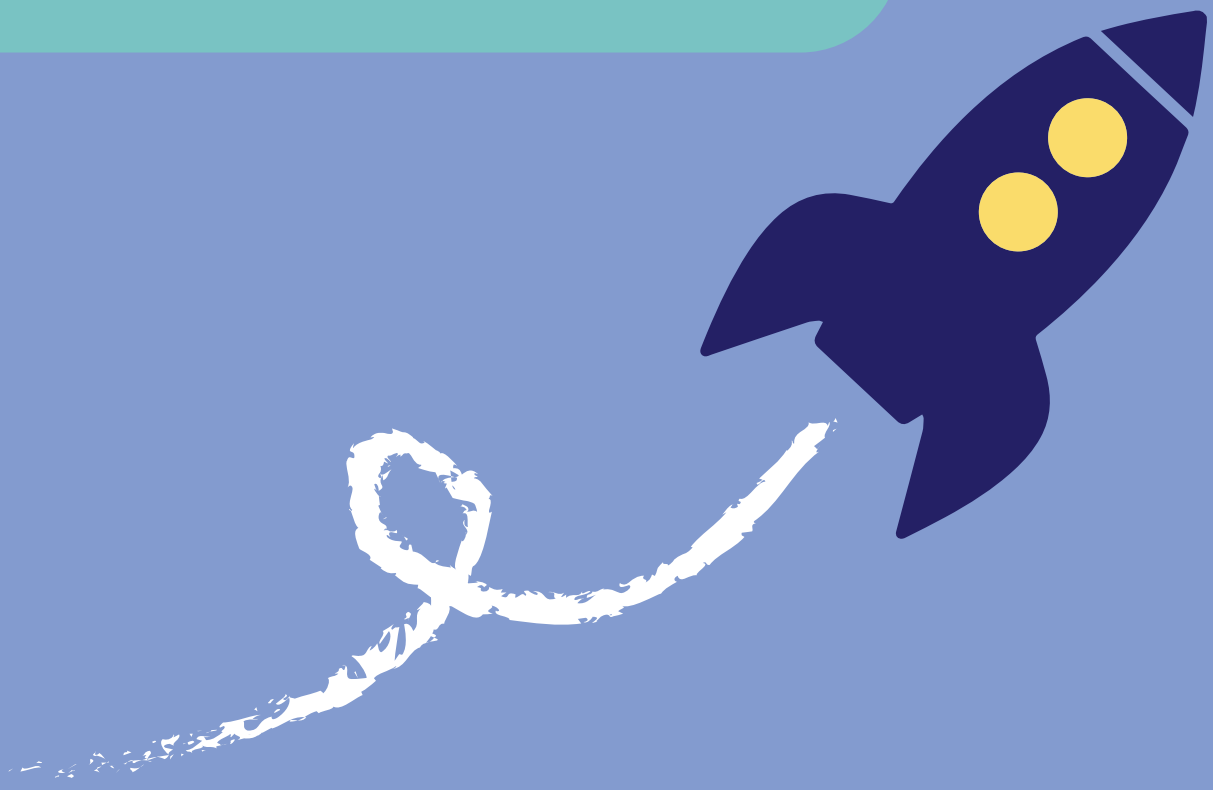
Open Banking, Preparing for lift off



Purpose, Progress & Potential

“Our Open Banking initiative is already dramatically changing the way consumers and small businesses engage with banking.”

The Rt. Hon. Phillip Hammond MP,
Chancellor of the Exchequer
June 2019

About Fingleton

Fingleton offers strategic regulatory advice.

We help business leaders across all economic sectors address novel or complex regulatory challenges. Our unique combination of insight and experience helps executives make commercial decisions with confidence, improving outcomes and clearing the way for sustainable growth.

About the ODI

The Open Data Institute works with companies and governments to build an open, trustworthy data ecosystem, where people can make better decisions using data and manage any harmful impacts.

Contents

Executive summary

1. Open Banking is a pioneering initiative designed to increase competition and innovation in the UK's banking market. It is the first significant attempt to use technology to rebalance markets in favour of consumers. Its objective is to allow bank customers to securely share their data with third parties so a broad range of businesses can compete to provide bank customers with better financial services, more choice and lower prices. The UK is already recognised as the global leader in this space and has the potential to develop Open Banking into a cornerstone of the UK's digital economy.

2. Open Banking was mandated by the Competition and Markets Authority (CMA) in its Retail Banking Market Investigation Order 2017 (the CMA Order) following its investigation into competition in UK banking. The CMA expects it to stimulate innovation across the financial sector, to enable the "unbundling" of complex retail banking products (in particular personal and business current accounts), and to ultimately lead to greater competition overall.

3. Giving consumers and businesses control over their data, it is hoped, will help them access better rates on overdrafts, savings, credit cards and mortgages, top up savings more easily, save money on foreign exchange, and help those with thin credit files get access to credit. It could help merchants to reduce the cost of accepting payments, by providing an alternative to credit and debit cards. And in time it may also allow customers to easily access better deals in other sectors like energy, telecoms and insurance.

4. The initial phase of Open Banking implementation began in early 2018 and will finish in September 2019. This review was commissioned by the Open Banking Implementation Entity (the OBIE) to examine the first year of Open Banking's rollout, and recommend how to strengthen Open Banking's impact on competition and value to users. Our conclusions are based on structured interviews with representatives of third party providers (TPPs), banks, consumer groups and the OBIE itself.

5. It is too early to assess the impact of a major initiative like Open Banking, not least because the banks have not yet fully completed implementation. Nonetheless the foundations have been established successfully, in particular the API standards and trust framework, and these were widely praised by our interviewees. Many other countries are using these standards as a blueprint for their own Open Banking projects.

6. From the outset the OBIE has adopted a "minimum viable product" approach. This means that the APIs were made live as early as possible to allow learning and modifications based on user feedback. One crucial area requiring rework was the user experience. This was initially bank designed and unnecessarily lengthy and cumbersome. The standards now incorporate comprehensive user experience requirements and are being implemented at the time of writing. Early indications are user conversion rates have doubled.

7. The OBIE does not, however, have complete discretion in its design of Open Banking. It has to fit within the EU's Second Payment Services Directive (PSD2). In the view of many of our interviewees, the shortcomings of PSD2 will likely now hold back the adoption of Open Banking. As a result, there are some gaps emerging in the UK's implementation of Open Banking that need to be addressed. The most important of these are:

a. Improving payments capabilities;

b. Improving consent protections for customers;

c. Expanding Open Banking into Open Finance; and

d. Developing Premium APIs.

8. Improving payments capabilities: The initial reaction from some TPPs is that the Open Banking's payments APIs, which are fully aligned to PSD2, miss some functionality. One of these is the absence of refund functionality, which is a critical feature for online merchants. Another is the inability for customers to pre-approve payments to a merchant, eg for subscription services or to automate sweeping between accounts. Currently customers have to manually authorise every payment. This could be solved if Open Banking were able to mandate "variable recurring payments" which would be cheaper for merchants and more secure for customers who currently have to hand over their card details to merchants to hold on file.

9. Improving consent protections for customers: The existing authorisation and consent rules under PSD2 provide many consumer protections, but there may be some areas that could be improved. We suggest adding three elements to the existing standards to further build consumer trust:

a. In order to ensure customer data is not used for purposes that the customer did not consent to, we recommend "consent codification". This would mean codifying the customer's consent and attaching it to the data. This would make it clear to data processors, auditors and regulators how the customer intended their data to be used.

b. In order to ensure that customers retain control of their data after they terminate a service, we recommend not just revoking ongoing access, as is currently the case, but also automatically deleting data that has already been shared.

c. In order to ensure continuity of service for customers, we recommend TPP-side reauthentication. This would allow users to provide TPPs with continued consent to access their data without having to revisit their bank's website or app. Currently, consumers are forced to reauthenticate with each TPP through their bank every 90 days, which is an unnecessary inconvenience.

10. Expanding Open Banking into Open Finance: The CMA Order and PSD2 only apply to current accounts and other payments accounts. This omits many important financial products, such as cash savings accounts, mortgages, pensions and insurance. The narrow focus of the Open Banking APIs limits their potential to drive wider competition in the financial sector, for example by helping customers shop around for better interest rates on savings accounts or cheaper mortgages. Extending Open Banking to these other financial products would drive more competition and better consumer outcomes. Currently the only mechanism for customers to access this information is via screen scraping, which is unstable and insecure. The FCA is planning to consult on Open Finance imminently.

11. Development of Premium APIs: Some of the increased functionality that we recommend may be best delivered by APIs that banks provide voluntarily and under contract with third parties. The OBIE is planning to create "Premium APIs" that sit above the mandatory "Regulatory APIs". These should provide a commercial incentive for banks to grow the Open Banking ecosystem and improve the performance of their APIs.

12. There are many opportunities to build on the success of Open Banking to help create a digital economy that works for consumers and small business. Several other sectors are approaching their "Open Banking moment" where customers take control of their data to drive competition and innovation. In the energy sector, if smart meter data was accessible in this way it may make switching easier and enable customers to easily take advantage of cheaper tariffs and off-peak energy pricing. Pensions is another sector where consumers face complex but important choices, and where tailored advisory services based on actual customer data could improve engagement and consumer outcomes. Some integration with Open Banking may help these sectors to develop their own standards more quickly, learning from Open Banking's successes and mistakes, and help drive adoption.

13. Another opportunity lies in the area of digital identity. Open Banking does not provide digital identity but it can support digital identity initiatives in two important ways. Firstly, it created a standardised and ubiquitous authentication mechanism that consumers can use to access their digital identity regardless of where it is stored. Secondly, transaction data can be a helpful input into the creation of a user's digital identity.

14. A significant amount has been achieved so far and places the UK in a world-leading position. Nevertheless, more work is required to build out important pieces of functionality to ensure mainstream adoption. PSD2 in particular is now seen as holding back Open Banking. We recommend the government reviews Open Banking's regulatory underpinning so that the benefits of Open Banking can flow to bank customers and UK citizens more widely. The FCA's Open Finance project, the Furman Review's proposal for a digital markets unit, and BEIS's Smart Data Review may be vehicles through which this could be achieved.

15. Open Banking is intended to kick-start an ecosystem of digital innovation and its benefits will become apparent in the coming years, not months. The challenge now is to build upon the foundations that have been laid, introduce additional functionality that has been overlooked by PSD2, and build out its capabilities across different sectors to help create markets that better serve consumers and small businesses.

Foreword

Over the last two decades, businesses have used data, complex pricing and other tools to slice and dice consumers. This "yield management" by business is experienced as price discrimination, upselling, reduced choice and lock-in by consumers. This harms competition and may be turning people against markets.

Open Banking is the first serious attempt to use technology to redress this problem. It focuses on the demand side in banking to empower consumers to compare banking products and switch more easily between them. By giving them control over their financial data, it should also help them access products from third parties more easily.

When Fingleton Associates and the Open Data Institute wrote our 2014 report for the Treasury proposing Open Banking, we hoped that it would empower bank customers to pick and choose the products that worked for them, and put consumers in control of their financial lives.

A lot has been achieved in Open Banking's first year. The technical standards have been designed well and are popular with the businesses that use them, and customer adoption is growing. Over a hundred companies are now regulated to use the APIs. They offer services that range from account management, to financial advice to those in trouble, to credit referencing for people looking to borrow money.

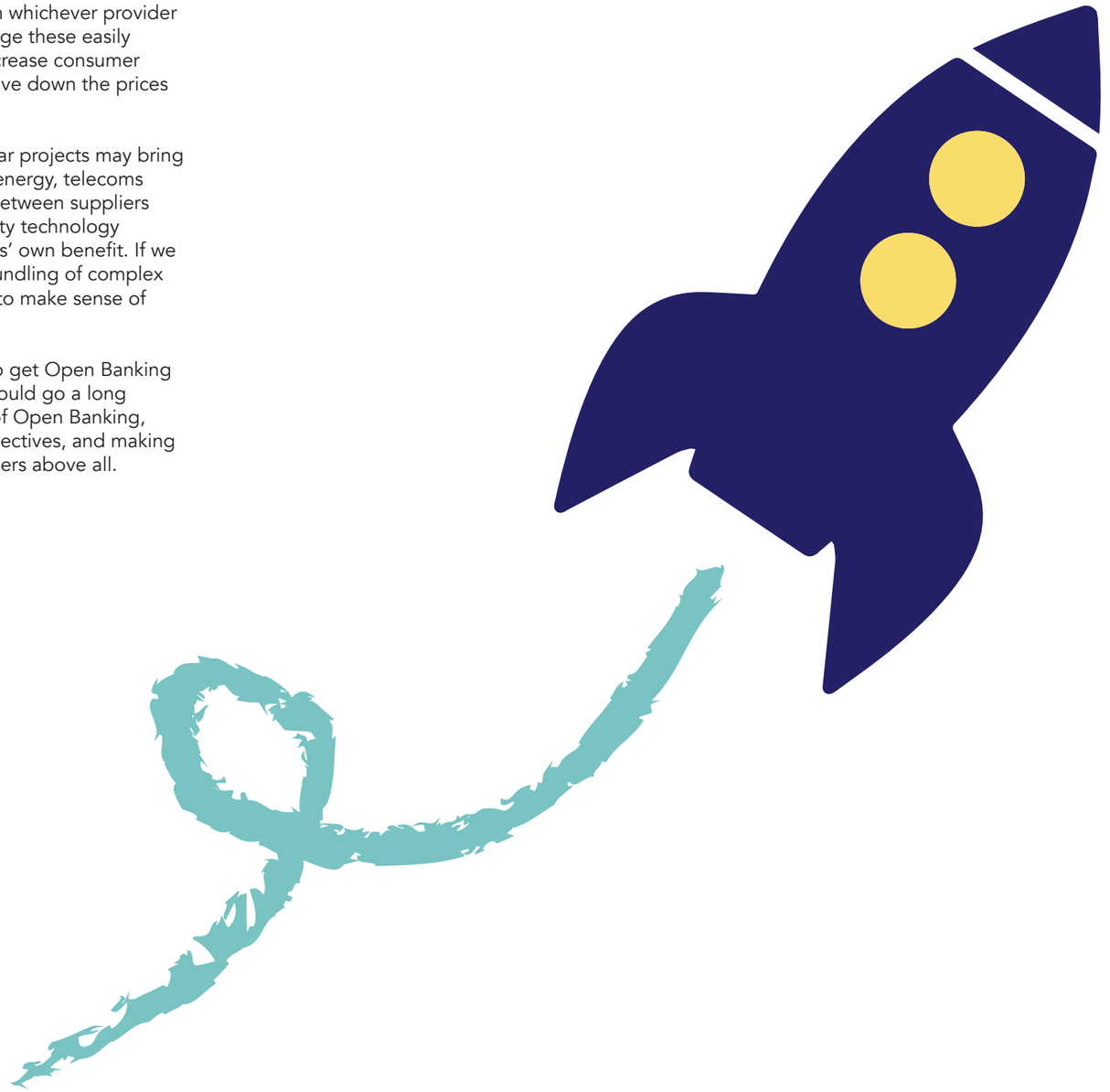
But more can be done. Many of the reforms proposed in this report are about filling gaps that prevent useful, pro-competitive services from emerging. The payments APIs, for example, could give customers and merchants a cheap, secure alternative to card network payments. That could revolutionise the world of payments, and build viable challengers to established incumbents. They need tweaks to give them the same capabilities that incumbent networks have – without those tweaks, there is a risk that the payments side of Open Banking never gets widespread adoption.

Growing Open Banking out into other financial products, too, should be good for competition and for consumers. One of the core benefits of Open Banking should be to make it easier for customers to multi-home and take their mortgage and credit cards from whichever provider is cheapest – allowing them to manage these easily through the same interface could increase consumer engagement with the market and drive down the prices people pay.

Open Banking is only the start. Similar projects may bring greater competition to markets like energy, telecoms and insurance, and drive switching between suppliers in those markets, and allow third party technology companies to use data for consumers' own benefit. If we get it right, we may see a great unbundling of complex product offers, and help consumers to make sense of previously unintelligible markets.

For that to work, though, we need to get Open Banking right. The proposals in this report should go a long way towards realising the potential of Open Banking, satisfying the CMA's competition objectives, and making the banking market work for consumers above all.

John Fingleton, July 2019



Origins of Open Banking

Scope of the report, purpose and method

In April 2019, the OBIE commissioned the Open Data Institute and Fingleton to carry out a review of Open Banking one year on from the start of its rollout.

Our review looks at:

- How has the UK sought to implement Open Banking in the UK for the benefit of consumers?
- What has the UK's implementation of Open Banking successfully delivered and what requires further work?
- Where is the UK in terms of implementing Open Banking?
- Which use cases are likely to be enabled by Open Banking in its current form and which are only partially enabled?
- What is the potential to develop Open Banking into other sectors and user services?

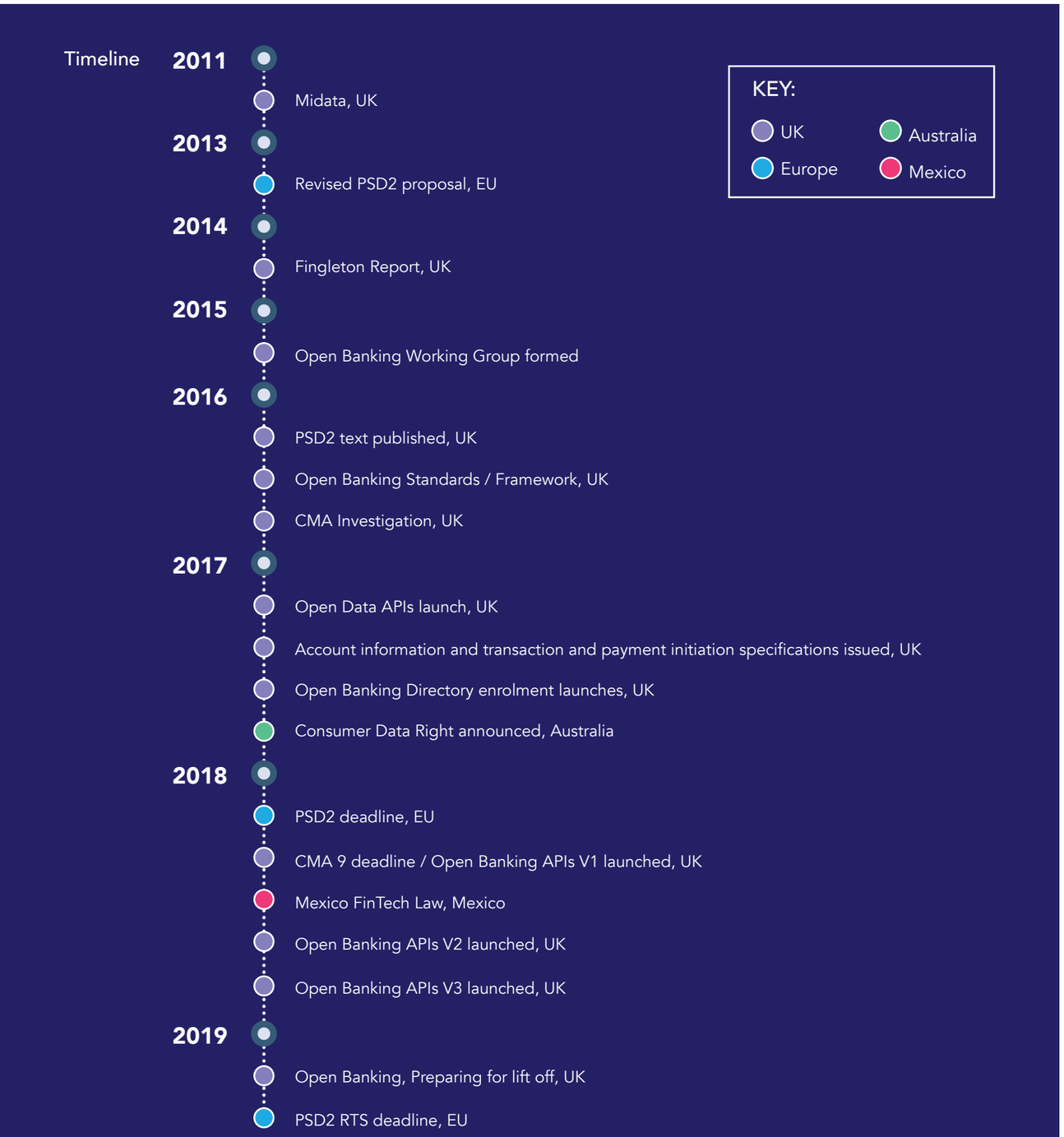
Our review uses the following methods:

- Stakeholder interviews with TPPs, representatives of banks, the OBIE, CMA and FCA staff and consumer representatives;
- Workshops held by the OBIE;
- Review of internal OBIE documents;
- Review of relevant data; and
- Desk-based research.

An overview of Open Banking

Summary

In this chapter, we describe the development to date of Open Banking in the UK. We document the motivations for establishing Open Banking, the work that came before it, the regulatory underpinning and the groups involved in delivering it.



As part of its Retail Banking Market Investigation,[1] the CMA initiated the current version of Open Banking in February 2017 to increase competition in the UK banking market. Open Banking is the first significant attempt to use technology to rebalance markets in favour of consumers in the face of sophisticated yield management techniques, and the same principle is being explored in markets like energy, telecoms and insurance.

The CMA's aim was to use data sharing to increase competition by:

- Giving customers more choice;
- Creating more customer engagement with banking services;
- Stimulating innovation across the financial sector; and
- Enabling the unbundling of current account and other retail banking products.

Regulatory background

The CMA's Retail Banking Market Investigation concluded that low levels of competition and innovation in banking were important reasons that retail banking products were expensive and service quality often poor. Open Banking was part of the remedy to address this, and was mandated in the CMA's Retail Banking Market Investigation Order (the CMA Order).[2]

This coincided with PSD2,[3] and the General Data Protection Regulation[4] (GDPR). PSD2 aims to bring greater competition and security to the payments market, by giving customers safer ways to share their data with third parties than using existing practices such as "screen scraping", where users give their bank username and password to third party apps that then use these details to access their bank account details.

Screen scraping was identified as a serious security risk in PSD2, and PSD2 was intended to control these practices by requiring banks to create dedicated interfaces for the sharing of customer data with third parties and requiring strong customer authentication which would prevent screen scraping from taking place.

The GDPR creates a number of general rights for EU citizens over their data. Some of these, such as the right to data access and data portability, dovetail with the data sharing approaches in the CMA Order and PSD2.

What does Open Banking enable?

Under Open Banking, the six largest banks in Great Britain and the three largest Northern Irish banks (the CMA9) are required to give their personal and business customers the ability to access and share their account data on an ongoing basis with authorised third parties.[5]

As well as sharing their banking data, Open Banking also includes APIs that allow approved TPPs to make payments from their accounts. The CMA intended this to make it easier for customers to make account-to-account transfers, create a viable alternative payments system to the existing card networks, and enable other use cases involving payments. We discuss some of these in Chapter Three.

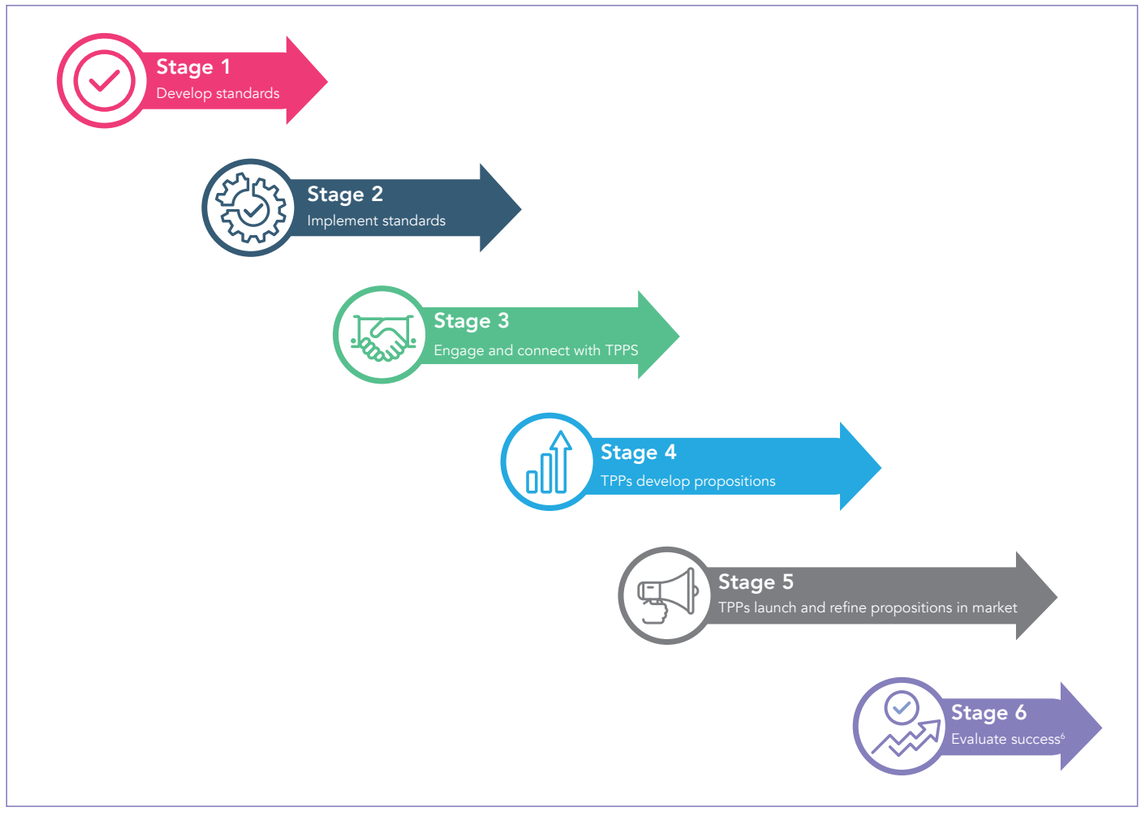
The CMA Order also specified that secure APIs should be the technology used to share customer account data and make payments, and that all nine banks should use a standardised API to make it as easy as possible for third parties to work with them.

[1] CMA, Retail Banking Market Investigation: Final Report (2016) https://www.gov.uk/cma-cases/review-of-banking-for-small-and-medium-sized-businesses-smes-in-the-uk
[2] CMA, Retail Banking Market Investigation Order (2017) https://www.gov.uk/government/publications/retail-banking-market-investigation-order-2017
[3] European Parliament and Council, Directive 2007/64/EC https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32007L0064&from=EN2007/64/EC
[4] Intersoft Consulting, General Data Protection Regulation https://gdpr-info.eu/
[5] The CMA9 are: Lloyds, Barclays, Nationwide, RBS, Santander, Danske Bank, HSBC, Allied Irish Banks and Bank of Ireland.

The rollout of Open Banking

The chart below provides a high level overview of the rollout of Open Banking in the UK from the point of view of the Open Banking Implementation Entity, the body set up by the CMA to design and implement Open Banking.

Figure One: Stages of Open Banking Implementation



After the design and initial testing stages in 2017, Open Banking went live in January 2018 with the launch of the first account information APIs. This first version of the Open Banking APIs was a bare bones service that TPPs could use for live market testing. This version has been refined several times since. This initial rollout will finish in September 2019.

Despite a basic initial implementation, a number of services using Open Banking have been launched in this pilot phase. These include account aggregators, credit referencing services, and budgeting apps. Customer use of these is growing, but no service has yet achieved widespread adoption. Furthermore, many of the use cases envisaged have not yet emerged.

Richer payment functionality was added to the payments APIs in September 2018, for example to enable future-dated payments. However, the payments APIs in their current form are still difficult to use compared to alternative ways of making payments, like cards or Direct Debits, and have not been adopted by many TPPs. We discuss some payments use cases in Chapter Three, and recommend changes to enable them in Chapter Four.

[6] Source: Open Banking Ltd

The history behind Open Banking

Midata

The UK's first attempt at creating a version of Open Banking was the Midata initiative. Launched in 2011 by the Department for Business, Innovation and Skills (later renamed the Department for Business, Energy and Industrial Strategy, or BEIS), Midata was intended to give consumers greater access to their transaction data in a portable electronic format.[7] It was hoped this would make it easier for consumers to compare current accounts and increase switching.

Banks voluntarily supported the initiative by providing downloadable account transaction data in a standardised file format. Customers needed to download these files, save them to disk and then upload them to comparison providers. These providers would then analyse the data and make switching recommendations.

Midata eventually rolled out in 2015, with serious problems:

- User experience was poor. Users found the requirement to download and upload files to be a complex and cumbersome process.
- It only offered a one-off snapshot of user data rather than an ongoing feed.
- Customers could alter the data themselves, making it unreliable for purposes like credit scoring where provenance is important.[8]

Despite claims that Midata would "change personal banking forever",[9] it never achieved widespread adoption. In the view of many of our interviewees, Midata was crippled by its poor user experience. In our interviews with the OBIE, this experience was cited as a key lesson for them in the implementation of Open Banking.

Data Sharing and Open Data for Banks: A report for HM Treasury and Cabinet Office

In 2014, HM Treasury commissioned the Open Data Institute (ODI) and Fingleton Associates to assess the opportunities for improving UK banking. This focused on giving personal and business customers the ability to easily share bank transaction data with third parties using APIs.[10] The paper also considered how bank publication of certain product data as open, machine-readable data might help achieve these outcomes.[11]

The paper argued that greater access to data had the potential to help improve competition in UK banking, and that contemporaneous policy interventions, such as Midata, and consultations to improve SME credit data, were good in principle but not in execution.[12]

The paper concluded these policy initiatives would benefit from employing more common technology and standards for data sharing. Common standards were identified as important for interoperability between different providers and to prevent incumbents from developing "walled gardens" that kept their customers from accessing rivals' products. It argued that effective data sharing in the banking sector would lead to:

- Improved price transparency in personal and business current accounts;
- Improved transparency about the quality of current accounts;
- Reduced switching costs between service providers; and
- Lower barriers to entry for new service providers.

The paper proposed that APIs be used to share the data, as a robust and proven technology, and a security system that would allow users to authorise third party apps without having to give up their password details.

Data sharing had already been occurring to some degree, predominantly using screen scraping. Removing the need to share usernames and passwords would remove a significant source of user friction, and well-designed APIs could increase customer security simultaneously. The APIs would also facilitate simple, low friction, and scalable data sharing which would be far less costly to service providers and much more useful and secure for consumers.

[7] Department of Business, Innovation and Skills, The Midata vision of consumer empowerment https://www.gov.uk/government/news/the-Midata-vision-of-consumer-empowerment
[8] Which?, Midata: Which? first look https://www.which.co.uk/news/2015/03/Midata-which-first-look-399235/
[9] GoCompare, Why Midata will change personal banking forever https://www.gocompare.com/current-accounts/Midata/
[10] Fingleton Associates & Open Data Institute, Data sharing and open data for banks - a report for HM Treasury and Cabinet Office
[11] Open Data Institute, What is "open data" and why should we care? https://theodi.org/article/what-is-open-data-and-why-should-we-care/
[12] HM Treasury, Competition in banking: improving access to SME credit data https://www.gov.uk/government/consultations/competition-in-banking-improving-access-to-sme-credit-data

Establishing the Open Banking Working Group

In September 2015, the Open Banking Working Group (OBWG) was established by HM Treasury to determine how data sharing might actually work in practice. The group included representatives from the banks, from open data groups such as the ODI, and from consumer and third party provider groups.

In 2016, the OBWG published a high level framework for sharing banking data and guidelines on how to implement them. The group recommended that standardised APIs be used to share data. It also recommended that Open Banking adopt a decentralised system across different banks, which would be more secure than a single, centralised system.

The Second Payment Services Directive

PSD2 is a set of rules intended to increase competition in payments, reduce the fraud risk created by screen scraping, and complete the creation of the Single European Payments Area by harmonising rules across its members.

- PSD2 requires EU banks to give authorised third party payment initiation and account information service providers access to customers' accounts.
- PSD2 also mandates the use of strong customer authentication in order to initiate electronic payments, and to grant access to transaction data.

PSD2 was passed in 2015, and first came into effect in January 2018. Some of its provisions, like the requirement for strong customer authentication, come into effect in September 2019.

General Data Protection Regulation (GDPR) and Open Banking

The GDPR aims to harmonise data privacy laws within the EU. It applies to all personal data, of which Open Banking data is a subset. It provides a number of new rights relating to personal data for EU citizens, including:

- A right to access;
- A right to be forgotten;
- A right to restrict processing;
- A right to data portability; and
- A right to withdraw consent (where applicable).

Open Banking facilitates the customer's right to data portability and the right to withdraw consent in a more targeted way than the GDPR requires.

The CMA Retail Banking Investigation Order 2017

The CMA concluded its Retail Banking Market Investigation in 2017. It found that "older and larger banks do not have to compete hard enough for customers' business, and smaller and newer banks find it difficult to grow. This means that many people are paying more than they should and are not benefiting from new services."[14]

To tackle these issues, the CMA set out a wide-reaching package of remedies. Central to this was a legal mandate placed upon the nine largest UK banks and building societies, the CMA9, to make their personal and small business current account customers' banking data available to authorised third parties through secure APIs as proposed by the ODI/Fingleton report and the OBWG.[15]

According to one interviewee we spoke to, the CMA's intention was for this to be a *"gamechanger, rather than just spraying WD40 over the existing processes."*[16] The ambition was to allow new players entering the market to target incumbent banks' most profitable customers, and end the customer lock-in that had led to so many distortions in the banking market.

The Open Banking Implementation Entity

The OBWG recognised in its 2016 report that well-designed technical standards would need a strong implementation capability to affect change. The CMA therefore determined that there was a need for a central implementation entity to:

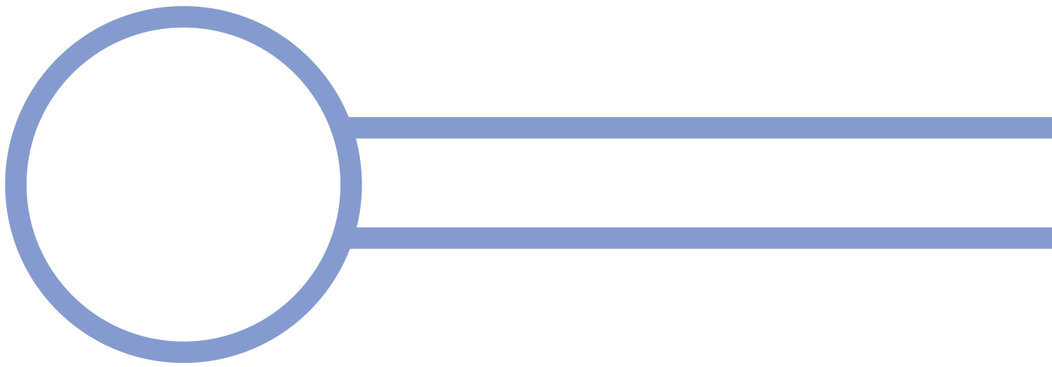
1. Write the standards;
2. Build supporting infrastructure; and
3. Coordinate and drive implementation across the mandated banks.

Learning from the Midata experience, the CMA resolved that Open Banking had to be a hard obligation on the banks and therefore that the Implementation Entity had to have powers delegated to it to compel the banks to comply. This was legally enforced in the Retail Banking Investigation Order.[17]

The CMA also recognised that it could not specify the technical design of the Open Banking standards in its Order, and so it only provided a summary of the core deliverables (see Appendix 1). It delegated the design of Open Banking to an individual (the "Trustee") who would head up a body, the OBIE, that would work with stakeholders from across the sector to deliver Open Banking. Funding for the OBIE comes from the CMA9, while the CMA, the Financial Conduct Authority (FCA), and HMT provide governance oversight.

The Trustee and the OBIE are required to consult and seek consensus with stakeholders across the banking sector. These represent a broad spectrum including consumer groups, TPPs, banks, and regulators. In the event that the Trustee is unable to achieve consensus, the Trustee has the legal authority, under the Order, to impose a decision on the banks. This ensures the program is not frustrated by logjams when a consensus is not possible.

Once the implementation phase is complete, the role of the OBIE and of the Trustee will transition into a monitoring role to ensure service levels are maintained and the banks continue to meet their obligations under the Order.

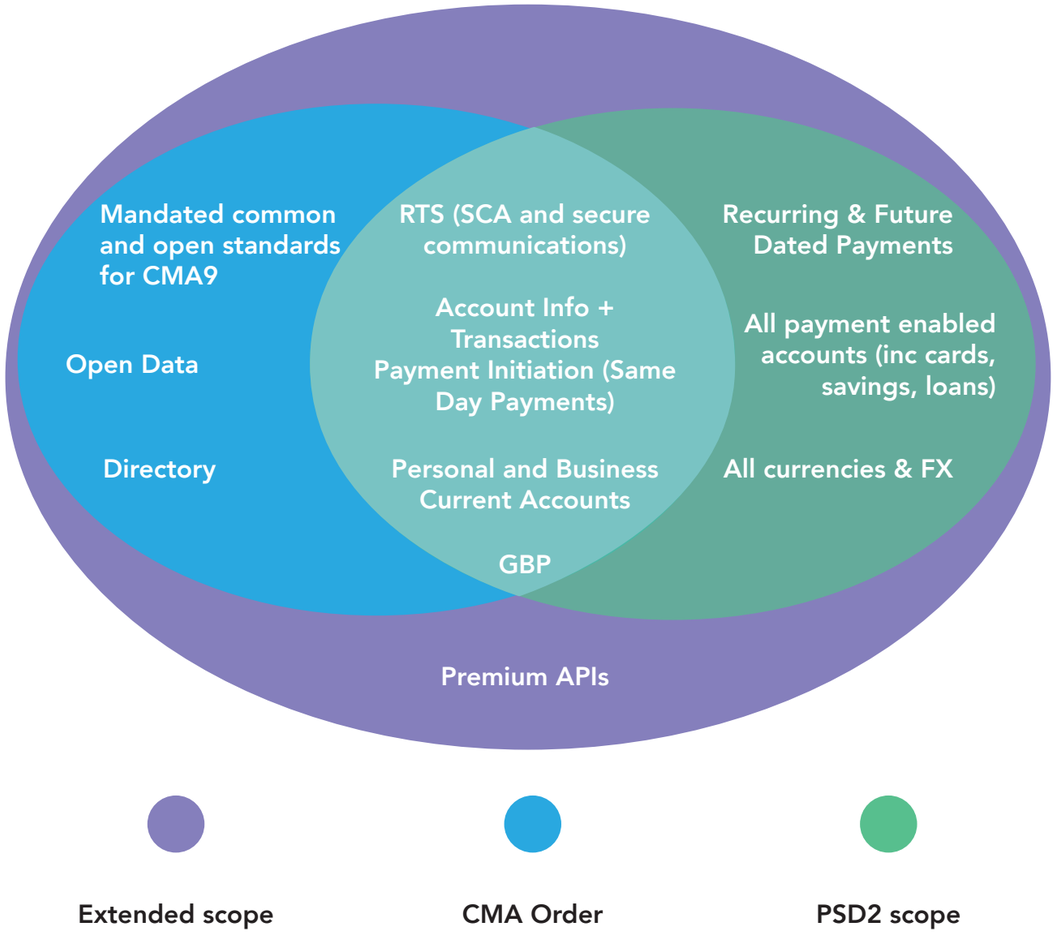


[13] Open Banking Working Group, Introducing the Open Banking Standard https://www.scribd.com/doc/298568600/Introducing-the-Open-Banking-Standard#from_embed
[14] Competition and Markets Authority, CMA paves the way for Open Banking revolution https://www.gov.uk/government/news/cma-paves-the-way-for-open-banking-revolution
[15] Competition and Markets Authority, Making banks work harder for you https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/544942/overview-of-the-banking-retail-market.pdf
[16] Interview, CMA representative, May 2019.
[17] Competition and Markets Authority, Retail banking market investigation order 2017 https://www.gov.uk/government/publications/retail-banking-market-investigation-order-2017

The scope of the CMA Order overlaps significantly, but not entirely, with PSD2. The Order is limited to personal and business current accounts, whereas PSD2 covers all payment accounts and methods (including credit cards, e-wallets and prepaid cards). In November 2017 it was agreed that the Open Banking standards would extend to cover all areas of functionality covered by PSD2 as well as some other ancillary items. This overlapping scope is illustrated in the diagram below.

The CMA Order and PSD2 have been a sufficient regulatory basis for the first stage of Open Banking, but are limited in scope to personal and business current accounts and payment accounts. As we discuss below, this may not be enough to achieve the CMA's goal of increased competition in the banking market, and may also stop valuable uses of Open Banking from being adopted by bank customers.

Figure Two: Scope of CMA Order & PSD2



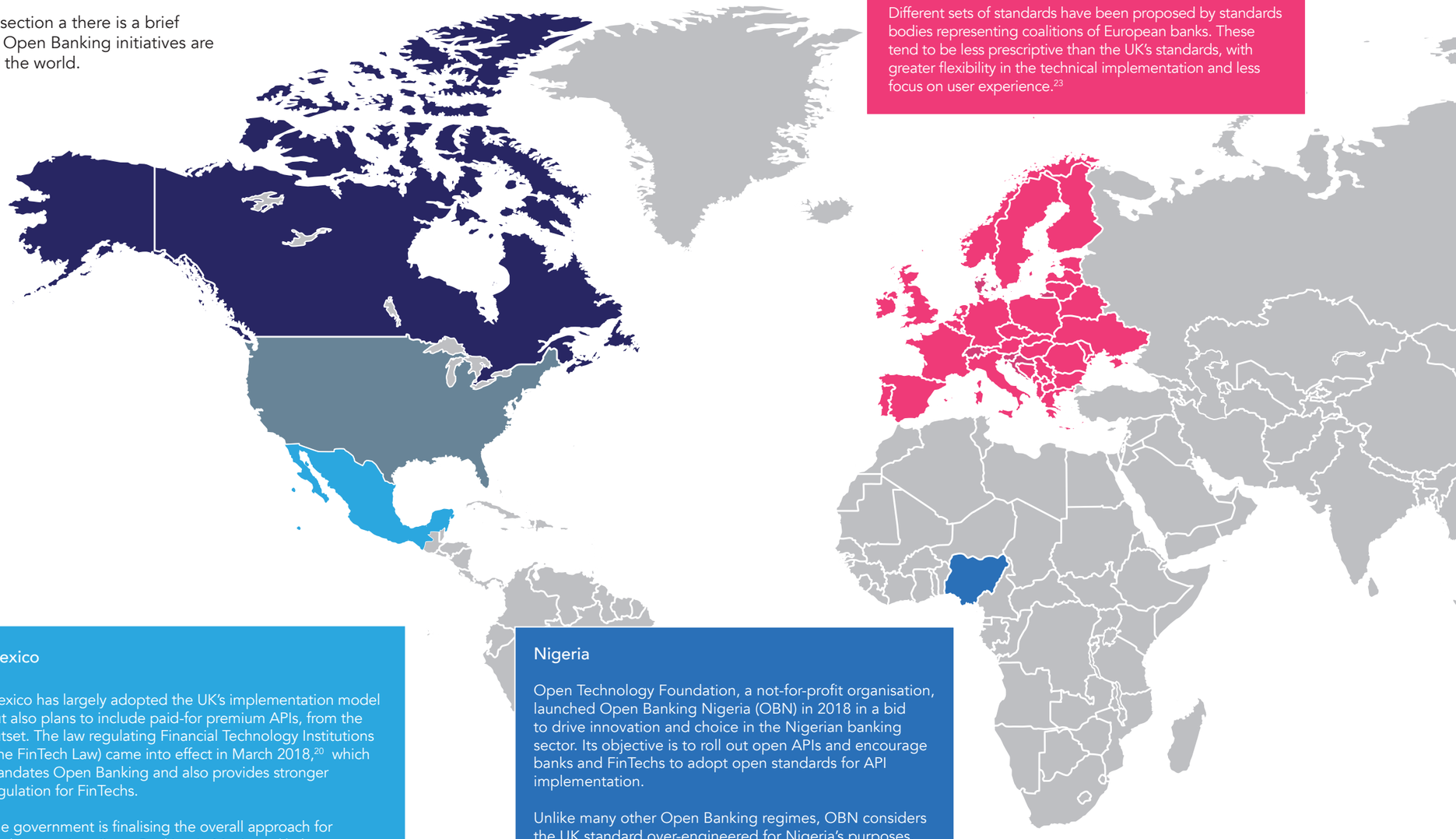
Growth of Open Banking

Open Banking from an international perspective

The UK was the first country to develop Open Banking standards and continues to be the leader in the field. Many other countries are looking carefully at the British experience as they develop their own models.

As an interviewee from a global technology firm told us, "*What is incredibly exciting is the degree to which OBIE standards are being adopted globally. If the standards that you establish are good enough, then people follow them. That's hugely significant for the world of finance and for the country.*" *

In the following section a there is a brief synopsis of how Open Banking initiatives are evolving around the world.



Canada

In Canada's 2018 budget it was announced that the government would begin a consultation to review the merits of Open Banking for the Canadian banking sector. The Minister of Finance then appointed an Advisory Committee on Open Banking to guide the review, supported by a secretariat within the Department of Finance and with members that **"will represent the broad interests of all Canadians"**.[18] In June 2019, the Standing Senate Committee on Banking, Trade and Commerce released its report entitled "Open Banking: What It Means For You", which included a number of recommendations intended to lay the groundwork for the rollout of Open Banking in Canada.[19]

USA

There is a large and established screen scraping market in the USA. Moves towards an Open Banking-style system have been led by the US's bank payments and interoperability association, NACHA. NACHA's API standardisation programme was announced late in 2017 with three areas of focus: fraud and risk reduction; data sharing; and payment access. In addition, the Consumer Financial Protection Bureau's 2017 data sharing principles encouraged banks to introduce APIs for sharing data, but did not require them to do so.

Mexico

Mexico has largely adopted the UK's implementation model but also plans to include paid-for premium APIs, from the outset. The law regulating Financial Technology Institutions (The FinTech Law) came into effect in March 2018,[20] which mandates Open Banking and also provides stronger regulation for FinTechs.

The government is finalising the overall approach for implementation. Open Banking in Mexico is likely to be regulated by the National Banking and Securities Commission (Comisión Nacional Bancaria y de Valores or CNBV). Increased innovation and financial inclusion, rather than competition, are the main objectives. 42 million Mexicans are unbanked, [21] according to Claudia del Pozo at impact innovation agency C-Minds, which is over 56% of the country's population and "a huge challenge to Mexico".[22] CNBV is employing a phased approach to cover approximately 2300 financial entities.

Europe

PSD2 is the driving force behind bank data sharing in Europe. Unlike the UK, there is no mandated implementation body equivalent to the OBIE, and the banks have themselves sought to voluntarily design their own standards.

Different sets of standards have been proposed by standards bodies representing coalitions of European banks. These tend to be less prescriptive than the UK's standards, with greater flexibility in the technical implementation and less focus on user experience.[23]

Nigeria

Open Technology Foundation, a not-for-profit organisation, launched Open Banking Nigeria (OBN) in 2018 in a bid to drive innovation and choice in the Nigerian banking sector. Its objective is to roll out open APIs and encourage banks and FinTechs to adopt open standards for API implementation.

Unlike many other Open Banking regimes, OBN considers the UK standard over-engineered for Nigeria's purposes. They hope to draft their own standard that will be more appropriate for Nigeria and other countries in West Africa.

OBN hopes that an API framework will reduce the cost of innovation to service providers and provide a good customer experience. Adédèjì Olówé, Trustee of Open Banking Nigeria, told us that he expected Open Banking to revolutionise the Nigerian banking sector and be a "huge boost" to the economy as a whole.

[18] https://www.fin.gc.ca/activty/consult/2019/ob-bo/pdf/obbo-report-rapport-eng.pdf
[19] Open Banking: What It Means For You
[20] https://www.whitecase.com/publications/alert/mexican-FinTech-law-secondary-regulation-becomes-effective
[21] https://www.reuters.com/article/us-mexico-FinTech-unbanked/mexico-pushes-mobile-payments-to-help-unbanked-consumers-ditch-cash-idUSKCN1Q80FN
[22] Interview, Claudia del Pozo, 2019
* Interview, technology company representative, April 2019

23 https://www.finextra.com/newsarticle/32785/standards-bodies-converge-on-financial-sector-api-blueprint

India

India is already an accomplished player in Open Banking having launched the Unified Payment Interface (UPI) in 2016. Developed and managed by the National Payments Corporation of India (NPCI), the UPI facilitates inter-bank transactions through a robust API framework complete with a digital identity solution of the sort currently missing from most European and North American markets. The Indian open banking initiative has not yet developed a data sharing component.

India's Open Banking is built in part on Aadhar, the country's national identity platform. As of March 2019, UPI is used by 142 banks, accounting for just under 800 million transactions a month with a combined value of US$19 billion.

Hong Kong

The Hong Kong Monetary Authority (HKMA) published its Open API Framework for the Hong Kong Banking Sector[30] in July 2018, setting out its intended approach to Open Banking. HKMA's commentary outlines its intentions to move towards a "new era of smart banking", and has so far allowed industry to set its own standards without making it a regulatory requirement. Citi announced six partnerships using open APIs in 2018[31], and the first API for product information was rolled out in January 2019, focussing on public data such as deposit rates, credit card offerings, and service charges. Customer engagement will commence by the end of October 2019, with the remaining timeframe set out by the end of July 2019.[32]

Singapore

Singapore is encouraging financial institutions to adopt APIs to promote innovation and interoperability. As in Hong Kong, the Monetary Authority of Singapore (MAS) is not taking an interventionist approach to Open Banking. As the Chief Data Officer of MAS has said, "the path toward Open Banking in the country will be more successful if industry players aren't strong-armed into it".[24] MAS and the Association of Banks in Singapore published a detailed API playbook to encourage more banks to participate in the initiative.[25] Citibank, DBS, Standard Chartered and other banks have since launched their own API portals.

Japan

In May 2017, the Amended Banking Act introduced a registration system for TPPs and set the framework for collaboration between banks and TPPs. The act encouraged banks to open their APIs by 2020, in particular to enable digital payments ahead of the Olympics. There have also been voluntary partnerships between financial institutions to launch digital payment initiatives. However, adoption by third parties has been low, in part because of the difficulty banks and FinTechs have in negotiating contracts.

Australia

Despite significant technical similarities between the UK and Australian standards, there are differences in coverage. This stems from the Australian government's introduction of cross-sectoral Consumer Data Right legislation (CDR)[26] . The CDR will apply to a wider set of consumer data than banking data, which will soon be followed by energy data and telecommunications data, with the aim of creating data interoperability across different sectors. The Australian Open Banking implementation is focused on data only and not payments.

The Australian Competition and Consumer Commission (ACCC) has a supervisory role similar to that taken by the CMA in the UK, while working with bodies like the Australian Payments Network. Andy White, CEO of the Australian Payments Network, told us that "the regulatory stance is about a balance of stability and innovation but there is a desire for good competition with the rise of challenger banks."[27] Legislation to enact Open Banking is expected by the end of 2019.

New Zealand

New Zealand is developing its Open Banking framework using "70-80%"[28] of the UK standard. This is being driven by the voluntary cooperation of the major players in the market under the stewardship of the local payments association, PaymentsNZ. Similar to the UK, New Zealand's pilot includes account information and payments, and will be executed under the guidance of its own Open Banking working group.

The main drive in New Zealand is for greater innovation in the sector. To quote Steve Wiggins, Chief Executive of PaymentsNZ, the aim is to"get more things happening in the market … [to] get alternatives to card rails going, more peer to peer activity, and more service solutions as a result of accessing account information and data." [29]

[24] https://www.pymnts.com/news/b2b-payments/2018/singapore-open-banking/
[25] https://abs.org.sg/docs/library/abs-api-playbook.pdf
[26] https://treasury.gov.au/consumer-data-right
[27] Interview, Andy White, 2019

[28] Interview, Steve Wiggins, 2019
[29] ibid
[30] https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/open-api-for-banking-sector.shtml
[31] https://www.citigroup.com/citi/news/2018/180508a.html
[32] https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/open-api-for-banking-sector/phased-approach.shtml

How Open Banking works

The Open Banking Implementation Entity creates and maintains a number of assets and delivers some services in its role as the central implementation entity.

Figure Three: Key assets and services of Open Banking

Key assets

1.Standards

Technical standards so the data can be shared and used effectively

User experience standards so users have a seamless experience

Operational Guidelines so implementations meet minimum service requirements

2. Open Banking Directory

so only authorised entities can participate

3. User dispute mechanism

so any consumer detriment can be redressed

Key services

4. Implementation support

to help banks and TPPs implement and test secure and personalised products for their customers

5. Monitoring function (only applies to CMA9)

to ensure that banks are meeting the requirements of the Order, imposing remedial actions where necessary.

While other PSD2 standards bodies, such as STET in France and the Berlin Group in Germany, focus exclusively on technical standards, Open Banking includes user experience standards and operational guidelines. There are also functions providing implementation support for banks and TPPs seeking to implement the standards, and a monitoring function that ensures that the CMA9 banks are meeting the requirements of the Order.

Technical standards

Open Banking allows bank customers to share information about their bank account, including their account balance, historical transactions and regular payments, with third parties on an ongoing basis. As described above, it uses standardised APIs to do this, so that each bank provides this information to third parties in a similar way. At present, approved third parties may access customer data up to four times a day.

As well as account information, there is a separate API for approved third parties to make one-off payments on a customer's behalf.

The Open Banking standards and support infrastructure are available to all banks, not just those mandated under the Order, under an Open Licence.

User experience standards

The authentication process introduced by Open Banking allows users to confirm to their bank that a request for data sharing from a third party has been approved by them. Open Banking uses a redirect model, which means that customers are directed to their bank's app to approve and consent to a TPP's request for access, and then brought back to the TPP's app.

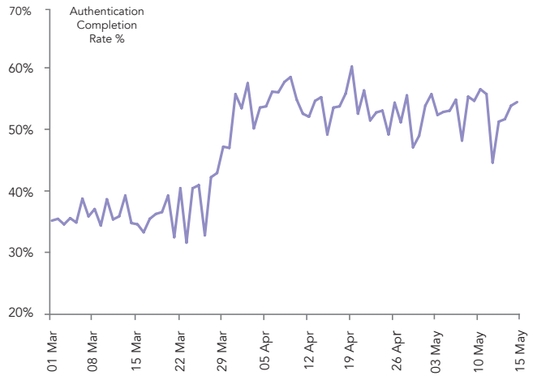
This process was unexpectedly laborious for customers in the first implementations of the APIs. Some banks required that customers navigate as many as twelve screens and tap through repeated warning messages. These screens complicated the journey and overemphasised the risks. The process was browser based and required a separate login, even if the customer had already logged into a mobile banking app on their phone. The poor customer experience presented a significant barrier for customer adoption of Open Banking, according to many of the people we interviewed from both banks and TPPs.

In order to create a smoother authentication journey, the OBIE developed and mandated user experience standards, which were called the "Customer Experience Guidelines", (CEG) over the course of 2018. The publication of these standards in September 2018 also required full support for mobile, where the customers are redirected to their banking app (rather than their browser) to approve new consents. These new guidelines give a less complicated journey to users and allow strong authentication of payments to be made in one step.

Most UK consumers are familiar with logging on to their banking apps and therefore find app-to-app authentication second nature. Many of our interviewees felt that app-to-app authentication was a significant improvement to the customer experience.

One company we spoke to, Account Technologies, experienced an approximate 60% increase in customer conversions from one bank's customers after it implemented the app-to-app standard, telling us: *"the results were absolutely astounding."*[33] This approach is now mandatory for the CMA9.

Figure Four: Example Bank Authentication Rate



[33] Interview, Account Technologies, June 2018.

Operational Guidelines

In order to ensure that TPPs are able to reliably offer services to consumers and small businesses, Open Banking developed standards covering availability, performance and testing. These are particularly important for payment services provision, where consumers want an experience as reliable and fast as card-based forms of payment.

The Technical Standards, the User Experience Standards and the Operational Guidelines together, make the Open Banking Standards. In addition to them being Open Licence, each is associated with a conformance tool or checklist that allows banks and third parties to objectively test whether their own implementations meet the requirements of the standards.

Open Banking Directory

The CMA Order required the creation of a "whitelist" of TPPs that could be securely identified by the banks. This whitelist, now known as the Open Banking Directory, was built so that the CMA9 and other banks could identify the TPP seeking to access its APIs and confirm that the TPP has the appropriate regulatory permissions. The Directory also allows TPPs to easily locate and connect to banks also enrolled in Open Banking. The Directory is a flexible asset and is now being repurposed to support the Confirmation of Payee service which is not directly related to Open Banking but shares the basic requirement of an ecosystem requiring a whitelist. This is potentially relevant to other sectors.

User dispute mechanism

The CMA required the OBIE to create a customer redress mechanism to manage consumer complaints to ensure that their complaint was appropriately dealt with between the bank and the TPP. While the regulations set out liability rules, which are particularly important in the case of a disputed payment, Open Banking is developing a Dispute Management System which enables multiple third parties to resolve disputes between themselves, speeding up resolution.

Implementation Support

Open Banking is unusual in that it creates a "many-to-many" network, with many TPPs connecting to many banks. Connecting to such a network for the first time can be a daunting task for both TPPs and banks, so Open Banking provides support by helping banks find TPPs with whom to test their implementations (and vice versa), and helping resolve issues identified by participants.

Monitoring Function

Open Banking has a quasi-regulatory function with respect to ensuring that the CMA9 are meeting their obligations under the CMA Order. This includes ensuring timely conformance with technical standards and validating that they are compliant with the User Experience Standards and the Operational Guidelines. The Trustee has powers, delegated by the CMA, to impose remedial actions on the CMA9 if necessary.

[34] Data provided by Account Technologies.

Consumer security and trust are built into the heart of Open Banking's architecture. This is evidenced by six principles which have been designed to protect the customer's interests.

Figure Five: Principles underpinning consumer security and trust

1. The customer never has to share their username and password with any entity other than their bank.

Customers give their consent to the TPP but authenticate their consent with their bank. This is known as the "redirect model" and allows the customer to keep their banking credentials private. As of Q2 2019, banks are required to allow customers to authenticate on their mobile device if they are using a TPP's mobile app, meaning that customers can authenticate as easily as they log into their banking app.

2. Open Banking is opt in, not opt out.

It is the customer's decision to give access to data to third parties. Data cannot be shared through the Open Banking systems unless the customer actively chooses to do so.

3. It depends on explicit consent given by the customer.

The customer is required to provide their explicit and informed consent to their data being shared with each TPP. They have to re-approve TPPs ninety days after the initial approval. This consent must be fully GDPR compliant.

4. It is as easy to revoke permission as to give it.

The customer has easy access to a permissions dashboard which can be accessed by the consumer through their bank, or increasingly at theTPP. The OBIE is currently working on features to make revocations easier for customers to manage.

5. Only authorised entities can participate.

All TPPs have to be authorised by the FCA as an Account Information Service Provider (AISP) and/or a Payment Initiation Service Provider (PISP). Only authorised third parties can register on the Open Banking Directory, so unauthorised TPPs cannot trick customers into sharing their data with them.

6. If anything goes wrong there is a customer redress mechanism.

PSD2 sets out the responsibilities of the participants in the event of dispute and a dispute management system is in place. Customers always retain the right to present a complaint to the Financial Ombudsman Service.

Open Banking use cases

Much has been achieved in the UK's implementation of Open Banking so far. There are now over 135 entities approved by the FCA to provide Open Banking-enabled services to consumers and SMEs. While full bank implementation will only be completed in September 2019, it is clear that several valuable use cases are already fully supported or will be supported in the near future.

In this chapter we discuss these use cases. As discussed above, because the implementation is phased, we have placed these use cases on a spectrum that includes propositions that are live, in testing and in design.

The categories we have used are indicative only. For each use case, we discuss the benefits it would deliver if it were to be fully enabled; the current barriers to its success; how Open Banking can help to overcome those barriers; and what stage different TPPs are at in developing the use cases.

There are also a number of emerging use cases which were not initially anticipated but which appear to be in development. We have included some of these in the "Unanticipated Innovations" section.

Figure Six: Summary of use cases

Live	In testing	In design
Account aggregation services	Consumer lending	Account sweeping and micro savings
Personal financial managers	Automatic overdraft borrowing	Product comparison services
SME financial management	Credit file enhancement	Protections for financially vulnerable people
Open Banking as a service	E-commerce payments	"Unanticipated innovations"
	Identity verification	
	Debt advice	
	SME lending	

Live

Account aggregation services

Proposition benefits: Account aggregators allow bank customers to view their accounts from different banks through a single interface. This makes it easier for customers to use products from different banks and may increase competition by lowering barriers to multi-banking.

Proposition blockers (prior to Open Banking: Prior to Open Banking, account aggregators relied on screen scraping, which required customers to give out their username and password. This approach is insecure, unreliable, and does not work with all bank accounts. Established banks did not want to associate themselves with screen scraping which meant they did not want to offer aggregator services which relied on it.

How Open Banking enables the proposition: Open Banking eliminates the need for users to give their username and password to unregulated third parties. The APIs are intrinsically more secure and robust than screen-scraping.

Stage in rollout: Account aggregators are increasingly offered both by both TPPs and are the main Open Banking products offered by the CMA9 banks so far.

Illustrative examples of providers: Barclays, Lloyds and NatWest/RBS

Personal financial managers

Proposition benefits: Building on account aggregation services, personal finance managers (PFMs) review users' finances to also provide insight on where the consumer is spending their money. Some also make recommendations about budgeting and shopping around for better products. They can, for example, suggest cheaper energy deals to users who are on expensive tariffs, point out day-to-day spending habits that add up to significant costs, or remind users about regular subscription payments that may no longer be best value. Prompting users to find cheaper deals may increase consumer engagement and increase switching in energy, telecoms and other markets where inactive customers face a "loyalty penalty". Most PFMs are in the process of building financial service marketplaces, a distinguishing characteristic from simple account aggregation.

Proposition blockers (prior to Open Banking): Customers would have to share their data via screen scraping.

How Open Banking enables the proposition: Open Banking allows consumers to share their transaction data with their chosen PFM. Through Open Banking, PFMs can also be authorised to execute a payment schedule with providers offering a better deal for the customer. This allows for a much more comprehensive offering and a seamless customer experience.

Stage in rollout: A few PFMs are already on the market. Yolt is one of the largest users of the Open Banking APIs and was the first third party to execute a data request using the Open Banking APIs. Yolt has a payment proposition in development and has created a basic marketplace.

Both account aggregators and PFMs are limited by the types of product that the Open Banking standards currently cover. Cash savings, mortgages and pensions are not covered by the Open Banking mandate, so these services can only give a partial picture of a customer's finances. We discuss the potential for Open Finance in Chapter 4.

Illustrative examples of providers: Yolt, Moneyhub

SME financial management

Proposition benefits: Financial management software allows small and medium sized businesses to automate many of the functions of a conventional finance function, including raising invoices and tracking payments, managing payslips and making cash flow projections. More advanced providers can also initiate payments from within the accounting package.

Proposition blockers (prior to Open Banking): Most accountancy software providers used screen scraping to access SME accounts. Some providers were able to negotiate proprietary connections on a case by case basis.

How Open Banking enables the proposition: SME accountancy software using Open Banking APIs can monitor SMEs' finances without screen scraping, or negotiating and building a proprietary connection which in time could become a key dependency for the provider.

Stage in rollout: Many accountancy service providers have the option to use Open Banking services but have either not yet fully implemented it or begun migrating customers.

Illustrative examples of providers: Xero, Intuit, Sage, FreeAgent

Open Banking as a service

Proposition benefits: Companies offering Open Banking as a Service (OBaaS) provide support and tools to other firms that want to use Open Banking, but do not have the in-house expertise themselves. They are a valuable part of the Open Banking ecosystem as they provide the connecting role allowing smaller providers to use Open Banking APIs without upfront development costs.

Proposition blockers (prior to Open Banking): OBaaS solutions aim to seamlessly integrate as many service providers as needed into one comprehensive process. Historically this has been done using screen scraping.

How Open Banking enables the propositions: Open Banking is providing the basis for these new services by creating the role of Technical Service Provider (TSP). This allows for the ecosystem to evolve more quickly as it reduces the barriers to entry.

Stage in rollout: There are a growing number of TSPs that are building solutions to allow some very small FinTechs and smaller banks to use Open Banking without a major investment.

Illustrative examples of providers: Token, TrueLayer, OpenWrks, Yapily, SaltEdge

In testing

Consumer lending

Proposition benefits: Borrowers that can give potential lenders fast and reliable access to their bank account history may be able to speed up the process of getting a loan, and lower the costs of doing so. A special case of consumer lending, is automatic overdraft borrowing, discussed next.

Proposition blockers (prior to Open Banking): Borrowers often have to provide several months of bank statements to demonstrate their income and transaction history, the burden of which can slow down or deter consumers from borrowing when they might need to.

How Open Banking enables the proposition: The Open Banking APIs give lenders reliable access to would-be borrowers' financial history. This information is machine readable and guaranteed to be untampered with.
Stage in rollout: Some TPPs are using Open Banking account information to determine creditworthiness and affordability on behalf of major high street lenders. Eventually some propositions may use the payments APIs to take automatic repayments, with users' approval.

Illustrative examples of providers: Account Score, Experian, Equifax

Automatic overdraft borrowing

Proposition benefits: Unauthorised overdraft borrowing is expensive and causes very high costs for a small number of banking customers (most unarranged overdraft charges are paid by 1.5% of customers, who each pay around £450 per year in fees and charges on average).[35] Allowing overdrafts to be provided automatically by another cheaper lender could significantly reduce costs for these customers.

Proposition blockers (prior to Open Banking): Absent Open Banking, customers would have to use insecure screen scraping and card on file payments to facilitate repayments of these alternative overdrafts.

How Open Banking enables the proposition: Open Banking's data API could trigger an automatic short-term loan from a cheaper, pre-agreed lender which is then deposited into the customer's current account. This allows them to avoid overdraft fees but still access credit when they need to.

Stage in rollout: Automatic overdraft borrowing can be thought of as requiring two components to be in place for implementation. The first component, the data API, is working well as shown by the extensive use of it by providers such as SafetyNet Credit. However, the use case will not be fully enabled without the second component, the ability to authorise variable recurring payments (VRPs), which we discuss below. As one interviewee told us:

"We offer an overdraft product, and we have a massive cost disadvantage because the banks can move money for free but it costs us a fortune to move money. We use card rails. It's the only real time payment mechanism that exists. Single immediate payments don't work from a customer experience point of view; not including VRP was a massive miss."[36]

Illustrative examples of providers: SafetyNet Credit

[35] Financial Conduct Authority, High-cost credit review: overdrafts policy statement https://www.fca.org.uk/publication/policy/ps19-16.pdf
[36] Interview, anonymous, May 2018.

SME lending

Proposition benefits: Automating the SME loan application process would enable greater competition amongst business lenders.

Proposition blockers (prior to Open Banking): SMEs making loan applications usually need to provide between three and six months of bank statements to demonstrate their cash flow and other elements of creditworthiness. As with consumer lending, the current process can be slow and error-prone, and favours SMEs borrowing from their own bank. A 2018 Treasury Select Committee report concluded that the SME lending market suffered from a lack of competition, in part because SMEs were reluctant to approach lenders other than their home bank, and recommended that Open Banking be considered as a solution to this.

How Open Banking enables the proposition: Open Banking allows SMEs to provide their account history to external lenders and get a quick loan decision, or to brokers to shop around for a loan on their behalf. This should increase competition and SME access to credit. Transaction data coming from a secure bank API is also much more trustworthy than the typical route of photocopied or scanned bank statements.

Stage in rollout: A number of lenders, like GrowthStreet and iwoca, are beginning to use Open Banking to speed up decision making, or to reduce fraud in the underwriting process.

Illustrative examples of providers: iwoca, Funding Options, Funding Circle, GrowthStreet

Credit file enhancement

Proposition benefits: Credit files allow lenders to make an accurate assessment of the borrowers' likelihood of meeting repayments. Open Banking can provide alternative sources of data that can inform or potentially replace credit scoring.

Proposition blockers (prior to Open Banking): Credit reports from conventional scoring companies often contain errors and omissions, and they can be expensive and laborious to compile.[37] Rental payments are not always included in people's credit histories and some utility companies do not supply information to credit ratings agencies. In the UK there are approximately 5.8m people with thin credit files.[38]

How Open Banking enables the proposition: Credit scoring companies can use account information APIs to produce a fuller picture of a borrower's financial health, or compare their historical transactions with an existing credit file. As well as improving credit scoring and loan decisions, this also has the advantage of being transparent to the end customer.

Stage in rollout: Both Clearscore and Credit Kudos are using Open Banking APIs to produce new credit files or improve existing ones. Open Banking APIs will include the account holder name from September 2019, which increases TPP confidence in the provenance of the user's information, thereby reducing fraud.

Illustrative examples of providers: bud, CreditLadder, RentalStep, Credit Kudos, Clearscore

E-commerce payments

Proposition benefits: Open Banking's payments functionality allows customers to make bank payments quickly and easily to merchants instead of using relatively expensive card networks.

Proposition blockers (prior to Open Banking): Prior to Open Banking there have been no mechanisms for customers to make bank account push payments to merchants. Currently, most e-commerce customers give their card details either to a payments processor or to the merchant directly. This is expensive for the merchant, which may be passed on to customers in the form of higher prices, and creates a security risk for customers from merchants holding copies of their card details insecurely on file.

How Open Banking enables the proposition: Open Banking's payments APIs allow customers to easily authorise payments to merchants without giving up any sensitive card information. Since payments through Open Banking are cheaper than card payments, this also benefits small businesses and may in turn result in lower prices for customers. To this end Open Banking could help save merchants £1.7bn per annum in card processing fees.[39] This could also improve competition by enabling SMEs to handle payments they might otherwise not otherwise be able to accept.

Stage in rollout: Open Banking payment providers are beginning to roll payment functionality out to merchants. However, early indications are that without a refund functionality and the ability to make VRPs, merchant take

37 Clearscore, The most common credit report problems (and how to fix them) https://www.clearscore.com/credit-score/how-to-fix-mistakes-on-credit-report
38 Experian, Are you "invisible" to the financial system? https://www.experian.co.uk/consumer/help-discover/discover/guides/the-invisibles.html
39 EY, Analysis of Open Banking use cases, 2018.

up may be limited. Other providers are gaining traction with propositions that facilitate wallet top ups as an alternative to card based top ups that incur expensive interchange fees.

Illustrative examples of providers: CashFlows, Trustly, Adyen, Transferwise

Identity verification

Proposition benefits: Customers can access and use their transaction data to facilitate identity and compliance checks more easily.

Proposition blockers (prior to Open Banking): Verifying customer identity and eligibility for financial services is fraught with issues. Know Your Customer (KYC) checks typically require customer sending sensitive information like passports and old bills as proof of address. These checks are time-consuming and inconvenient for customers and expensive for providers.

How Open Banking enables the propositions: Open Banking enables the transaction data to be shared. This data contains all the information required to do affordability checks and can provide supporting evidence for KYC, anti-money laundering and other fraud prevention checks.

Stage in rollout: Some providers are already combining trusted transaction data with other data sources to support identity verification.

Illustrative examples of providers: The IDCo

Debt advice

Proposition benefits: People struggling with debt should be able to get advice about how to better manage their finances, find consolidation loans and arrange repayment plans that suit their needs.

Proposition blockers (prior to Open Banking): Many existing debt advice services require customers to manually provide details about their financial affairs. Often customers find it hard to get access to this information or need help interpreting it. The Wyman Review[40] indicated that only 65% of the 1.7m adults who may need financial advice are getting it, leaving 600,000 people unserved. In addition, the FCA Financial Lives survey[41] suggests that 300,000 people are paying for debt management plans, with £207m per annum paid in fees.

How Open Banking enables the propositions: The Open Banking account information APIs allow debt advice services to get an automatic overview of a customer's finances and identify spending decisions and other patterns that they might otherwise have missed. Open Banking also enables "smart debt repayment plans" that can account for fluctuations in income to the benefit of both the debtor and the creditor during repayment periods.

Stage in rollout: Tully, a debt and budgeting advice service that uses Open Banking to get a full picture of their customers' finances to help them with debt rehabilitation, is currently in pilot stage.

Illustrative examples of providers: Tully (from OpenWks), CastLight

In design

Account sweeping and micro savings

Proposition benefits: Bank customers who keep a rolling balance in their current accounts may be missing out on interest if they moved that balance to a savings account. Automatically "sweeping" these funds into higher interest accounts was a benefit from Open Banking that the CMA identified in its Retail Banking Market Investigation.

Micro savings allow consumers to easily transfer small amounts from their current accounts to their savings accounts. Customers can conveniently round up their purchases every time they make a payment at a particular shop, helping people to make saving a regular habit. There are 9m current account holders with average balances of £7,500 who are currently not earning interest.[42] Open Banking could help consumers earn incremental interest of £400m per annum though micro savings apps.[43]

Proposition blockers (prior to Open Banking): Most current micro savings apps use a combination of screen scraping to access users' accounts and Direct Debits to make payments out of them.

How Open Banking enables the proposition: The Open Banking APIs can be used to identify the funds to move and make the payments.

Stage in rollout: Several micro savings app providers are currently considering Open Banking. Currently users have to authorise each payment individually through the Open Banking payments APIs but if VRP functionality became available this could be automated. This is also likely the reason why sweeping services have not emerged.

Illustrative examples of providers: Moneybox

Product comparison services

Proposition benefits: Product comparison services enable customers to identify the best products for them in areas like loans, overdraft charges, banking fees and savings accounts. A standardised approach should ensure the comparisons are comprehensive, to get customers the best deals and drive innovation and competition for customers.

Proposition blockers (prior to Open Banking): Comparing personal current accounts can be time consuming and difficult. Service providers have to retrieve product data from banks' proprietary channels, specialist data capture organisations, or via screen scraping, which is intensive and prone to error.

How Open Banking enables the proposition: Open Banking allows for banking customers to share their transaction data securely and accurately with service providers, and use open data to make accurate comparisons. This ensures that the analysis is high quality and accurate.

Stage in rollout: Product comparison is a CMA objective for Open Banking. However, there are only a limited number of firms currently providing product comparison services on the market and none of the major price comparison websites offer this. the OBIE is currently reviewing why this might be the case.

Illustrative examples of providers: RunPath, Finnovation Labs, Funding Xchange

Protections for financially vulnerable people

Proposition benefits: Financially vulnerable people, such as elderly people or people with mental health issues, may rely on support from trusted family members and friends to manage their finances. Apps are being developed that alert a trusted adult of unusual account activity.

Proposition blockers (prior to Open Banking): Standard bank requirements for enabling vulnerable people to provide access to another adult are often burdensome on both parties, for example by requiring an Enduring Power of Attorney to be set up.

How Open Banking enables the proposition: The Open Banking APIs can be used to provide only account information access to the TPP, which can then alert the trusted adult to unusual activity on the account.

Stage in rollout: Several services focusing on vulnerable customers are already in design and at least one is already taking on customers.

Illustrative examples of providers: Kalgera

[40] Money Advice Trust, Debt advice funding review published at "pivotal moment" for sector http://www.moneyadvicetrust.org/media/news/Pages/Debt-advice-funding-review-published-at-pivotal-moment-for-sector.aspx
[41] Financial Conduct Authority, Financial lives survey https://www.fca.org.uk/publications/research/understanding-financial-lives-uk-adults
[42] Retail Banking Market Investigation https://www.gov.uk/cma-cases/review-of-banking-for-small-and-medium-sized-businesses-smes-in-the-uk
[43] EY, Analysis of Open Banking use cases, 2018.

Unanticipated innovations

There are several propositions in development which have the potential to drive customer benefits over and above those envisaged by either the CMA Order or PSD2. Examples include:

1. **Financial inclusion.** In November 2018, Nationwide created an initiative called Open Banking for Good (OB4G), with the purpose of helping out the financially excluded and financially "squeezed". OB4G launched a £3m challenge for FinTech startups, with seven being chosen for incubation and acceleration of their proposals. Over the coming months, these propositions will begin to be launched in the UK.

2. **Legal aid and welfare support advice.** The Legal Aid Agency is trialling the use of Open Banking to help determine applicant eligibility.[44] Legal advice services typically require scanned copies of payslips and bank statements to determine eligibility, whereas Open Banking APIs enable the account information to be shared easily so that advice can be given "almost instantaneously".

3. **Retrospective Gift Aid claims.** Streeva is a service that uses Open Banking to allow charities to retrospectively identify and claim Gift Aid on eligible donations.

The use cases in this chapter illustrate the potential for Open Banking to achieve the CMA's aims of increased competition in banking, as well as other consumer benefits that may have been unforeseen at the outset. There is a large ecosystem of FinTechs working on Open Banking propositions. However, in some cases there is missing functionality that would either enable or greatly strengthen the proposition to customers. These include those around payments capabilities, the ability to share identity information held by banks with TPPs and the inclusion of other financial products in Open Banking. We will address these and other gaps in the next chapter.

[44] Law Gazette, Legal Aid Agency to view applicants' bank accounts https://www.lawgazette.co.uk/practice/legal-aid-agency-to-view-applicants-bank-accounts/5069686.article

Future of Open Banking

What's working, what needs building out, and the potential for Open Banking

In this chapter we highlight areas where Open Banking is working well, what needs building out, and where there is the potential for extending Open Banking. Our perspectives are based largely on the interviews carried out with representatives of TPPs, the CMA9, the OBIE and consumer groups, as well as the evidence from previous chapters.

In our view, the most successful elements of Open Banking so far are:

- The Open Banking standards;
- The implementation approach; and
- The Open Banking ecosystem.

We describe these elements as "what's working" and describe them in more detail below.

However, it is also clear that a number of use cases that should be enabled by Open Banking may struggle to make it to market or achieve mainstream adoption, in some instances because of gaps in Open Banking's scope and functionality.

In failing to provide the functionality to support these use cases, some of the original expectations of Open Banking in the CMA Order and PSD2 will not be met, and consumers will be worse off.[45] These use cases require additional features to be added to the existing standards. These include:

- Improving payments capabilities;
- Improving consent protections for consumers;
- Expanding Open Banking into Open Finance; and
- The development of Premium APIs.

We describe these elements as "what needs building out".

Finally, there are also a number of use cases that were not contemplated under the initial objectives of Open Banking, but are now considered to be potential extensions.

Some of these potential extensions were identified as part of the overall case for Open Banking in the original 2014 Fingleton-ODI report for HM Treasury. These are more than just incremental elements to the existing standards and represent what we view as the real potential of Open Banking. These include:

- The potential for Open Banking standards and infrastructure to support other sectors of the economy, such as energy and telecoms; and
- The potential for Open Banking to support a digital ID service.

We describe these extensions as "realising the potential of Open Banking".

What's working

The Open Banking standards

In general, the Open Banking standards were praised by our interviewees. One interviewee from a TPP, for instance, told us that:

"the actual banking standard is an absolutely phenomenal piece of work … If it became an internationally recognised standard I would be totally fine with that. It's absolutely fantastic." [46]

These technical API standards are now complemented by User Experience Standards that make signing up to Open Banking services convenient for customers.

These Guidelines now include app-to-app authentication, which allow mobile users to move smoothly from a TPP's app to their bank's app for authentication, and back again. Consequently, the customer experience flow has dramatically improved, and early indications are that customer conversion can increase dramatically. As more banks implement these standards we expect user adoption to grow.

There was some discussion among our interviewees about whether it was right to launch the APIs so early, given the poor user experience in the initial customer authentication journey. Some questioned whether waiting longer to launch would have allowed a more refined user experience and avoid putting off some early adopters.

However, most of the interviewees we spoke to supported the OBIE's approach, on the grounds that it allowed TPPs to develop their own products more rapidly, and allowed the OBIE to identify gaps in the standards. In the words of one interviewee:

"You should release something that looks 95% right because you'll be able to fix it a lot quicker. There's no way on earth that waiting to release it would have made it better, you have to put it out there into the real world to make it better."[47]

Implementation approach

Although the OBIE is funded by the CMA9, as required by the CMA, it is structured to be independent of them. This independence allowed it to balance the demands of TPPs, banks and other groups in the design and implementation of Open Banking without becoming captured by any one group.

The OBIE has been structured to combine oversight and monitoring of the banks with implementation support provided to both banks and TPPs. Representatives of TPPs we spoke to, for instance, praised the OBIE's development sandboxes, and handling of inbound support requests:

"The standards, documentation of those standards, communication when standards come out, clarifications, responses on email, the working groups they have. All has been incredibly positive. The last one is the ease of access to the sandboxes, to try and fiddle around with the APIs and tests, the focus from Apogee and on our side has been quite exemplary." [48]

Our interviewees were clear that they viewed the rollout of Open Banking as an ongoing and evolutionary process. As digital banking and technology changes, Open Banking will have to as well:

"This will continue to evolve every day as the internet does, the critical thing is keeping up with that. The challenge is to keep up, and that's going to be critical to the continued viability of all of this." [49]

Some of our interviewees felt that the costs to the CMA9 of implementing Open Banking that have been reported in some parts of the media overstated the true cost of Open Banking, as those figures included costs of upgrading core IT systems, unrelated to PSD2 or Open Banking, which would have been accrued in any event.

The Open Banking ecosystem

There are now over 135 entities approved by the FCA to offer services that use Open Banking. As described in Chapter Three, these entities are offering services that range from simple bank account aggregation to help finding loans. In our view this shows the potential for Open Banking to support a large, innovative ecosystem of FinTech companies, many of which will have the potential to offer services internationally.

One reason for the success of this system appears to be the OBIE's efforts to balance the needs of smaller businesses against the wishes of other stakeholders including banks, regulators, and consumers. This ranged from strategic planning to operational issues, as well as the development of the technical standards and active participation in testing. Throughout the process the OBIE made information on progress against key performance indicators freely available to these stakeholders, helping them to hold the OBIE to account.

According to our interviewees, this led to a high degree of engagement with the OBIE's stakeholders and seems to have allowed more rapid adjustment to the needs of different parts of the Open Banking ecosystem.

[45] Competition and Markets Authority, CMA annual report and accounts 2017 to 2018 https://www.gov.uk/government/publications/cma-annual-report-and-accounts-2017-to-2018
[46] Interview, TPP representative, May 2019.
[47] Interview, TPP representative, May 2019.
[48] Interview, TPP representative, May 2019.
[49] Interview, TPP representative, May 2019.

What needs building out

Despite the successful launch of Open Banking there are gaps in functionality that need to be addressed for the project to achieve widespread customer adoption and for the CMA's objectives to be met. More use cases that are valuable to customers need to be enabled, and some elements of the existing functionality need to be improved.

Improving payments capabilities

Additional payments functionality: refunds

The near-term gap in the payments functionality is the inability to support merchant refunds.

This is absolutely critical to the adoption of payment APIs by merchants, as the cost of processing refunds is a significant factor for online retailers in particular. Refunds are not mandated under PSD2 and therefore have not been automatically incorporated into the standards.

The OBIE is currently consulting on the technical integration of refunds into the payment APIs. It is important that this becomes a mandatory implementation for the CMA9 as whole-of-market implementation will be required if merchant adoption is to become possible.

Additional payments functionality: recurring payments

Apart from the need for refunds support, by far the biggest structural complaint from all TPPs involved in using the payments infrastructure is that individual payments have to be authorised by the customer every time a payment is made. There was a clear demand amongst interviewees to create a well-functioning payments capability:

"If what you are trying to do, which is what I think the government and regulators are trying to do, to make digital payments faster, cheaper, and more ubiquitous, first thing is that you need faster payments to function, and Open Banking will sit on top of that." [50]

All of our interviewees who expressed a view said that "variable recurring payments" would be a significant contributor to mainstream user adoption:

"I think in payments the big gap is obviously variable recurring payments. Which is they're not part of the regulations. The [payments] permission is entirely useless if you don't have variable recurring payments." [51]

Variable recurring payments allow users to authorise a TPP to make a number of payments under a single user authorisation. These payments would be subject to specific caps and could enable the following use cases:

- A variable regular payment, e.g. to pay for a utility bill;
- A recurring regular payment, e.g. to pay for a subscription service; and/or
- An irregular payment under a certain amount, e.g. to be held by an online retailer pending delivery.

Merchants could, with customers' consent, retain approval for future payments, but it would be specific to that single merchant so would eliminate the data breach risk as it would be technically impossible for a fraudulent actor to re-use that authorisation. In addition, variable recurring payments could help to resolve issues such as subscription traps, which are prevalent in difficult to cancel card-based recurring transactions.

From a customer's point of view, they would only have to go through the authorisation process with their bank once, and then be able to approve further transactions within the merchant's website or app much more easily. Variable recurring payments would be both easier and more secure for users and for merchants than card payments.

Variable recurring payments were not included in the Open Banking APIs because they were not mandated under PSD2. Nonetheless, their importance has been recognised by the OBIE and by the FCA, which in 2019 formally accepted the OBIE's proposed model for variable recurring payments into its regulatory sandbox for testing.

After passing the necessary testing, the additional payments and refunds capabilities may be built into the Open Banking standards, with a mandate issued to ensure that it is supported by the CMA9.

As one interviewee from a CMA9 bank told us, *"We would do [variable recurring payments] happily if everyone else had to do it as well, but we won't if everyone else doesn't have to do it – because it's a disadvantage to us … [But] I think it'll create a different, more competition-friendly market."*[52]

Improving consent protection for consumers

Three additional consent features for customers were discussed during our interviews, with interviewees highlighting risks to consumer privacy and trust in the system if consumer data was misused. These were of particular concern to the consumer groups we spoke to. These protections are not mandated under PSD2 and so are not currently included in the standards. These are:

1. Codifying consents;
2. Revoke and remove; and
3. TPP-side reauthorisation.

Codifying consents refers to codifying the intent underpinning the consent given by the user, and then attaching this codified intent to their transaction data as metadata. This has two key benefits.

Firstly, the language used to capture the user consent can be structured in a way that ensures it is unambiguous, simple to understand and is limited in scope. Secondly, this means that as the information is passed between different data processors, and in particular outside of entities governed by PDS2 (and hence governed by GDPR only) there is an audit trail reflecting the customer's wishes.

In implementing this approach, it is vital that the oversight of a codified whitelist of consents does not stifle innovation by TPPs. It is therefore important to create a governance process that allows consents to be proposed and included within the consent whitelist quickly and easily.

Revoke and remove means that when a customer revokes their consent, the data that they have provided is also deleted by the third-party provider. This is a consumer right under the GDPR's Right to Be Forgotten principle but does not automatically happen under the Open Banking APIs, which some interviewees felt to be an oversight that could lead to customer dissatisfaction later on. Customers may often reasonably assume that the deletion of their data has taken place when they choose to revoke consent, and some interviewees felt that including this could help to avoid incidents that undermined customer trust in Open Banking.

TPP-side reauthorisation means allowing customers to re-permission the apps they use, after the initial 90-day consent period has expired, within the TPP's app itself without having to revisit their bank's app.

The current PSD2 legislation requires a full reauthorisation every 90 days, which can make Open Banking products cumbersome for users and lead to user attrition for TPPs, increasing costs for them. As one interviewee told us:

"Generally, cost of acquisition is a significant thing and I'm investing money into acquiring customers that I can do business with. But in this I'm acquiring customers that I can do business with for 90 days, and then what? What are the chances that the customer comes back and re-authenticate? Certainly not a hundred per cent. So, I've just got arbitrary churn in my business introduced by fairly spurious regulation." [53]

Empirical evaluation of the appropriate time period for reauthorisation should be possible, and we believe that this should be revisited using a cost-benefit analysis and data from the first year of Open Banking to determine the appropriate time period.[54]

Expanding Open Banking into Open Finance

At the moment, Open Banking is limited to personal and business current accounts and payments accounts because of its basis in the CMA Order and PSD2. That leaves out important financial products:

- Cash savings accounts;
- Mortgages;
- Insurance; and
- Pensions.

Many of our interviewees noted how significant the opportunities were for use cases that included these products.

"One opportunity is that we just see great examples of some of the use cases such as [...] the better ability to receive credit, and the automation of certain processes which might be painful, such as mortgage applications, and looking at customers in debt and how we help them." [55]

Extending Open Banking APIs to these other financial products could increase the value of a number of use cases. Account sweeping, for example, might be more useful to customers if they could monitor the balance in their savings accounts as well as in their current accounts.

Extending Open Banking APIs to these other financial products would also allow consumers to see all their financial information in one place. It is worth noting that a number of use cases have already launched using screen scraping, but as discussed above this creates additional risks for customers and often does not work well.

[50] Interview, TPP representative, May 2019.
[51] Interview, TPP representative, May 2019.
[52] Interview, CMA9 representative, May 2019.
[53] Interview, TPP representative, May 2019.
[54] NB: This may not be possible within PSD2.
[55] Interview, CMA9 representative, May 2019.

This is particularly important since after September 2019 when PSD2's requirements for strong customer authentication become mandatory, screen scraping will be made impossible. This unintended consequence of PSD2 would be solved by Open Banking APIs for these products. Extending Open Banking APIs into these other products could drive greater competition in these markets through enhanced transparency and easier ability for customers to use financial products from a range of different providers.

For some products it may be necessary to do this through regulatory mandated APIs. Sweeping, for example, is considered to be a core use case required by the CMA Order and therefore may need at least savings accounts to be Open Banking enabled. For others, though, this enhanced capability could be done through a "Premium API" that banks could charge for access, which we discuss below.

Development of Premium APIs

Not all of the areas where we believe improvements are required should necessarily be mandatory for banks to provide for free to customers and TPPs. For some additional services, it may be useful to have standards set uniformly across the market, but for banks to contract privately with TPPs wishing to use the service. This could increase the incentives for banks to develop their offerings further.

The CMA Order is, in the words of one of our interviewees from the CMA9, "all stick and no carrot", which has been a drag on implementation and made some steps of the process unnecessarily confrontational.[56]

In contrast to the Regulatory APIs that Open Banking currently provides, which the CMA9 are required by law to provide free and available without contract, the Premium APIs described below would be voluntary for banks to implement, offered by them under contract to TPPs and could be paid for by those TPPs. Because Premium APIs would be made available under contract, each bank could address the pricing and scope of liability associated with each Premium API with each participating TPP.

The benefit of designing the APIs centrally and on top of the Regulatory API stack is that it could help to solve the "whole of the market problem", where end users (such as merchants) will only adopt the solution if they can achieve significant market coverage from day one. Open Banking covers approximately 95% of the UK current account market.

Allowing banks to charge for Premium APIs would be a pragmatic move, designed to increase cooperation and bring about the changes needed more rapidly than if banks were required by law or regulation to do so.

Our interviews suggested that introducing this kind of offering would be attractive to TPPs and could offer a significant potential revenue stream to banks that has so far been missing from Open Banking, while supporting the roll-out of new services to customers that the core APIs do not allow for. To quote one interviewee from a TPP:

"I don't think there's much to say about [premium] APIs apart from I think they're a bloody good idea. And I would quite happily pay for them." [57]

Premium APIs could exist as a suite of additional standards that sit on top of the Regulatory APIs, designed to create a common standard in line with the existing security framework, but without the "stick" of the CMA order. We do not take a view about which functions are appropriate for Premium APIs, since this depends in part on what can be achieved within the existing regulatory framework.

Realising the potential of Open Banking

"The biggest opportunity I see out there is that we set the foundations, and it's now for some amazingly clever people to work out a customer problem that hasn't been solved yet." [58]

The potential for Open Banking standards and infrastructure to support other sectors of the economy

The Open Banking approach to data sharing, based on ongoing data portability and interoperability, has been highlighted by HM Treasury's Furman Review into competition in digital markets as a pro-competitive model for other markets to follow.[59] A similar model was endorsed by the European Commission's report into Competition Policy for the Digital Era.[60]

At the same time, the government is exploring the potential for data sharing in markets beyond banking, including pensions via the Pensions Dashboard, and telecoms in the Smart Data review being conducted by BEIS.[61] The Financial Conduct Authority is exploring the potential for Open Finance, discussed above.

[56] Interview, CMA9 representative, May 2019.
[57] Interview, TPP representative, May 2019.
[58] Interview, CMA9 representative.
[59] HM Treasury, Unlocking digital competition, Report of the Digital Competition Expert Panel https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel
[60] European Commission, Shaping competition policy in the era of digitisation http://ec.europa.eu/competition/scp19/
[61] Department for Business, Energy and Industrial Strategy, Smart Data Review https://www.gov.uk/government/publications/smart-data-review

These may benefit from some integration with Open Banking, to benefit from the experiences of the project and, where useful, adopt some of the assets already built up by Open Banking such as the trust framework and the User Experience Standards. This may make the implementation of "Smart Data" in other sectors cheaper, quicker and more secure.

As one interviewee noted: *"Firstly if you're taking that approach to it, I see the benefit of not having a couple dozen initiatives in those markets with a half dozen different organisations implementing them but [...] some kind of greater coordination between initiatives."* [62]

Another interviewee highlighted a common concern : *"a genuine risk at the moment that the incumbents in each of those sectors decide what they want to do on their own. And of course if they do it on their own I think the customer loses out because you lose the commonality between the different processes."*

Depending on the level of integration with Open Banking's functions, this could also make it easier to attract customers who already use, and are familiar with, Open Banking products. Open Banking has had to build an authentication mechanism that already allows bank customers to approve and authenticate consents via their accounts.

The energy market, in particular, may benefit from such an approach, with energy customers given the power to share smart meter data with third parties.[63] This could have significant knock-on benefits, with energy customers more easily being able to take advantage of time-of-use tariffs and shape their consumption to supply and demand across the entire energy network, making renewables more viable and reducing expensive peak loads. Customer authentication could be a serious impediment to adoption in the energy market, as most energy customers do not regularly log into their energy accounts. Integration with Open Banking could solve this authentication problem.

Some consumer groups have highlighted a "loyalty penalty" in markets like energy and telecoms where people who do not switch providers end up paying more for essential services.[64] The CMA has also indicated that it regards this as a problem.[65] This may be addressed in part by combining data comparison services with Open Banking payment capabilities.

Intermediaries that monitor customers' use and prompt them to switch, or switch automatically for them, when a better offer for them becomes available, are already emerging using Open Banking, but could be significantly enhanced with data from other markets as well.

The potential for Open Banking to support a digital ID service

There are two aspects of digital identity that Open Banking has relevance to. The first is the use of the Open Banking authentication system to allow customers to access their digital identity regardless of where it is stored. The second is the provision of verified identity data the banks hold on their customers through the Open Banking APIs.

Regarding the first aspect, bank customers could use the Open Banking authentication infrastructure to log on to their identity service provider without the user needing to remember new usernames and passwords. According to some of our interviewees, this has been a major friction point for initiatives like GOV.UK Verify.

The Open Banking authentication mechanism already covers the 40 million people who use mobile or online banking in the UK. Crucially these mobile banking customers use their mobile banking apps over 30 times per month, giving them a high-quality authentication mechanism that they are already fully familiar with. The Open Banking authentication standards could be used by non-bank authentication providers to allow easier competition at the authentication layer.

The authentication mechanism could also provide additional security to services like the Department of Work and Pensions's Pensions Tracer Service, which will help people track down pension plans they have lost contact with. This system requires an identity provider to verify that the person searching for pensions is the named person which could be achieved using identity information from that individual.

Regarding the second aspect, banks are required by law to carry out extensive checks on their customers' identities to avoid money laundering and other financial crimes. They hold this data, which often includes name, address, date of birth and other attributes on their customers, but are not required under the existing Open Banking rules to allow customers to access it and share it with third parties.

Many of our interviewees argued that customers should be able to share these data with third parties if they wished. Some felt this was a matter of some urgency – as one TPP interviewee noted:

"They've [the banks] known about [this] for a long time. And they haven't done anything. In the open banking records, there is no scope for the sharing of identity information. We've lost business here." [66]

[62] Interview, TPP representative, May 2019.
[63] Federation of Small Businesses, Open Energy <https://www.fsb.org.uk/docs/default-source/fsb-org-uk/fsb-open-energy-report-final.pdf?sfvrsn=0>
[64] Citizens Advice, Excessive prices for disengaged consumers <https://www.citizensadvice.org.uk/about-us/policy/policy-research-topics/consumer-policy-research/consumer-policy-research/excessive-prices-for-disengaged-consumers-a-super-complaint-to-the-competition-and-markets-authority/>
[65] Competition and Markets Authority, CMA tackles loyalty penalty charges <https://www.gov.uk/government/news/cma-tackles-loyalty-penalty-charges>
[66] Interview, TPP representative, May 2019.

Some banks may object to this given the costs associated with acquiring this data. There may be a case for allowing them to share this identity data through a Premium API, as discussed above, instead of through a Regulatory API in certain cases.

This kind of functionality would enable use cases where the customer's identity was important, such as for credit scoring. It could also enable attribute validation, such as in the case of a user wishing to prove their age anonymously to a merchant, for example a gaming or adult website. In this case, an intermediary TPP could sit between the user's bank and the website and enable the user to instruct their bank to tell the TPP whether they were above the legal age limit.

This approach puts the customer interests at the centre of the information transfer as it could safeguard the customer's privacy. In this example the website would not be given the user's identity (just the fact that they are over 18) and the bank does not know why the user has requested this information (simply that they have been asked to verify that the customer is over 18). It could also reduce barriers to entry for identity verification services.[67]

Regulatory underpinning

Many of the limitations of Open Banking that we have identified stem from the nature of the CMA Order and PSD2. The scope of interventions under the Order is necessarily linked to the CMA's findings on adverse effects on competition in retail banking, while the scope of interventions under PSD2 is limited to payments accounts. This limits the OBIE's ability to fix some of the issues and make the most of some of the opportunities identified in this report. To maximise consumer benefit, Open Banking may require a new regulatory underpinning in future.

Both the Furman Review and the European Commission's digital competition report concluded that data and protocol interoperability could drive increased competition in digital markets. One of the Furman Review's main recommendations was the creation of a digital markets unit, linked to a regulator like the CMA or Ofcom, that would drive forward this sort of approach. This has been echoed in the BEIS Smart Data Review, which is exploring the potential for a body to coordinate the rollout of smart data across different sectors.

Although banking was not a focus of the Furman Review or the Commission report, it may be useful for a digital markets unit, if one is set up, to consider working alongside the CMA to drive forward further reforms under the Open Banking umbrella, or even to shift Open Banking's regulatory underpinning to a new body set up to promote open data across other markets.

[67] Fingleton Associates, Don't Let the Porn Block Give Mindgeek a Monopoly <https://medium.com/fingleton-associates/dont-let-the-porn-block-give-mindgeek-a-monopoly-aafdfed270de>

Conclusions

Conclusions

Open Banking is up and running

One year on, the Open Banking APIs have been rolled out by all of the CMA9 and are increasingly being voluntarily adopted by other non-CMA9 banks as well. The security framework appears robust and there is an impressive, growing ecosystem of TPPs that use the APIs to offer services to customers, across a range of use cases. Many more are in development.

The UK's Open Banking project is the most advanced in the world and, if it continues to progress and grow the ecosystem around it, it should become a powerful element of a thriving and globally competitive FinTech sector based in the UK. Other countries' experience suggests that the UK's setting up of an implementation entity and requiring shared standards may have helped it move more quickly, and may allow more effective change in the future.

Open Banking's value depends on increased functionality

The CMA's main objective for Open Banking was to enable greater competition in personal and business current accounts. In many areas the Open Banking implementation has to fit within the framework of PSD2. Open Banking therefore reflects some of the shortcomings present in PSD2.

This has meant that Open Banking has lacked the mandate to go as far as it needs to respond to customer demand and support the development of services that increase competition across the sector. It may also have contributed to the slow take-up of Open Banking payments functions by TPPs and merchants. For example, certain key pieces of functionality were not addressed in the directive, like variable recurring payments and identity information.

Many of our proposals for expanded functionality include information that customers could find useful, and which they are entitled to under the GDPR. We recommend that the government review the services enabled by the CMA Order and PSD2, and consider whether further provisions should be made through other regulatory means.

Open Banking will lift off as the most valuable use cases enter the market

As Open Banking moves from the initial phases of ensuring the CMA9 offer high performing APIs, it should now focus on increasing the utility of Open Banking to consumers. This is best done by focusing on enabling TPPs, ensuring that there are no technical barriers to their development and providing appropriate support for trustworthy services to emerge.

As described in Chapter Three of this report, the use cases with the most significant long-term benefits are likely to be:

1. Unbundling of lending services from personal and business current accounts.

2. Disintermediation of incumbent card based payments.

3. Cheaper borrowing and easier access to credit, likely through better creditworthiness data.

4. More financial inclusion and better financial management for people in financial difficulty.

5. A reduction in customer stickiness in markets where the "loyalty penalty" is a factor.

6. Identifying cross-sector use cases for banking data such as pensions or insurance.

We believe that Open Banking will become increasingly widely adopted as the functionality it enables increases. Getting the basic plumbing of the system working has been achieved, and the next steps require consumer benefits to be available that make it worthwhile to use it.

Preparing for lift off

A lot has been achieved in Open Banking's first year, and the groundwork has been laid for wide consumer adoption of many valuable use cases. Other sectors and countries are already using the Open Banking standards and trust framework as a blueprint for their own consumer-controlled data access regimes. However, for Open Banking to really take off, the existing functionality needs to be expanded.

The next stage should prioritise new use cases based on their value to consumers and provide both the basic plumbing at the technical layer and support for TPPs to develop services in the market. This will also support the potential for other sectors such as pensions to create similar initiatives.

However, in order for this to happen, the government should consider a different regulatory underpinning. Many of the shortcomings of Open Banking stem from its basis in the CMA Order and PSD2, which limited its scope. The FCA is reviewing the potential for Open Finance this year[68] , and the UK Government is progressing new regulatory structures under the Smart Data Review.[69] Both of these are opportunities to revisit Open Banking and expand it as we have described in this report.

Open Banking can strengthen competition, but is more likely to do so via the unbundling of financial products from the current account than through greater levels of current account switching, by making it easier for people to access single offerings from parties other than their "home" bank. These types of use case should be the focus of future efforts to improve Open Banking.

Open Banking has a bright future. As more products that use it roll out, and more consumers sign up to use them, we should see momentum building that strengthens the entire ecosystem and drives competition across the financial sector – and crucially, with consumers in control.

[68] Financial Conduct Authority, Why firms should not wait to be pushed on Open Finance <https://www.fca.org.uk/insight/why-firms-should-not-wait-be-pushed-open-finance>
[69] Department for Business, Energy & Industrial Strategy, Smart data: putting consumers in control of their data and enabling innovation <https://www.gov.uk/government/consultations/smart-data-putting-consumers-in-control-of-their-data-and-enabling-innovation>

Appendices

Appendix 1: Core components of the CMA Order

The core component of the Retail Banking Investigation Order (2017) relating to the objectives of the OBIE are as follows:

PART 2

Open API standards and data sharing

10. Creation of the Implementation Entity

10.1 Providers shall, if not done in advance of the date of this Order, within two weeks of this Article coming into force set up an entity (the "Implementation Entity") that will agree, consult upon, implement, maintain and make widely available, without charge open and common banking standards for:

10.1.1 read only access to data set out in Articles 12 and 13 (the "Read-only Data Standard"); and

10.1.2 both read and write access, which allows a third party to access account information or initiate a payment on behalf of the customer (subject to the customer's explicit consent), for data set out in Article 14 (the "Read/Write Data Standard") and which has the features and elements necessary to enable Providers to comply with the requirements to provide access to accounts subject to this Part 2 of the Order under PSD2.

10.2 The Read-only Data Standard and Read/Write Data Standard shall include provisions relating to:

10.2.1 an Open API standard;

10.2.2 data format standards;

10.2.3 security standards (including those to be adopted by third party providers) including as a minimum for confidential data as set out in Article 14:

(a) authorisation and authentication standards;

(b) standardised permission frameworks; and

(c) whitelisting as a system for approving third party providers fairly and quickly unless there is sufficient existing regulatory oversight;

10.2.4 governance arrangements; and

10.2.5 customer redress mechanisms for the Read/Write Data Standard.

Neither the Read-only Data Standard nor the Read/Write Data Standard shall include provisions that are incompatible with the requirements in PSD2.

10.3 The composition, governance arrangements, budget and funding for the Implementation Entity (the "Agreed Arrangements") shall, subject to Article 10.6, be those proposed by the Providers and mandated by the CMA, and which are set out in Part A of Schedule 1 to the Explanatory Notes.

10.4 The Providers shall comply with the Agreed Arrangements and shall use their best endeavours, both individually and collectively, to ensure that the Implementation Entity complies with the Agreed Arrangements. This may include but is not limited to:

10.4.1 providing funds in line with the Agreed Arrangements; and

10.4.2 providing or procuring specific resources including staff and staff time.

10.5 The Implementation Trustee will propose a project plan and timetable which, once approved by the CMA, will become the "Agreed Timetable and Project Plan". The Agreed Timetable and Project Plan is, subject to Article 10.6, the timetable and project plan set out in Part B of Schedule 1 to the Explanatory Notes. The Providers shall:

10.5.1 comply with the Agreed Timetable and Project Plan; and

10.5.2 not take action which would limit the Implementation Entity from fulfilling its duties and responsibilities under this Order; and

10.5.3 use best endeavours both individually and collectively to ensure that the Implementation Entity complies with the Agreed Timetable and Project Plan.

10.6 Changes to the Agreed Arrangements or the Agreed Timetable and Project Plan:

10.6.1 may be proposed by the Implementation Trustee but will require the approval of the CMA; or

10.6.2 may be made by the CMA following consultation with the Provider and the Implementation Trustee.

10.7 For the purposes of this Article:

10.7.1 BCA and SME lending products referred to in Article 12 only refer to those products offered to SMEs with a turnover below £6.5million;

10.7.2 BCA transaction data referred to in Article 14 need only be made accessible to and for SMEs with a turnover below £6.5million.

Appendix 2 : Participants

TPPs which are able to offer services using Open Banking (June 2019):

Entity	Primary Proposition*
9 Spokes	SME Financial Management
ABN AMRO Bank	Personal Finance Manager
Access Systems	SME Financial Management
Adyen	E-commerce Payments
A J Bell Management	In development
Alpha FX	Settlement & Back Office Integration
American Express Payment Services	E-commerce Payments
Ardohr (CREDEC)	SME Accountancy
Asto Digital	SME Financial Management
Banked	Open Banking as a Service
Bottomline Payment Services	E-commerce Payments
Bud Financial	Personal Finance Manager
Budget Insight	Personal Finance Manager/ Sweeping
Business Finance Technology Group	Personal Finance Manager
Cashfac	Credit File Enhancement

* Note a number of entities offer several propositions

TPPs which are able to offer services using Open Banking (June 2019):

Entity	Primary Proposition*
Castlight	Credit File Enhancement
Citibank Europe	
Circit	SME Accountancy
Clear Score Technology	Credit File Enhancement
Consents Online	Consent Management
Credit Kudos	Credit File Enhancement
Credit Ladder	Credit File Enhancement
Credorax Bank	E-commerce Payments
CRIF Realtime	SME Credit File Enhancement
Currency UK	
Digital Moneybox	Micro savings
Ducit.ai	Personal Finance Manager/ Credit Checking/ E-commerce
Ecospend Technologies	Personal Finance Manager
Emma Technologies	Personal Finance Manager

* Note a number of entities offer several propositions

TPPs which are able to offer services using Open Banking (June 2019):

Entity	Primary Proposition*
E-Vest Adviser Services Ltd	Personal Finance Manager
Experian Limited	Credit File Enhancement
Fire	E-commerce Payments
figo	Personal Finance Manager
Flagstone Investment Management	Settlement & Back Office Integration
Flux Systems	Personal Finance Manager
Fractal Labs	SME Financial Management
FreeAgent Central	SME Accountancy
Funding Options	SME Lending
Fundingxchange	SME Lending
GiffGaff	
GoCardless	E-commerce Payments
ING Bank (Yolt)	Personal Finance Manager
Indigo Michael (SafteyNet Credit)	Automatic Overdraft Borrowing
Instantor	Credit File Enhancement
Intuit	SME Accountancy

* Note a number of entities offer several propositions

TPPs which are able to offer services using Open Banking (June 2019):

Entity	Primary Proposition*
ipagoo	
Iwoca	SME Lending
JPMorgan Chase Bank	
Modulr	E-commerce Payments
Mogo	Consumer Lending
Moneyhub	Personal Finance Manager
Nordea Bank	Personal Finance Manager
Oval Money	
Oxlin	E-commerce Payments
Perfect Data Solutions	SME Financial Management
Plaid Financial	
Pollen Technologies	SME Financial Management
Pre Pay Technologies	
Qbroot Financial Solutions	Personal Finance Manager
Quick File	SME Accountancy

* Note a number of entities offer several propositions

TPPs which are able to offer services using Open Banking (June 2019):

Entity	Primary Proposition*
Rebank Technologies	
Reflow Zone	E-commerce Payments
Sage (UK)	SME Accountancy
Salt Edge	Credit File Enhancement
Saverd	
Sentenial	E-commerce Payments
Skrill	
Smarter Financial	
Spendee	Personal Finance Manager
Sports Loyalty Card	
Streeva	
Tail Offers	Settlement & Back Office Integration
The ID Co.	Credit File Enhancement
The One Place Capital	Personal Finance Manager
Tink	Personal Finance Manager / E-commerce Payments
Token.io	Open Banking as a Service

* Note a number of entities offer several propositions

TPPs which are able to offer services using Open Banking (June 2019):

Entity	Primary Proposition*
TransferWise	E-commerce Payments
TransUnion International	Credit File Enhancement
TrueLayer	Open Banking as a Service
Trustly	E-commerce Payments
Trutify	
Turkiye Bank	
Xero	SME Accountancy
YoYo Wallet	
Y Tree	Personal Finance Manager
Zeux	E-commerce Payments

* Note a number of entities offer several propositions

ASPSPs that have a TPP proposition or are planning to roll out a TPP proposition (June 2019):

Entity	Primary Proposition
Bank of Cyprus	Account Aggregation
Bank of Scotland Plc	Account Aggregation
Barclays Bank Plc	Account Aggregation
Clydesdale Bank Plc	Account Aggregation
HSBC UK Bank Plc	Account Aggregation
Halifax	Account Aggregation
Lloyds Bank Plc	Account Aggregation
National Westminster Bank Plc	Account Aggregation
The Royal Bank of Scotland Plc	Account Aggregation
Ulster Bank Ltd	Account Aggregation

ASPSPs enrolled in Open Banking (June 2019):

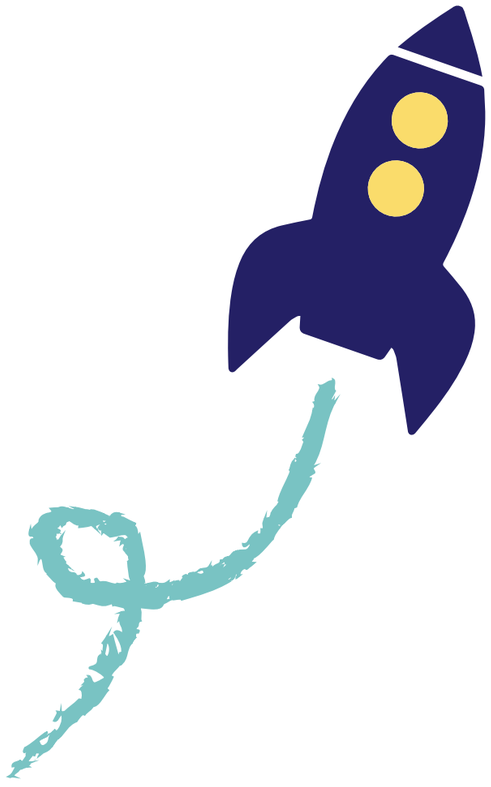
Entity
AIB Group (UK) Plc
Allstar Business Solutions Limited
Bank of Ireland (UK) Plc
Barclays Bank Plc
C Hoare & Co
ClearBank Limited
Clydesdale Bank Plc
Coutts & Company
Creation Financial Services Limited
Cynergy Bank Limited
Hargreaves Lansdown Savings Ltd
HSBC UK Bank Plc
ICBC (London) Plc
Industrial and Commercial Bank of China Limited
Investec Bank Plc
Lloyds Bank Plc
Marks & Spencer Financial Services Plc
MBNA Limited
Mizuho Bank, Ltd.
National Westminster Bank Plc
Nationwide Building Society
NewDay Ltd

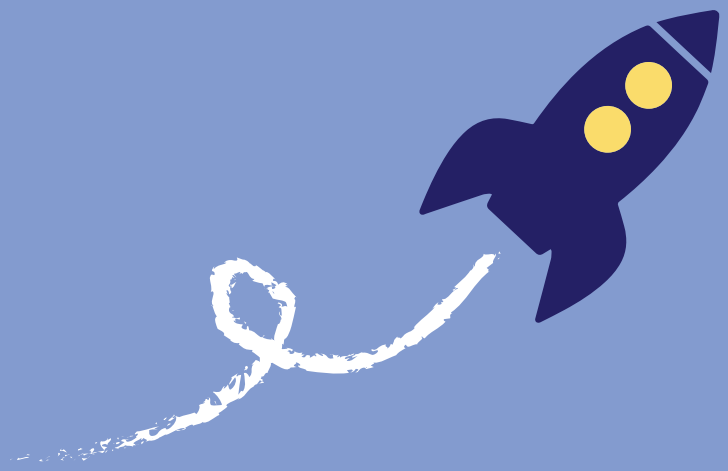
ASPSPs enrolled in Open Banking (June 2019):

Entity
Northern Bank Limited
Permanent TSB Plc.
Prepay Technologies Ltd
Revolut Ltd
Sainsbury's Bank Plc
Santander UK Plc
SC Kleinwort Hambros Bank Limited
Starling Bank Limited
Tesco Personal Finance Plc
The Co-Operative Bank Plc
The Royal Bank of Scotland Plc
Tide Platform Limited
TSB Bank Plc
Ulster Bank Ireland DAC
Ulster Bank Ltd
Vanquis Bank Limited
Yorkshire Building Society

Glossary

1. AISP – Account Information Service Provider.
2. APIs – Application Programming Interfaces.
3. BEIS – The Department for Business, Energy and Industrial Strategy.
4. CMA9 – The nine largest UK banks, required by the CMA Order to participate in and pay for the Open Banking project. They are: Lloyds, Barclays, Nationwide, RBS, Santander, Danske Bank, HSBC, Allied Irish Banks and Bank of Ireland.
5. CMA – Competition and Markets Authority, the UK's competition regulator.
6. CMA Order – The order following the Retail Banking Market Investigation that required banks to introduce Open Banking and that set up the Open Banking Implementation Entity.
7. FCA – Financial Conduct Authority.
8. KYC – Know Your Customer checks that banks carry out to verify the identities of their customers.
9. The OBIE – The Open Banking Implementation Entity, or Open Banking Ltd, the body set up by the CMA to design and implement Open Banking.
10. OBWG – Open Banking Working Group.
11. Open Finance – The rollout of Open Banking APIs to more financial products, such as savings accounts and mortgages.
12. PISP – Payment Initiation Service Provider.
13. Premium APIs – APIs that banks can charge for and contract for freely.
14. PSD2 – The Second Payment Services Directive.
15. Regulatory APIs – APIs that banks are required to provide under PSD2 and / or the CMA Order.
16. Retail Banking Market Investigation 2017 – The CMA Market Investigation into competition in the retail banking market that led to the setting up of Open Banking.
17. Screen scraping – The practice of third party apps using bank customers' username and passwords to retrieve their bank details.
18. TPP – Third Party Provider.





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