

Based on the large scale of the activities which these banks typically need to undertake, a realistically planned Brexit programme is expected to take at least 4 years. Therefore banks in this category would need to adjust their planning to meet the timeline provided by a projected UK exit of the EU in Q1 2019.

Figure 5.1: Bank category 1 – Indicative Brexit programme timelines

Phase	Activity
Programme management	Planning and managing overall response to Brexit
Operations: Operating model	Designing the new operating model
Legal entity and organisation structure	Designing the legal entity structure
	Establishing new legal entities
	Restructuring legal entities
Regulation and licensing	Obtaining required regulatory approvals
Operations: Booking model	Designing booking models
Operations: Updating processes	Changing middle and back office processes
	Expanding finance, governance and group processes
	Updating collateral management processes
	Changing sales and trading activity
Operations: Clients	Undertaking client management activities
Operations: Market infrastructure	Maintaining access to market infrastructure, including clearing
Technology	Re-engineering technology infrastructure
	Updating software and applications
	Updating the approach to data residency
Premises	Establishing operations in new locations
	Expanding operations in existing locations
	Ceasing or downsizing existing locations
People and staffing	HR planning
	Retaining staff in existing locations
	Relocating staff
	Recruiting staff in new or expanded locations
	Downsizing of staff in existing locations
Suppliers	Managing suppliers in response to operational change



Source: Bank interviews and PwC research

Category 2: Banks with pan-European legal entity structures and operations.

Description

These banks have a broadly even proportion of wholesale banking and capital markets operational activities and staff across the UK and the EU27. Their existing legal entity structures and current regulatory licenses permit a range of activities within both the UK and EU27. The banks typically sell a wide range of products to financial institutions and corporate customers who are located in the UK and EU27. Whilst these banks have significant operational activities in a number of EU27 jurisdictions, they want to maintain access to the capital markets, the deep pool of liquidity and talent that London provides.

Preparing to respond to Brexit

The extent of planning undertaken by these banks to respond to Brexit varies. Some banks have undertaken a detailed impact assessment, with particular focus on the impact on existing legal entities and regulatory licenses, the impact on products, the impact on client activities and the ability of their existing premises to absorb operational changes. Other banks are monitoring the external environment and awaiting key decisions by governments and policy makers before progressing with their plans to respond to Brexit. Regardless of the extent of planning undertaken, these banks are typically confident that their existing legal entity structures and footprints will limit the impact of Brexit on their ability to continue providing services customers. These banks also typically have existing office space and trading floor capacity in both the UK and EU27.

Activities required

In a 'hard Brexit' scenario, these banks will need to undertake a limited amount of legal entity restructuring, as well as seeking regulatory approval for any additional local licences, and to relocate sales staff to serve their clients in local jurisdictions. Therefore these banks will still need to undertake a significant number of activities to complete the implementation of its Brexit programme. In addition to the activities highlighted above, these cover:

- Designing new operating models for post-Brexit activities.
- Repapering client contracts where these are affected by legal entity restructures.
- Changing access to market infrastructure.
- Making changes to technology infrastructure and software applications.
- Relocating and accommodating additional staff, most likely in existing premises.
- Identifying existing staff affected by Brexit and responding to any changes in immigration rules that affect these staff.

Given the trading and operational activities already undertaken in both the UK and EU27, Brexit programme activities are unlikely to require:

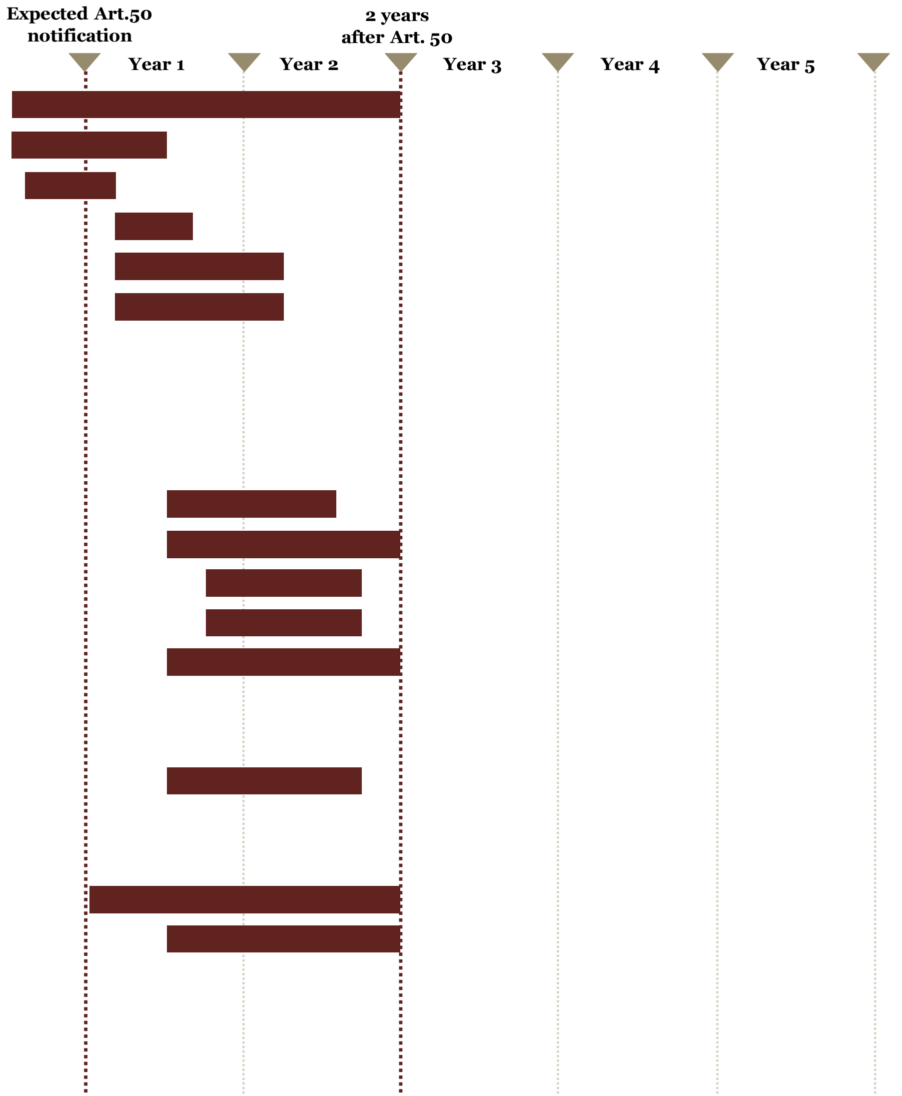
- Making material changes to existing trade booking models.
- Making material changes to middle and back-office processes.
- Expanding group functions in existing jurisdictions.
- Setting up new premises and undertaking significant hiring of new staff in a particular jurisdiction.

Timescales for delivery

Based on the activities which these banks typically need to undertake, implementation of these Brexit programmes can be delivered in a 2-year timeframe. Therefore for banks in this category, completing their Brexit programmes before the UK exits the EU in Q1 2019 is achievable, albeit suboptimal in comparison to current arrangements from an operational point of view.

Figure 5.2: Bank category 2 – Indicative Brexit programme timelines

Phase	Activity
Programme management	Planning and managing overall response to Brexit
Operations: Operating model	Designing the new operating model
Legal entity and organisation structure	Designing the legal entity structure
	Establishing new legal entities
	Restructuring legal entities
Regulation and licensing	Obtaining required regulatory approvals
Operations: Booking model	Designing booking models
Operations: Updating processes	Changing middle and back office processes
	Expanding finance, governance and group processes
	Updating collateral management processes
	Changing sales and trading activity
Operations: Clients	Undertaking client management activities
Operations: Market infrastructure	Maintaining access to market infrastructure, including clearing
Technology	Re-engineering technology infrastructure
	Updating software and applications
	Updating the approach to data residency
Premises	Establishing operations in new locations
	Expanding operations in existing locations
	Ceasing or downsizing existing locations
People and staffing	HR planning
	Retaining staff in existing locations
	Relocating staff
	Recruiting staff in new or expanded locations
	Downsizing of staff in existing locations
Suppliers	Managing suppliers in response to operational change



Source: Bank interviews and PwC research

Category 3: Domestically-focused banks requiring continued access to UK and EU27 markets.

Description

These banks typically have a domestic focus in either UK or EU27 jurisdictions, and their presence outside of their home jurisdiction is limited. Their presence outside their home jurisdiction typically covers a small number of legal entities, which do not currently have the permissions and operational capacity to undertake a significant amount of local wholesale banking and capital markets activities. These banks typically sell a bespoke suite of wholesale and investment banking products to a target cluster of financial institutions and corporate customers outside their home jurisdiction. The vast majority of this customer activity is currently undertaken from one location. These banks want to maintain their current level of access to UK and EU markets and current level of service to their customers.

Preparing to respond to Brexit

These banks have typically undertaken impact analysis focused on expanding their current EU27 or UK presence to service its clients locally. These banks have typically assessed the impact of a range of Brexit scenarios on their wholesale banking and capital markets activities outside their home jurisdiction. They have also identified the key activities that they need to expand in either the UK or EU27, potential locations in which to do this, and the legal entity models and likely regulatory approvals they will need to achieve this.

Activities required

In a 'hard Brexit' scenario, these banks will need to set up local sales, trading and general management activities in a new location. Therefore these banks will need to undertake 22 of our 25 activities to complete the implementation of their Brexit programme. These activities will cover:

- Changing existing legal entity structures to incorporate wholesale banking and capital markets activities outside of domestic jurisdictions. This is likely to involve setting up a new legal entity for this purpose.
- Designing wholesale and investment banking operating models.
- Applying for broker-dealer licenses, and obtaining regulatory approvals for these together with legal entity changes and operating models.
- Migrating customer contracts from one legal entity to another.
- Building onshore sales and trading activity. This will cover changes to trade booking models, and developing local sales, trading and support activities. This will give rise to duplication of functions.
- Changing access to market infrastructure.
- Setting up technology infrastructure support and software applications to facilitate trading and operational activities in the new location, and managing data in compliance with local regulation.
- Finding and setting up new premises in the new location.
- Hiring new staff in the local jurisdiction, and relocating staff to this location from home jurisdictions. This will include setting up local legal entity Management, Finance, Risk and HR functions.
- Identifying existing staff affected by Brexit and responding to any changes in immigration rules that affect these staff.
- Managing suppliers which are identified as critical to operating models and premises in the new location.

Activities which are unlikely to be a significant part of Brexit programmes for banks in this category cover:

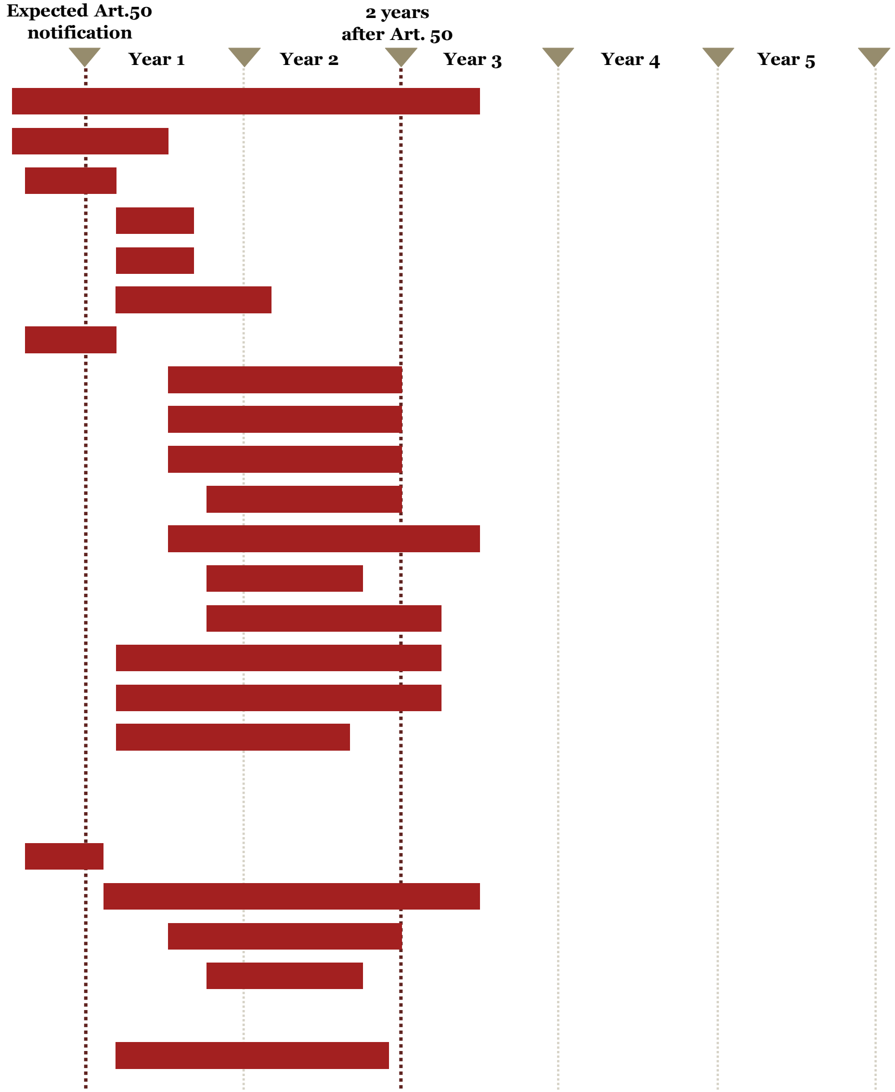
- Changing arrangements with respect to existing premises in either the UK or the EU27.
- Downsizing staff in the domestic jurisdiction where these banks operate.

Timescales for delivery

Based on the 22 activities which these banks typically need to undertake, implementation of a realistically planned Brexit programme will take between 2 and 3 years. Therefore it would be difficult for banks in this category to complete a realistically planned Brexit programme before the likely UK exit from the EU in Q1 2019.

Figure 5.3: Bank category 3 – Indicative Brexit programme timelines

Phase	Activity
Programme management	Planning and managing overall response to Brexit
Operations: Operating model	Designing the new operating model
Legal entity and organisation structure	Designing the legal entity structure
	Establishing new legal entities
	Restructuring legal entities
Regulation and licensing	Obtaining required regulatory approvals
Operations: Booking model	Designing booking models
Operations: Updating processes	Changing middle and back office processes
	Expanding finance, governance and group processes
	Updating collateral management processes
	Changing sales and trading activity
Operations: Clients	Undertaking client management activities
Operations: Market infrastructure	Maintaining access to market infrastructure, including clearing
Technology	Re-engineering technology infrastructure
	Updating software and applications
	Updating the approach to data residency
Premises	Establishing operations in new locations
	Expanding operations in existing locations
	Ceasing or downsizing existing locations
People and staffing	HR planning
	Retaining staff in existing locations
	Relocating staff
	Recruiting staff in new or expanded locations
	Downsizing of staff in existing locations
Suppliers	Managing suppliers in response to operational change



Source: Bank interviews and PwC research

Conclusion

A number of banks who undertake large amounts of cross-border trade are included in category 1. These banks typically need to undertake a realistically planned Brexit programme of at least 4 years. Therefore banks in this category would need to significantly adjust their planning to meet the timeline provided by a projected UK exit of the EU in Q1 2019. This therefore presents a risk to the provision of the current level of services provided to EU customers.

More generally, our assessment of the impacts to the three different bank categories suggests that not all banks face such a high level of impact from Brexit. Banks in category 2 require less time and resources to maintain their current UK and EU27 business activities and current level of customer service following Brexit, and completing their Brexit programme by Q1 2019 is achievable. Banks in category 3 may not be able to complete a realistically planned Brexit programme by Q1 2019 because they are expected to take 2 to 3 years to implement, however their volume of cross-border trade is lower and UK or European activities more bespoke than banks in category 1 and they present less of a risk of disruption to the overall supply of financial services across Europe.

6. Meeting the challenge of a compressed timeframe

Key points from this chapter:

- *In order to be Brexit-ready, banks are considering how they can deliver the identified implementation steps within the required timeframes.*
- *In accelerating the overall approach to Brexit, options include early implementation of 'no regrets' activities, or progressing on the basis of assumptions about the post-Brexit environment. Some banks are also considering migrating to a short-term transitional operating model in order to be ready for Brexit, then transforming further to achieve their chosen long-term operating model.*
- *Within individual areas of the transformation plans, there are a number of options for accelerating completion. Many of these are based on identifying where banks can use what they already have in place and minimising the extent of change required.*
- *Accelerating the programme increases the risk of higher costs, programme delays, and negative client impact. An operating model that can be achieved within the Brexit timeframe may not be as cost-efficient in the long-run as one which could be implemented with more time available. Limiting the time available for testing or contingencies, risks unexpected problems arising, which could have a knock-on effect on the programme. Finally, interactions with clients are not fully within the banks' control, so planning to accelerate these could result in activities not being completed as scheduled or cause damage to client relationships.*

The previous chapters indicated the potential scale of a bank's Brexit program and how this could vary for different banks. This chapter outlines ways in which these timescales could be compressed in order to achieve readiness for Brexit within a limited timescale. Specifically we describe:

- Potential approaches that could be implemented to allow banks to continue servicing clients.
- What can be done to reduce the timescales involved.
- The implications of reducing timescales.

Accelerating the response

Banks are considering a number of approaches to accelerate their response to Brexit. This is being driven by the fixed timeline of the Article 50 process: although these are not considered preferred options, banks may need to adopt them to preserve service continuity when the UK exits the EU.

Identifying 'no regrets' actions before the UK triggers the Article 50 process. There are some actions that banks can take to keep their options open, while incurring low or no costs. For example, having in-principle discussions with local regulators and reserving space within existing bank premises at a location where activities may be transferred (to ensure they are available and new office space does not have to be sourced later if such a transfer takes place).

Starting implementation prior to certainty around Brexit negotiation outcomes: In order to be able to complete the necessary work within a 2-year timeframe following the Article 50 notification, many banks have identified that they will need to start to make decisions and begin implementation as soon as early 2017. Clarity will only emerge on the negotiation outcomes during the negotiation period following Article 50 notification, with certainty only at its conclusion, so these banks need to begin implementation before having certainty over the eventual Brexit outcome. Some banks have indicated that they are in a position to wait until greater clarity is available, but this has been limited to banks which are expecting a lower impact from Brexit and which, because of their smaller scale, can expect to respond more quickly.

Making assumptions on likely outcomes around regulatory approvals. Regulatory decisions will drive each bank's choice of future operating model. By making assumptions on what regulators will permit or require, banks can proceed with the planning and implementation, but this runs significant programme risk if these assumptions turn out not to be valid.

Adopting a short-term approach of minimising movement of people and infrastructure. Some banks have indicated that they are seeking to minimise the extent of change when planning their short-term response to Brexit.

Considering novel operating models. Some banks have considered novel operating models as an alternative to the legal entity structures above. One alternative is introducing the broker model, where a bank that is not able to trade directly with a customer introduces them to another firm with whom it has a relationship. An approach of this sort could allow a bank to continue to support customers in locations where it cannot operate directly.

Accepting sub-optimal operational choices in the short term, as a stepping stone to a preferred end state. Many banks have indicated that they are prioritising maintaining service and minimising disruption to their clients during Brexit. Some banks have recognised that it is not feasible to complete their transition to their final post-Brexit operating model within the two years imposed by the Brexit schedule, and so are planning to adopt a transitional operating model in the short term – recognising that this may result in inefficiencies in processes, higher capital requirements, and other disadvantages – and then migrating to a more efficient operating model in the longer term.

Reducing the timescales

Across the activities which banks will need to consider, there are a number of options for reducing the timescales required. Not all of these may be possible or appropriate for all banks, but they could be considered as part of planning an approach to meet the required timescales. These are listed in Figure 6.1 below

Figure 6.1: Reducing the timescales for implementing Brexit transformation plans

Legal entity and organisation structure	• **Using existing legal entities and minimising the time and resources required to establish the new legal entity structure**. Many banks already have a subsidiary in an EU27 jurisdiction, and are considering or planning to use this as the basis for their new legal entities. A few banks indicated that they had legal entities in the EU27 which were previously not a priority to retain but are now providing options for banks' new legal entities in order to continue to serve EU customers. • **Selecting a legal entity structure that can be implemented efficiently**. There are a number of different legal entity structures that banks are considering to provide access to the markets they plan to serve. Banks may reduce the time required by considering the complexity and time required for implementing various options (which will vary depending on their current structures) and use this to inform their selection. • **Selecting a jurisdiction where legal entities can be created or restructured efficiently**. Jurisdictions differ in the complexity and time required for legal entity creation or restructuring. Banks may reduce the time required by taking this into account when selecting the jurisdictions for their new legal entity structure.
Regulation and licensing	• **Using existing approvals and minimising the time and resources required**. Where a bank can use a legal entity which already has approvals in place, this may reduce or eliminate the requirement to obtain new approvals from a regulator. However, this won't be suitable where the scale or range of activities is increasing significantly. • **Engaging with regulators at an early stage**. There is evidence that some regulators are willing to hold 'in principle' discussions about potential regulatory business plans, before any formal application is made. Where this is possible, this could help banks to develop plans with greater certainty at an earlier stage. • **Getting into the regulatory queue**. Banks have indicated that they plan to start applications for regulatory approvals as early as they can.

	• **Selecting the jurisdiction**. Regulators in various jurisdictions differ in the time required and the complexity of the process for providers. Banks may reduce the time required by taking this into account when selecting the jurisdictions for their entity. This approach could, however be counterproductive because if a number of institutions all opt for the same location then the authorities in that location could be inundated with applications, creating a regulatory bottleneck.
Operations	• **Designing the operating model to minimise the extent of change required**. Minimising the extent of changes to the operating model will reduce or eliminate the time required for implementing changes. In particular, limiting the changes to the bank's legal entity structure will reduce the extent of activity relating to client repapering and changes to collateral arrangements (although some activity may still be required, driven by changes initiated by the bank's own counterparties). • **Planning a new, more flexible operating model**. Some banks are planning new operating models with greater flexibility, so that they can be adapted to a variety of Brexit scenarios. This allows them to start planning and implementing new operating models at an earlier stage, without needing to await clarity from the Brexit negotiations, while not irrevocably committing themselves to a plan which may later turn out to be undesirable as clarity on the outcome emerges. • **Implementing manual processes in place of automation**. Some banks are considering using more manual processes as part of their operating model in the short term, to avoid delay while awaiting the implementation of technology changes. Such approaches are more likely to reach capacity constraints quicker and are clearly sub-optimal. It is intended that these manual processes are subsequently replaced by automated technology solutions once they are in place. • **Considering alternative approaches to access market infrastructure**. Many banks have identified access to market infrastructure as a key concern. Depending on how this access changes, banks may be able to reduce the time required to maintain access by considering alternatives (e.g. use of a clearing agent) as a temporary or longer-term solution.
Technology	• **Using existing technology and reducing the need to relocate or adopt new technology**. Minimising changes to the operating model and the technology needed to support it will reduce or eliminate the time required for implementing changes in technology. • **Limiting technology development required for market infrastructure access**. Many banks have identified access to market infrastructure as a key concern, although technology has not been considered the most challenging aspect. However, when banks are considering their approach to accessing market infrastructure, they need to take into account the extent of technology change required to support it, both in the short and longer term.
Premises	• **Using surplus accommodation in existing premises**. Many banks have indicated that they have access to existing premises which could be utilised, at least in the short term, to accommodate activities that are being transferred between locations. This will significantly reduce both the time and the costs associated with relocating activities. • **Designing the operating model to minimise the extent of change in locations required**. Banks that plan to use existing premises have indicated that this will be possible if a limited number of functions (e.g. sales, risk, finance, HR, and general management) were transferred. However, banks have also indicated that it can be challenging to obtain office accommodation for trading activities because of the specific requirements to support this, including size, occupation density, facilities and infrastructure.

People and staffing	•	**Using existing knowledge of employment law in current locations**. Where changes to staffing arrangements are being made in a jurisdiction where the bank is already operating, it is expected that the bank will already have an understanding of employment law and legal requirements there. As a result, where activities such as recruitment or relocation are taking place in a location where the bank is already present, this will reduce the resources required to understand and comply with the legal requirements, compared to new jurisdictions.
	•	**Identifying and selecting jurisdictions with suitable employment law**. Jurisdictions differ significantly on the flexibility of their employment law and the ease and speed at which banks can recruit or relocate staff. Many banks are performing jurisdictional analysis as an early activity, primarily focused on regulatory requirements, but could also assess employment law in order to inform decisions on locating staff and to identify and address potential roadblocks.
	•	**Minimising extent of moves**. The resources and time required for relocation can be reduced if staff relocation is minimised. Some banks may be planning large-scale relocations, while others are considering moving only a limited number of roles to support local activities, which will reduce the time and resources required.
	•	**Filling roles with short-term staff**. In order to get operations running more quickly, banks may be able to fill critical gaps in staffing through temporary measures such as seconding staff from another location or engaging contractors.
Suppliers	•	**Minimising extent of moves**. Changes required to supplier arrangements will be driven by the extent of the change to the overall operating model, so minimising changes to the operating model will reduce the time and resources required to manage suppliers.
	•	**Using existing suppliers**. When expanding operations at an existing location, banks may be able to use existing supplier relationships there. If establishing operations in a completely new location, they can identify if existing suppliers have a presence there. Both of these are expected to simplify and accelerate the engagement of new suppliers.

Source: Bank Brexit transformation plans

Implications of reducing the timescales

Although the options above could allow banks to accelerate the timescales for responding to Brexit, they may also introduce additional risks and costs, including the following:

Higher risk of programme delays. Banks may reduce or eliminate activities that reduce programme risk but are not considered critical for implementation. For example, in preparation for ring-fencing, many banks have allowed for a significant period of time (e.g. 12 months) for testing, but for Brexit programmes of significant scale, a lengthy testing period would not be feasible within the required timescales. This increases the risk that a bank does not identify and remedy issues on a timely basis, which could impact the bank's ability to successfully complete its programme on time. Banks may also reduce or eliminate contingency planning within the schedule, which increases the risk that any problems or slippage will have a knock-on effect on subsequent activities and again threaten the overall timeline.

Refocusing of clients and activities. Where time is constrained, banks will focus on the activities and clients that they have identified as key. This could change the level of service offered to some clients and potentially a change in a bank's client base.

Compressed time for client interaction. Some activities that a bank undertakes in response to Brexit will have a customer-facing impact. These include changes to the legal entity that the bank will use to contract with its clients, which could result in a need for repapering (establishing new contractual arrangements such as master agreements to reflect the new legal entities) and managing open positions. They also include changes where a bank is changing or withdrawing services, and possibly migrating customers to a different service provider. The time required to complete these activities depends to some extent on the timeliness of client engagement, and is not completely within the bank's control. As a result, accelerating the timescales for completion of the Brexit programme may not align with the timescales on which clients are operating, which could result in activities not being completed as schedule (with potential impact on the rest of the programme).

Increased operating costs: Planning and design options that are selected based on their speed of execution are not necessarily the most efficient in terms of ongoing operational costs. For example, a legal entity structure which is selected for its simplicity and speed of implementation will not necessarily be optimal from a capital or tax perspective. Another example is where a bank implements manual processes as a short-term measure while awaiting completion of technology implementation; these manual processes are typically more costly, as well as being more prone to error and less scalable. So some banks are planning to implement a short-term operating model using time-saving measures, accepting the increased costs in order to be ready for Brexit within the required timescales, and then continuing the migration to a more cost-effective longer-term operating model. In certain circumstances, banks may bear a higher cost, short-term solution in order to prevent detrimental customer impact, but in other situations, short-term solutions may result in high administration burdens and costs for the users of financial services.

Increased implementation costs from use of a short-term operating model. Where banks are adopting an approach of transitioning to a short-term operating model to meet the Brexit timescales, and then further migrating to a longer-term operating model, the temporary elements of the short-term operating model may eventually be discarded. This will likely result in increased costs and time required when compared to a migration directly to the long-term operating model. This is a necessity from having to be ready for Brexit within the 2-year time frame.

7. The role of public authorities

Key points from this chapter:

Public authorities can support transformation towards a post-Brexit operating environment through:

- *Clarity, wherever possible;*
- *An early agreement on a transition period of three years, which would start after the conclusion of negotiations (and providing there is clarity on the post-Brexit arrangements);*
- *Flexibility on legal entity structures and operating models;*
- *Accelerated approvals process; and*
- *Acceptance on home regulator risk models (at least for the transition period).*

Introduction

In Chapters 4 and 5 we identified the challenges banks will face in implementing the necessary changes to prepare for Brexit. This highlighted the delivery risks given the limited time available and the continuing high levels of uncertainty. Meeting the compressed timeframe will therefore require the concerted efforts of both banks and public authorities whose support will be essential to avoid market and client service disruption.

In this chapter we set out:

- The role of different public authorities.
- The actions of public authorities which would reduce Brexit implementation challenges and the risk of disruption of the supply of finance to the EU economy.

The role of public authorities

Brexit has revealed a need for clarity on the role of different public authorities and importantly the division between political level decisions and regulatory/supervisory decisions. We summarise the roles of the different parties below:

- **UK government**: The UK Government is responsible for notifying the European Commission of its intention to leave by triggering the Article 50 process. It is responsible for negotiating the terms of an exit agreement on behalf of the UK with the European Commission. During this process, it is expected to consult with various domestic stakeholders including banks and businesses in other sectors over their key priorities, as well as conduct its own analysis of the potential impacts of various exit arrangements to inform its overall negotiating strategy.
- **European commission, European council and council of the EU**: These three bodies are responsible for informing and agreeing the EU's overall negotiating position. The European Council (excluding the UK) will set out the guidelines for the exit negotiations, which have to be unanimously agreed by the remaining 27 Member States. This provides a high-level steer to the European Commission which will then draft a more detailed mandate for the negotiations and provide its own recommendations. This is then be submitted to the Council of the EU for agreement. The European Commission is then responsible for leading the negotiation process.[22]
- **European parliament**: The European Parliament is responsible for negotiating and legislating acts together with the Council of the EU through the ordinary legislative procedure (formerly known as 'codecision'). Its role is to scrutinise, amend and vote on legislation, including on any final agreement between the EU and the UK.
- **European Supervisory Authorities (ESAs) such as the EBA, ESMA, and EIOPA, and the European Central Bank (ECB)**: They have significant influence during the policy formation and

[22] Institute for Government

implementation process by drafting technical standards of regulations, and are likely to be consulted over the compatibility of any access arrangements with existing technical standards. The ESAs also can issue non-binding guidelines that are addressed to Member State authorities. The ECB will consider the impact of the exit and market access agreement on its ability to safeguard financial stability in the EU and Eurozone.

- **UK regulators and supervisors (FCA and PRA)**: The PRA is responsible for the supervision of domestic firms, as well as overseas firms operating in the UK and UK groups operating abroad. The FCA is currently a member of ESMA, and is responsible for the supervision of markets rather than individual firms, with the aim of ensuring financial stability. Both the FCA and PRA are important stakeholders during the Brexit negotiations, as they will provide their views on the impact of any access arrangements on their ability to supervise EU and other overseas firms operating in the UK, with the overall aim of maintaining continuity of service and financial stability.
- **European national regulators**: National regulators, who are represented in the ESAs, will need to consider the impact of any potential relocation of banking activity to their jurisdiction, including their capacity for dealing with requests for regulatory approvals, and extending supervision to a larger scope of banking activities.

Given the number of public authorities involved in Brexit related activities, there is a clear need for coordination and communication across the public sector.

Supporting the banks' transition

In this section we set out a number of specific actions public authorities can take to reduce Brexit implementation challenges and reduce the risk of disruption of the supply of finance to the EU economy and beyond the EU's borders.

1. Supporting financial market stability

Regulators and national governments should continue to support financial market stability, consistent with their existing policy objectives. This may require particular attention during the uncertain period around Brexit and may involve more regular market communications and targeted support in case of market need (e.g. access to liquidity schemes).

2. Clarity, wherever possible

A big driver of the timeframe for implementing Brexit changes is obtaining the necessary clarity on likely Brexit outcomes. Where there is uncertainty and ambiguity, banks are required to make assumptions and plan, based on the available information. This is likely to lead to duplicated costs and potentially avoidable disruptions associated with an inefficient transition.

Given the complex nature of the Brexit negotiations, some degree of uncertainty will be inevitable.

However, the banking industry will be better placed to support the European economy if public authorities can reduce the uncertainty on the likely post-Brexit environment. A number of examples include:

- Providing regulatory leadership and collaboration across Europe in order to provide early signals with a consistent position on overarching themes in relation to Brexit (e.g. resources devoted to licence approvals).
- Indicating, in bilateral discussions with banks, the positions regulators will take around how individual banks will be able to operate across borders in the case of a 'hard Brexit'.
- Clarity on how equivalence provisions in existing and new regulations will be applied on the date when the UK becomes a third country.

3. Grandfathering rights for existing trades and contracts

There is a need for early agreement of legally binding grandfathering rights for trades and contracts which are executed prior to Brexit, but mature after the point of Brexit.

Appropriate grandfathering rights make the scale of transformation programmes substantially smaller than if there are no such rights. This is because new or up-scaled operations can be more focussed on new and ongoing business activities rather than dealing with migrated trades and contracts. Ultimately, clients that require ongoing relationships with new banking legal entities will have to be transitioned to those new entities, but the ability to grandfather existing trades and contracts means both banks and customers do not have to put in place new arrangements for existing trades and contracts. This would avoid wasting resources on existing financing arrangements and enables customers to devote resources to new financing activities.

4. A transition period of at least 3 years

The Brexit negotiation between the UK government and the EU will cover a wide range of potential areas concerning trade, migration, regulation and future cooperation. While the financial services sector is only one part of the economy, it has a clear interest in maintaining market access arrangements as close to those currently available. The purpose of this report is not to make suggestions on political trade-offs in any Brexit deal. However, regardless to the deal struck, it does suggest there are strong grounds for a transition period to implement the necessary changes.

Based upon our analysis in Chapter 5, we suggest a transition period of 3 years following the date when the UK exits the EU for all banks to be able to implement their changes. However, for this approach to be successful, clarity is needed on the ultimate future environment by the time of exit, rather than an ongoing period of uncertainty during the transition period. During this transition period, existing market arrangements could be maintained. Not all types of banks require this time, but it will be beneficial to the whole sector to be able to transition on a more manageable timescale, being mindful that all market participants will be transitioning at the same time.

A 3 year transition period assumes that those banks requiring it are able to make significant progress during the 2 years following the triggering of Article 50. However, this requires early agreement on transitional arrangements in order for banks to transition in an orderly way.

5. Flexibility on legal entity structures and operating models

Our analysis in Chapter 5 demonstrated how banks have different structures and operating models and this is driving different implementation timescales.

It is highly likely that banks will have different structural and operating solutions to meet the challenge of operating in a post-Brexit environment. This means that banks will need to ask regulators to adopt a flexible and pragmatic approach to the new structures and operating models they propose.

6. Accelerated approvals process

As set out in the fifth of our operational steps, most of the banks interviewed will require fresh regulatory approvals even when continuing their existing activities. The approval process can be lengthy and regulators will face a peak of approvals-related activity following the invocation of Article 50.

As obtaining necessary approvals is a necessary step to enable further implementation it is critical that banks and regulators work collaboratively and pragmatically in order to have required approvals in place with sufficient time to complete the rest of the transformation work.

7. Acceptance of home regulator models

One important step in the approvals process is accepting risk models. These typically undergo extensive development and review. This means another area of helpful regulatory pragmatism would be the use of prior regulator-approved risk models (i.e. one EU regulator relying upon the approval of another EU regulator).

This would avoid model approval constraining the overall Brexit implementation timeframe. Following this, the ECB and national regulators could consider how to update the approval model for the longer-term.

Contacts

Name	Area of expertise	Telephone and email
Isabelle Jenkins	Bank transformation programmes	+44 (0) 20 7804 2742 isabelle.jenkins@pwc.com
Andrew Gray	Brexit and Financial Services	+44 (0) 20 7804 3431 agray@pwc.com
Alan Gemes	Strategy	+44 (0) 20 7212 5265 alan.gemes@strategyand.uk.pwc.com
Matthew Barling	Structuring	+44 (0) 20 7212 5544 matthew.barling@pwc.com
Nick Forrest	Financial policy	+44 (0)20 7804 5695 nick.forrest@pwc.com
James Chrispin	Operations	+44 (0)7711 109942 james.chrispin@pwc.com
Alex Keep	Operations	+44 (0)7711 562390 alex.keep@pwc.com
Amee Aujla	Technology	+44 (0)7596 692570 amee.s.aujla@pwc.com
Terry Boon	Technology	+44 (0)7769 706150 terence.k.boon@pwc.com
Hannah Swain	Regulation	+44 (0)20 7212 2433 swain.hannah@pwc.com
Sapna Patel	People	+44(0)20 7804 7077 sapna.s.patel@pwc.legal.co.uk

170116-163137-NF-OS