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Open Banking and Competition in the Payment Markets:
Access Regulations as a Remedial Blueprint

by

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Abstract

The aim of this thesis is to assess the long-term effects of Open Banking regulation on competition and innovation in the payment markets. To this end, the thesis uses a concept of the platform ecosystem as a focal point of competition law analysis. It defines two types of competition in the payment markets: competition between financial platforms (inter-platform competition) and competition between participants of the same platform (intra-platform competition).

The existing literature on Open Banking does not address how the access regulation affects inter-platform competition in the payment markets in the long term, focusing almost exclusively on intra-platform competition and economic efficiencies of Open Banking regulation. The academic literature does not explain how the regulation can inadvertently pave the way to a radical platformisation of the industry and dominance of a few selected players (e.g. big banks or Big Tech companies).

Based on the analysis of the EU Second Payment Services Directive and Open Banking regulation in the UK, this thesis devises a model that reconciles vigorous intra-platform competition through mandatory access to bank customer accounts with effective inter-platform competition through the creation of end-to-end payment systems. The thesis shows that piecemeal adjustments to current Open Banking regulation are needed to strike the right balance between inter-platform and intra-platform competition. In particular, it argues that access regulation should be complemented by measures aimed at promoting inter-platform competition and by the ring-fencing obligation on the digital platforms active across several markets. The ring-fencing obligation should prevent the Big Tech companies from combining bank customer data with data from other markets. Bank customer data should not be used for profiling customers and gaining competitive advantage beyond the payment markets. Neither should the data collected in other markets be combined with the bank customer data to enter the payment markets.

The thesis also stipulates conditions for applying the Open Banking framework to other industries as proposed by policymakers. It advocates 'smart' or 'minimum viable' regulations as opposed to generic access regulations and promotes a product-driven, rather than obligation-driven approach. Policymakers should identify products whose delivery is impaired due to blocked access to customer accounts so that regulations help 'unlock' their value. Finally, this thesis examines the interplay between Open Banking regulation and competition law and provides some recommendations for competition authorities. It specifically explores how behavioural remedies

(such as continuous access to customer data) can be implemented through the competition law toolkit.

This research informs our understanding of the impact of data access regulation on the competition in the financial sector and provides the guidance for adopting similar regulations in other data-driven industries.

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Research Thesis: Declaration of Authorship

Print name:

Title of thesis: **'Open Banking and Competition in the Payment Markets: Access Regulations as a Remedial Blueprint'**

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. Parts of this work have been published as:
 - Section 1.1.6 'Case study: Fintech and banks in the Digital era' in Ivanov A and Lianos I (eds), 'Digital Era Competition: A BRICS View' (2019) BRICS Competition Law and Policy Centre Report 84, 231 <<http://bricscompetition.org/materials/news/digital-era-competition-brics-report/>> accessed 20 December 2019.

Signature: Date:

Introduction

The financial industry is currently undergoing a sweeping technological transformation with the emergence of innovative, technologically-savvy competitors, such as Fintech and Big Tech companies. However, this transformation faces an obstacle in the form of the significant strategic advantage of traditional financial institutions, namely: exclusive access to customer accounts, both technical access and access to the transactional data associated with the accounts.

Several jurisdictions (for example, UK, EU and Australia) have enacted regulations (**'Open Banking regulation'**^{*}) to force banks to open access to their customer accounts and reduce entry barriers for new competitors. This thesis applies a novel analytical framework to assess how Open Banking regulation affects competition in payment markets and whether the promised benefits of such regulation outweigh its potential side effects. This question becomes particularly important in view of expanding the provision to other sectors of the economy, where access to customer data creates bottlenecks and works in favour of incumbent data holders. Instead of focusing on easing access to incumbents' existing data pools and infrastructure, this thesis offers a more holistic approach based on an assessment of both intra-platform and inter-platform competition. It concludes that Open Banking regulation has a different effect on inter-platform compared to intra-platform competition and suggests how the regulation can be amended and complemented to rebalance its effects on competition.

Financial markets have traditionally had high entry barriers due to tight regulation, information asymmetry and entrenchment of market power which has resulted in mostly oligopolistic market structures. However, the financial sector is currently undergoing a digital transformation with several important trends emerging, such as:

- 1) Transition from a product to a platform business model;¹

^{*} Throughout this study, 'Open Banking regulation' is used as a generic term for the regulatory driven framework for the Open Banking (such as PSD2, the UK regulations and their likes in other countries), while Open Banking will refer to the ecosystem emerging as a result of financial institutions opening up their customer accounts to the third parties, as defined in the section 3.2.1.

¹ World Economic Forum Report, 'Beyond Fintech: A Pragmatic Assessment of Disruptive Potential in Financial Services' (August 2017); Miguel de la Mano and Jorge Padilla, 'Big Tech Banking' (2018) 11 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3294723> accessed 27 March 2019.

2) Shift from competition in the market to competition for the market, with the winner becoming largely isolated from the competitive pressure;² and

3) Increased reliance on data as a potential source of market power.³

The digital transformation also brings with it new competitors who marry finance and technology to provide better services to clients – Fintech and Big Tech companies. Fintech companies are companies which deliver financial products in an entirely digital form.⁴ We mostly associate Fintech with small innovative start-ups such as Nutmeg, Wealthify, Revolut, Klarna etc. In contrast, Big Tech refers to global technology-based diversified firms with widespread adoption across geographies.⁵ These include Google, Apple, Facebook, Amazon, Alibaba and Tencent. They deliver financial services not as their main offer, but as part of a wider range of products. The emergence of new competitors brings about completely different business models (e.g. the platform model as opposed to the hierarchical business model of traditional banks). It promises to change the balance of power in the financial industry.

Having said that, traditional banks still hold a significant advantage compared to new entrants. This thesis focuses on the payment markets, where banks benefit from a historical hold over customer accounts. New competitors thus face a difficult dilemma. Either they need to enter in partnership with financial institutions to gain access to these accounts to deliver innovative products and services. Alternatively, they need to create their end-to-end payment systems, with no reliance on access to customer bank accounts. The former rests on the goodwill of banks in opening up their customer accounts. This creates a risk of excluding new entrants. The latter face high fixed costs and must harness network effects, which is a formidable task for small start-ups.

In response to this challenge, some jurisdictions have introduced access regulations that mandate banks to provide access to their customer accounts to authorised competitors. Examples of such

² George J Stigler Center for the Study of the Economy and the State and the University of Chicago Booth School of Business, 'Stigler Committee on Digital Platforms: Final Report' (2019) 6 <<https://research.chicagobooth.edu/-/media/research/stigler/pdfs/digital-platforms---committee-report---stigler-center.pdf>> accessed 2 September 2019.

³ For example, the German Competition Act has been amended in 2017 stating that 'access to relevant data is a potential source of market power'; see also Wolfgang Kerber, 'Digital Markets, Data, and Privacy: Competition Law, Consumer Law, and Data Protection' (2016) *Gewerblicher Rechtsschutz und Urheberrecht. Internationaler Teil* 639 <<http://dx.doi.org/10.2139/ssrn.2770479>> accessed 30 March 2019; Daniel L Rubinfeld and Michal S Gal, 'Access Barriers to Big Data' (2017) 59 *Arizona Law Review* 339 <<http://dx.doi.org/10.2139/ssrn.2830586>> accessed 13 July 2018; Darren S Tucker and Hill B Wellford, 'Big Mistakes Regarding Big Data' (2014) 6 *Antitrust Source* 10; Maureen K Ohlhausen and Alexander P Okuliar, 'Competition, Consumer Protection, and the Right [Approach] to Privacy' (2015) 80 *Antitrust Law Journal* 121; Yet, this stance is not unquestionable - see e.g. Giuseppe Colangelo and Mariateresa Maggolino, 'Big Data as Misleading Facilities' (2 June 2017) *Bocconi Legal Studies Research Paper No 2978465* <<http://dx.doi.org/10.2139/ssrn.2978465>> accessed 13 July 2018.

⁴ Rory Van Loo, 'Making Innovation More Competitive: The Case of Fintech' (2018) 65(1) *UCLA Law Review* 232, 239.

⁵ CapGemini and LinkedIn in collaboration with Efma, 'World Fintech Report 2018' 10, 61 <<https://www.capgemini.com/news/capgemini-world-fintech-report-2018-highlights-symbiotic-collaboration-as-key-to-future-financial-services-success/?FinancialBrand>> accessed 31 March 2019.

regulations include Open Banking regulation in the UK,⁶ the second Payment Services Directive ('PSD2')⁷ in the EU, and the Consumer Data Rights Act (CDR)⁸ in Australia, which will be analysed in detail in Section 3.2. Access regulation is a bolder step compared to the non-interventionist, market-driven approach adopted by other countries (such as the US, Japan or China). In a nutshell, Open Banking regulation enables bank customers to authorise payment services providers ('third-party providers' or TPPs) to either initiate payments from their bank accounts or to collect transactional information from these accounts on behalf of customers, usually through open application programming interfaces (APIs). TPPs now have free access to bank accounts without the need to enter into contractual relations with incumbents.

Such regulation aims to reduce entry barriers in the payment markets and break the entrenched market power of traditional banks, along with providing an array of economic benefits. It is important to note, however, that regulation prompts a significant change in the industry and represents a high-impact intervention into the free play of market forces. Therefore, an in-depth assessment of such regulation and its effects on competition becomes particularly important.

Existing literature gaps, overall aim and objectives

Open Banking regulation has generated an abundance of academic literature.⁹ These works generally concur that regulation provides overall benefits by reducing entry barriers, increasing customer choice and facilitating the emergence of a thriving Open Banking ecosystem. However, a few papers present a critical analysis of the potential downsides of Open Banking regulation. For example, Rory Van Loo¹⁰ warns that combining the capabilities of traditional banks with those of Fintech, including the data advantage, can lead to the emergence of dominant platforms, akin to

⁶ Competition and Markets Authority, 'CMA, Retail Banking Market Investigation' (2016) Final Report, <https://assets.publishing.service.gov.uk/media/57ac9667e5274a0f6c00007a/retail-banking-market-investigation-full-final-report.pdf> accessed 20 May 2019.

⁷ Directive 2015/2366/EU of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC <<https://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32015L2366>> accessed 01 April 2019.

⁸ Australian Competition and Consumer Commission, 'Consumer data right (CDR)' <<https://www.accc.gov.au/focus-areas/consumer-data-right-cdr-0>> accessed 03 November 2019.

⁹ Alistair Milne, 'Competition Policy and the Financial Technology Revolution in Banking' (2016) DigiWorld Economic Journal 5 <http://www.idate.org/en/Digiworld-store/No-103-Digital-Innovation-Finance-Transformation_1093.html> accessed 10 February 2019; Giuseppe Colangelo and Oscar Borgogno, 'Data, Innovation and Transatlantic Competition in Finance: The Case of the Access to Account Rule' (2018) N35 European Union Law Working Papers; Daniel Castro and Michael Steinberg, 'Blocked: Why Some Companies Restrict Data Access to Reduce Competition and How Open APIs Can Help' (Center for Data Innovation, 6 November 2017) 11 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3108763> accessed 28 May 2019; Simonetta Vezzoso, 'Fintech, Access to Data, and the Role of Competition Policy' in V Bagnoli (ed), *Competition and Innovation* (Scortecci 2018).

¹⁰ Van Loo (n 4).

Google, Facebook and Amazon, thereby increasing the systemic risk in the financial industry. Miguel de la Mano, Jorge Padilla,¹¹ and Anna Argentati¹² criticise Open Banking regulation for being asymmetrical and favouring Big Tech companies, which can potentially benefit from the access to customer accounts mandated on traditional banks. This criticism is valid and merits the most detailed attention. However, none of these papers have offered a systematic analytical framework for assessing how Open Banking regulation affects competition in the payment markets. In particular, none of these papers help understand how exactly Open Banking regulation could result in an increase in the market power of specific actors and some sort of data-based dominance. Thus, the literature offers a piecemeal analysis focusing on various aspects of Open Banking. It then tries to apply competition law or regulatory tools, either separately or in combination, to address the revealed problems. As a result, the advice provided by the existing literature is quite vague and even contradictory. For example, some scholars strongly suggest the introduction of reciprocal data sharing ('two-way', instead of 'one-way' regulation).¹³ In contrast, others defend the one-way approach of the PSD2, stating that reciprocity would place an unjustified burden on new entrants.¹⁴

It is therefore necessary to define a holistic approach to data access in the payment markets which would effectively promote competition, prevent the emergence of new dominant platforms, while retaining the efficiencies provided by Fintech entrants. This is an overarching aim of this thesis.

This thesis offers a novel analytical framework for analysing the Open Banking phenomenon holistically and comprehensively. This approach was initially developed by Michael Jacobides¹⁵ and David Teece,¹⁶ and was further extended by Ioannis Lianos.¹⁷ This framework uses a (platform) ecosystem as a focal point for competition law analysis. It directs our attention away from competition in product markets to platform competition, which is much more relevant to the current economic reality of how firms devise their strategies and the competitive constraints they are subject to.¹⁸ Platform competition takes two distinctive forms: inter-platform competition (competition between platforms) and intra-platform competition (competition between participants of the same platform). This thesis is a first attempt to apply this general framework to the payment markets to understand the impact of access regulation on competition in the payment

¹¹ de la Mano and Padilla (n 1).

¹² Anna Argentati, 'Le banche nel nuovo scenario competitivo. FinTech, il paradigma Open banking e la minaccia delle big tech companies' (2018) 3 *Mercato Concorrenza Regole* 441.

¹³ Miguel de la Mano and Jorge Padilla (n 1) 21; Institute of International Finance, 'Reciprocity in Customer Data Sharing Frameworks' (July 2018) <https://www.iif.com/portals/0/Files/private/32370132_reciprocity_in_customer_data_sharing_frameworks_20170730.pdf> accessed 23 December 2019.

¹⁴ See Colangelo and Borgogno (n 9) 28.

¹⁵ M Jacobides, C Cennano and A Gawer, 'Towards a Theory of Ecosystems' (2018) 39 *Strategic Management Journal* 2255.

¹⁶ David J Teece, 'Business Ecosystems', *Palgrave Encyclopedia of Management* (2014) <<https://doi.org/10.1057/9781137294678.0190>>; David J Teece, 'Business Models, Value Capture, and the Digital Enterprise' (2017) 6(8) *Journal of Organizational Design*.

¹⁷ Ioannis Lianos, 'Competition Law and Policy for a Digital Era: A Complex System's Perspective' (30 August 2019) 103-104 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3492730> accessed 16 March 2020.

¹⁸ *ibid.*

markets. This thesis posits to the conclusion that access regulation has a very different impact on these two types of competition (see Section 3.3). Inter-platform and intra-platform competition differ in terms of their effect on the market structure, incentives to innovate, technology adoption, and the resulting overall level of competition across the industry. Hence, sector-specific regulation should strike a subtle balance between enabling new competitors to enter the market quickly and invigorate competition at a lower platform level, while incentivising companies to engage in inter-platform competition and to innovate in the longer term.

To achieve this aim, the thesis sets the following objectives:

- Understanding the current competitive landscape in the payment markets;
- Suggesting appropriate analytical tools for the competition analysis of Open Banking regulation;
- Discussing the importance of customer data as a strategic advantage in the payment markets;
- Deconstructing Open Banking regulation in the payment markets to assess its impact on inter-platform and intra-platform competition;
- Examining how current Open Banking regulation needs to be improved to protect both inter-platform and intra-platform competition in the payment markets and delineating the options and principles for granting access to customer data (e.g. via competition law toolkit).

Significance of the problem and the value of the research

The problems of competition in the data-driven economy have been already discussed for a while. This research contributes to the debate in two ways. First, the outcomes of Open Banking regulation are yet unclear. However, there are already strong calls for their extension to other sectors of the economy (such as energy and telecom) to cure the data dominance of incumbents. Before extending such regulation, a profound and structured analysis of Open Banking regulation, especially its impact on long-term competition, is crucially important. Inadequate regulation could inflict very high costs on society, including concentration of industry, chilling innovation, reduction of competition and consumer harm.

Second, Open Banking represents a perfect opportunity to apply a novel analytical framework to a real-life case and to test its practicability. This will help us understand how the concepts of ecosystem and platform competition enhance competition law analysis and whether they are

better placed to address competition concerns in the digital era, as compared to traditional competition law tools.

This thesis helps extend the existing analysis of Open Banking regulation and conduct it in a more structured way, thus opening up the avenues for further, more detailed research of particular aspects of Open Banking regulation. It draws attention to some problems in the payment markets that Open Banking regulation fails to address and informs policymakers about potential ways to promote inter-platform competition which may be being suppressed by access regulation.

Methodology

This thesis adopts a pragmatic approach to achieving the goal set. The research question is not just a theoretical exploration of the Open Banking phenomenon. The ultimate aim is to understand what the long-term consequences of Open Banking regulation are for the payment industry and what the practical implications of extending Open Banking regulation to other economic sectors are, in order to devise a set of recommendations and calls for action (Chapter 4). This involves integrating different perspectives and methods to interpret real-world phenomena, and choosing those which are most suitable to deal with the research question at hand.¹⁹

Consequently, this thesis makes two methodological choices. The first relates to the choice of the jurisdiction. A very practical consideration informs this choice: only a handful of jurisdictions have decided to introduce Open Banking regulation. In response to challenges posed by the digital transformation of banking, some countries have adopted a market-driven approach with no mandatory access regulations in place, while others opted for a regulatory-driven approach (Section 3.2). Therefore, this thesis focuses on the regulatory-driven jurisdictions, most prominently the European Union which adopted PSD2, the most comprehensive Open Banking regulation. Naturally, it compares PSD2 with the other Open Banking regulation efforts in the UK and Australia. It is evident that the three jurisdictions have completely different legal systems and competition law frameworks. However, this difference does not prevent their analysis under a single research question, because of the commonalities and shared objectives of the adopted approaches. The thesis also analyses whether the differences in regulation might have a material impact on competition (e.g. the proposed reciprocity of data sharing in the Australian CDR compared to the 'one-way' regulation in the EU and the UK), which informs the potential policy responses. That said, this thesis also draws on some examples from countries which have not introduced Open Banking regulation and have left the transformation of the payment industry to the operation of free-market forces, most notably China, with its large and powerful Big Tech companies. This provides a

¹⁹ See Mark Saunders, Adrian Thornhill, and Philip Lewis, *Research Methods for Business Students* (6th edn, 2012 Financial Times Press) 130.

useful counterfactual scenario where access regulation is absent, with some caveats about socioeconomic differences between the countries in question.

The second methodological choice concerns the epistemological approaches to the research conducted. Given the pragmatic stance taken in this research, the thesis is based on the combination of objective and subjective methods.²⁰ The main source of knowledge thus comprises of doctrinal documents, normative texts and legal cases, constituting together a solid base of objective data. This thesis also refers to the opinions and perceptions of social actors, e.g. industry leaders, experts and regulators. It is important to capture these subjective interpretations because regulations do not exist in a vacuum. They are implemented through the conduct of specific social actors, for instance, banks, Fintech, Big Tech and customers. If any of these actors become disengaged or adopts a strategy of exploiting the regulation against its aims and spirit, the regulation, even when formulated with the best of intentions and thoroughly crafted, will fail. Therefore, understanding the true intentions, motivations and strategies of the actors involved in regulation provides useful insights. However, this thesis uses these kinds of subjective resources for illustrative and supporting purposes, rather than as a primary source of information.

Finally, this thesis applies a regulatory rather than radical-change perspective.²¹ It seeks to explain the existing relationships between various market actors, how the Open Banking system works and what the public policy approaches to it are. Based on this, this thesis suggests improvements, mostly though additions or incremental changes to the regulation which will help mitigate the problems uncovered in the regulatory approach. This thesis also outlines further avenues for research required before translating these recommendations into concrete policy responses (e.g. the more detailed research for introducing dynamic regulation or ‘sunset provisions’ for the specific industry – see Section 4.1).

Assumed perspective

In line with the stated aim, the thesis applies an analytical framework which focuses on ecosystems and platform competition on the economic relationships of Open Banking and observes how such regulation affects their dynamics. Because this is not an economic but legal thesis, it approaches this from a competition law perspective. It focuses on how access regulation affects inter-platform competition (competition between platforms or independent, end-to-end providers) and intra-

²⁰ *ibid* 134, 137.

²¹ *ibid* 141.

platform competition (competition between participants on the same platform seeking to capture the greater share of the surplus generated by the platform). The thesis seeks to explore what kinds of harm to competition might result from such regulation. Based on an analysis of case law and examples from other industries, the thesis concludes that Open Banking regulation promotes intra-platform competition by allowing smaller competitors to plug into the infrastructure of existing incumbents and deliver front-end services to customers. Therefore, this regulation incentivises competition at a lower platform level, while preserving the *status quo* position or potentially benefitting emerging payment platforms at a higher level (be they incumbents or powerful newcomers from Big Tech).

It is quite difficult to assess the effect of such regulation on inter-platform competition categorically. The thesis explores how new entrants to the payment markets can engage in inter-platform competition by creating end-to-end payment systems or becoming financial platforms with exclusive access to the customer interface. The thesis pays attention to the anticompetitive practices at the inter-platform level and assesses whether Open Banking regulation can resolve these concerns. The main focus of the study is to understand whether the Open Banking regulation has managed to strike the subtle balance between inter-platform and intra-platform competition in the payment markets (see Section 3.3 for a detailed analysis).

Another important question is whether Open Banking regulation disproportionately benefits Big Tech companies and facilitates the transfer of the payment industry to the platform business model with large and diversified digital platforms at the front and centre. This question is important because once these digital platforms establish their presence in a given industry, competition usually stalls and we witness a ‘winner-takes-all’ or ‘winner-takes-most’ outcome. Rather than focusing in this context only on Open Banking regulation, this thesis takes a broader view of the problem and considers how the Big Tech companies combine the various data resources they possess to enter markets other than those where they are dominant (‘inter-platform envelopment’ strategy). The cross-use of data by dominant platforms is gradually emerging as a problem in the academic debate and among competition authorities.²² However, none of the existing literature have looked at Open Banking as part of this data cross-use issue, which also requires a broader, more comprehensive solution than making Open Banking regulation ‘reciprocal’. This thesis seeks to take these data cross-use strategies into account and offer a solution which complements access

²² *Autorité de la Concurrence and Bundeskartellamt, ‘Competition Law and Data’* (‘French-German Report’)

<<https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html>> accessed 20 February 2020; Bruno Lasserre and Andreas Mundt, ‘Competition Law and Big Data: the Enforcers’ View’ (2017) 1 Italian Antitrust Review 87

<https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Fachartikel/Competition_Law_and_Big_Data_The_enforcers_view.pdf?__blob=publicationFile&v=2> accessed 20 February 2020.

regulation and prevents the extension of the market power of the Big Tech companies into the payment markets.

Limitations of the Research

While offering a structured approach to the assessment of Open Banking regulation, the thesis does not claim to be an exhaustive, comprehensive account which considers all variables and closes all possible gaps. Some gaps remain and it is important to be aware of them.

First, this thesis has an explicit focus on access regulation, as opposed to purely market-based approaches to Open Banking. The market-based approach is outlined as a *de facto* alternative to Open Banking regulation (see Section 3.2.4). However, as mentioned above, this thesis does not aim at a complete overhaul, but rather at incremental changes in existing Open Banking regulation. Accordingly, it does not question whether there is a case for abandoning current regulations and replacing them with a purely market-based approach. This question could be asked, if one were starting anew, for instance, in introducing 'Open Banking-style' regulation in other industries or jurisdictions. The question therefore is: assuming regulation exists, what effects does it produce? Is it beneficial for competition or does it have downsides? This approach also defines the choice of jurisdictions with a focus on those which have introduced Open Banking regulation in one form or another (the EU, the UK and Australia).

Second, the present thesis suggests several approaches and policy recommendations, but in many cases, further research is needed to translate them into concrete actions. For example, the thesis strongly advocated for measures promoting inter-platform competition to counterbalance access regulations. However, what these measures should be and how they would be implemented (e.g. what sort of investment incentives? For how long? To whom they should apply?) – would involve answers which are very specific to a particular industry and even country and should be based on more detailed economic research. In a similar vein, decisions on the implementation of the dynamic approach should be industry and country-specific. This thesis does not describe the specific business cases for either aspect in product-driven regulation. However, it does state that product-driven regulation is preferred over obligation-driven regulation. To summarise, this thesis provides guiding principles based on a competition analysis of Open Banking regulation, but it did not aim at being a detailed economic or industrial policy research.

Finally, this thesis does not assess the actual outcomes of the implementation of Open Banking regulation. This is not an empirical study. There are two main reasons for this. First, it is too early

to conclude whether the implementation of the PSD2 or Open Banking in the UK has been a decisive success. There are simply not enough historical data to make such judgements. Second, the elaboration of analytical tools and approaches is important before applying it to empirical data, because this provides a structured framework for reading and understanding the data meaningfully. If the data then invalidate the hypothesis underlying the framework, this is a valuable outcome in itself and will spur the search for a more suitable analytical framework.

There are also some limitations inherent in the method applied in the present research. First, this thesis is based on the assumption that the financial industry is moving to a predominantly platform model. Though supported by many studies and reports, it is still an ongoing process and it is possible that this assumption will not hold. In the future, other business models or a combination of various models might emerge instead. There is, however, a strong argument for sticking to this assumption. Radical platformisation of the payment markets is a sort of 'worst-case scenario' leading to a concentration of market power in the hands of a few or even a single platform. If the transition to the platform scenario does not occur, this means that other scenarios, more favourable for competition, have been realised. Therefore, if the assumption does not hold true in reality, this does not render the research completely futile because it still provides a useful 'preventive' framework against the emergence of dominant platforms.

Second, apart from objective limitations, any research is prone to various subjective limitations related to the author's biases and interpretations. One of the most pervasive forms is confirmation bias.²³ Confirmation bias occurs when a researcher has an initial hypothesis or belief and uses further research to confirm that belief by assigning more weight to the evidence that supports it and dismissing the evidence that contradicts it. Confirmation bias could affect this research through the author discarding arguments or evidence that do not fit well with the hypothesis (for example, the hypothesis that Open Banking regulation has a different effect on inter-platform as opposed to intra-platform competition). The author has sought to minimise the impact of confirmation bias here. For example, in Section 3.3, this thesis collected and discussed the arguments that underline the positive effect of Open Banking regulation on the competition by creating a level playing field for all new entrants, as well as arguments that Open Banking favours some entrants disproportionately (Section 3.3.4). In Section 4.3.2, discussing the ring-fencing requirement, the thesis assessed arguments both in favour and against the effectiveness of ring-fencing in competition law cases and explained why it considered the ring-fencing requirement an effective measure. This thesis thus sought to create a well-balanced approach to mitigate possible confirmation bias.

²³ See Daniel Kahneman, *Thinking Fast and Slow* (Penguin Books 2011) 80-81; Raymond S Nickerson, 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guises' (1998) 2(2) *Review of General Psychology* 175.

Structure of the Thesis

This thesis will begin by setting the scene and discussing why competition is important and why the accumulation of the market power is a problem that needs to be dealt with. It will also explain why focusing on ecosystems as opposed to traditional market definition is a preferable approach to markets undergoing digital transformation, such as the payment markets. Chapter 2 will set out in detail the thesis's analytical framework and explain how platform competition differs from competition in product markets. It will also analyse how the competitive landscape in the financial industry has changed over recent years with the emergence of a 'competition triad', namely, traditional banks, Fintech and Big Tech companies. Chapter 3 will focus on Open Banking regulation. It will first explain why data have become an important strategic advantage in the modern markets so that regulators and competition authorities are driven to mandate access to it. Second, it will analyse in detail Open Banking regulation, the rationale for its adoption and the variety of approaches encountered across jurisdictions. Lastly, it will apply the theoretical framework outlined in Chapter 2 to assess the interplay between Open Banking regulation and competition. Chapter 4 will discuss the implications of the previous analysis and will propose options available to policymakers to strike the right balance between promoting inter-platform and intra-platform competition in the payment markets.

Chapter 1 Setting the Scene. Competition in Financial Markets

The application of competition law to financial markets has been a subject of long-standing debate. In the early years of antitrust practice, the banking industry enjoyed *de facto* exemption from antitrust scrutiny because financial services were considered quasi-public goods, and their provision was heavily influenced by central banks, state monetary policies and regulators.²⁴ There was also a perception that the banking industry tended to be naturally oligopolistic²⁵ and that less competition among a limited number of market players provided more efficiencies than vigorous competition among fragmented providers.²⁶ Therefore, the classical paradigm of perfect competition and the ‘invisible hand of the market’ was perceived as not fully applicable to the financial sector.²⁷

A number of implications resulted from this belief. First, regulation rather than competition policy played the leading role in the development of the banking industry, as this was believed to be the best way to deal with market frictions, such as ‘asymmetric information and external effects’.²⁸ At best, regulation did not account for the competition, but some regulatory interventions, such as restrictions on new entrants, were explicitly incompatible with the goals of competition law.²⁹ Second, as a result of this belief, the banking industry tolerated certain business practices that would be considered anticompetitive in other sectors (for instance, horizontal agreements and the

²⁴ See Elena Carletti and Philipp Hartmann, ‘Competition and Stability: What’s Special About Banking?’ European Central Bank Working Paper Series, Working Paper 146 (May 2002) 11 <<https://ssrn.com/abstract=357880>>; Elena Carletti and Xavier Vives, ‘Regulation and Competition Policy in the Banking Sector’ (November 2007) CESifo Conference Centre, Munich, 2 <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.486.9659&rep=rep1&type=pdf>> accessed 27 November 2018; Brett Christophers, ‘Banking and Competition in Exceptional Times’ (2013) 36 *Seattle University Law Review* 563, 568.

²⁵ Andrea Lista, ‘Back in Black: Proposing a New Paradigm for the Application of EU Competition Law to the Banking Sector’ (2015) 3 *Journal of Business Law* 256 <<https://ore.exeter.ac.uk/repository/handle/10871/26448>> accessed 20 February 2020; OECD Report, ‘Bank Competition and Financial Stability’ (2011) 14, 19, <<https://www.oecd.org/regreform/sectors/bankcompetitionandfinancialstability.htm>> accessed 20 February 2020.

²⁶ See Elena Carletti and others, ‘Banking Competition in Europe: Antitrust Authorities at Work in the Wake of the Financial Crisis’ (2010) 33 *World Competition* 615, 616.

²⁷ See, for instance, Rima Turk Ariss, ‘Why do Regulators Encourage More Market Power in Banking? Empirical Evidence from Developing Countries’ <<https://www.academia.edu/1209824/>> accessed 8 January 2017; see also comprehensive overview of the literature in Chuang-Chang Chang, Keng-Yu Ho, Yu-Jen Hsiao and Li-Ting Peng, ‘Regulations, Market Power and Bank Efficiency in European Countries’ <<https://pdfs.semanticscholar.org/e937/945e4141f9cbac8c51cd181bac9a609d883b.pdf>> accessed 25 February 2019>.

²⁸ Joaquín Maudos and Xavier Vives, ‘Competition Policy in Banking in the European Union’ (*LSE Blog*, January 2019) 14 (forthcoming in the *Review of Industrial Organisation*) <<https://blog.iiese.edu/xvives/files/2019/01/Maudos-Vives-January-2019-1.pdf>> accessed 27 February 2019.

²⁹ Lista (n 25).

exchange of information between competitors).³⁰ This belief in the ‘speciality’ of financial markets was so strong that even when the regulations were relaxed, this did not result in a more vigorous application of competition law to the financial sector.

Many academic studies discussed the special features of financial markets which served as a justification for a more relaxed application of competition law to the financial industry.³¹ Eventually, many scholars and practitioners started to question this dogmatic approach. For instance, some recent studies have pointed to the fact that the lack of competition in financial markets results in a loss of efficiency and impedes the development of more efficient banking sectors.³² This calls for more vigorous enforcement of competition in the financial sector, subject to a flexible application of traditional competition tools. The latter include taking into account the crucial parameters of non-price competition (such as stability concerns);³³ applying multi-sided platform and network effects analysis;³⁴ designing specific measures to foster easier entry to the market and sharing access to important data and infrastructure.³⁵ Competition law provides an array of tools to promote competition in financial markets, not only *ex-post* but also *ex-ante*, as will be discussed in the last Chapter of this paper. Because of this, the coordination between competition law and regulatory policies is essential for striking the right balance within the broad set of public policy objectives in financial markets.

Open Banking regulation (such as PSD2, Open Banking regulation in the UK, and the Consumer Data Rights Act (CDR) in Australia) represents a significant advancement of the combined approach resting on the close coordination and complementarity of sector-specific regulation and competition law in financial markets. Open Banking regulation is cross-disciplinary and incorporates provisions from industrial policies, competition law, consumer and data protection brought together by the common objectives: promotion of competition in the payment markets and improvement of the level playing field for payment service providers for the benefit of consumers.³⁶ This regulation originated in the realisation of deep-rooted and persistent market problems: entrenched market power of incumbent financial institutions, high entry barriers for new competitors and, most importantly, the obstacles to technological transformation of the payment

³⁰ For instance, horizontal agreements and exchange of information between competitors represent a fundamental feature of the banking sector, as ‘it is considered essential for banks to co-operate in order to provide payment systems and money transfer infrastructures’ – see Lista (n 25). See also A Phillips, ‘Competition, Confusion, and Commercial Banking’ (1964) 19 *Journal of Finance* 32.

³¹ See Lista (n 25); Ilias Kapsis, ‘Competition Law and Policy for the EU Banking Sector in a Period of Increased Economic Uncertainty’ (2012) 54(4) *International Journal of Law and Management* 284; Stijn Claessens, ‘Competition in the Financial Sector: Overview of Competition Policies’ (2009) 24 *The World Bank Research Observer* 83; Carletti and Hartmann (n 24).

³² Ariss (n 27) 6; Carletti and others (n 26) 3.

³³ Carletti and others (n 26) 19.

³⁴ Xavier Vives, *Competition and Stability in Banking: The Role of Regulation and Competition Policy* (Princeton University Press 2016) 77.

³⁵ Lista (n 25); Castro and Steinberg (n 9).

³⁶ PSD2, Preamble, paras 33, 51, Article 98 para 2.

markets. This technological transformation lead to questioning the efficiency of established business models and to emergence of completely new business models based on importance of data and technology, unbundling of payment services, streamlined customer interactions. All these developments form an essential part of the ongoing transformation of the payment industry from the vertically-integrated, product-based business model to the platform business model.³⁷ This transformation revealed the problem of market power in the payment industry that competition law alone was not able to address or presumably failed to address. Open Banking regulation became a tool of choice to quickly open up the “bottleneck segments”³⁸ of the payment markets and to provide new entrants with access to bank customer account enabling them to deliver new types of services to banks clients. Thus, competition concerns about high entry barrier and entrenched market power of incumbents laid at the heart of Open Banking regulation.

This Chapter sets the scene and provides the general theoretical background for the analysis of Open Banking regulation undertaken in the subsequent parts of this paper. Section 1.1. provides a very brief introduction into the debate on importance of competition for the functioning of markets. It analyses the interplay between static and dynamic efficiencies in view of the goals of competition law and regulation, and outlines the problems presented by the accumulation of the market power.

Section 1.2. discusses the theoretical tools that will be applied to analysis in the following Chapters. In particular, it deals with the difficulties encountered when applying traditional market definition tools to the modern financial industry. It suggests alternative approaches, already widely discussed among the competition law scholars. These include (i) the ‘ecosystem’ approach instead of market definition and (ii) analysis of the value capturing mechanism and architectural advantages instead of market power. Then, Section 1.2. concludes by applying these findings to financial markets.

³⁷ This is the central premise of this paper, which will be discussed in more details in Chapter 2.

³⁸ See Pablo Ibáñez Colomo, ‘On the Application of Competition Law as Regulation: Elements for a Theory’ (2010) 29:1 Yearbook of European Law, 261, 271-272.

1.1 Competition and Market Forces: Introduction to the Debate on Importance of Competition

In the modern world, the economic order based on free markets and competition between economic providers has been established as a *status quo*. Competition as an important component of economic freedom and welfare is recognised and protected in most countries, even those that are far from political freedom and democracy. The rise of competition law enforcement is a testament to this. Around 120 jurisdictions globally have competition law enforcement - over 1600% increase since 1990³⁹ – with countries as diverse as China and Switzerland implementing rules against cartels and abuse of dominance. Yet, despite these commonalities, the role of competition and mostly the extent to which it should be pursued by public policies as a goal is not unquestionable.

Over the XX century the economic thought oscillated between advocating the free market forces with minimal government intervention (so-called “laissez-faire” approach) and strong support for government intervention (epitomised by the Keynesian Economic Theory). This often followed the economic evidence. When deregulated markets exhibited market failures which led to a crisis, societies adhered to a stronger government hand. Instead, when government intervention led to government failures, regulatory captures, economic stagnation, advocates of free market forces raised their voices. In the second half of the XX century, two influential schools of thought in the area of economics – neoliberalism (Chicago school led by Milton Friedman and George Stigler)⁴⁰ in the US and ordoliberalism in Europe (Friedrich von Hayek, Walter Eucken)⁴¹ – posited that free markets and competition are the foundation of the well-functioning democratic society. Despite many differences in the approach, they insisted that competition is the centerpiece of the proper functioning of the market economy and the only way to achieve sustained economic performance and stability.⁴² The goal of the state is to create and maintain conditions under which competition could function properly through application of the rule of law.⁴³ In this paradigm, any direct

³⁹ OECD, ‘International Co-operation in Competition Law Enforcement’ (2014) Meeting of the OECD Council at Ministerial Level, <[https://www.oecd.org/mcm/C-MIN\(2014\)17-ENG.pdf](https://www.oecd.org/mcm/C-MIN(2014)17-ENG.pdf)> accessed 23 January 2021.

⁴⁰ See, for example, Herbert J. Hovenkamp and Fiona Scott Morton, ‘Framing the Chicago School of Antitrust Analysis’ (2019). Faculty Scholarship at Penn Law. 2113 <https://scholarship.law.upenn.edu/faculty_scholarship/2113> accessed 23 January 2021.

⁴¹ See, for example David Gerber, (1994) ‘Constitutionalizing the Economy: German Neo-liberalism, Competition Law and the “New” Europe’, *American Journal of Comparative Law* 42 25-84.

⁴² Ibid, 38.

⁴³ Ibid, 39.

intervention of the state in markets (for example, through regulating market entry or direct regulation of output or prices) equated to introducing alien elements into the transaction economy which could undermine the whole economic order.

Though different liberal schools of thought diverged in the standards of desired outcomes of this market economic order (from allocative economic efficiency to distributive justice to the value of competition *per se*),⁴⁴ they all introduced some sort of the “ideal” state of competition. Ordoliberals introduced the concept of “complete competition” where no firm in a market has power to coerce other firms in that market.⁴⁵ Hence, they opposed to emergence of the position of dominance and concentration of the market power in the first place, as posing an imminent threat to functioning of competitive markets. The only exception referred to natural monopolies and monopolies based on legally protected rights as a patent.⁴⁶ Chicago School of Antitrust used “perfect competition” as a baseline. But rather than taking a structuralist approach and saying that no firm should ever have market power, adepts of Chicago school argued that market power is inherently unstable (e.g. monopoly attracts disruptive entry).⁴⁷ Market power allows to extract higher profit, which in turn attracts more new entrants who seek to innovate, offer better products and ultimately erode the market power of the previous incumbents. Hence Chicagoans assumed that “markets are inherently self-correcting and if left alone, they will work themselves pure”.⁴⁸

However, this theoretical assumption does not always hold true in reality and can be at odds with the actual incentives of firms in a market. Achieving the position of economic power is the main aspiration behind firms’ incentives to innovate and enter the markets. Economic power allows to reap the profit to compensate for the costs of innovation and R&D. Hence, it is difficult to reconcile natural incentives of market players to accumulate market power with the idea that concentration of market power is detrimental to the economic order. Moreover, firms have incentives not only to gain market power, but to maintain it, moating their position of dominance either through performance competition (e.g. innovating and making their products more attractive to customers) or through impediment competition – using the market power to impede the performance of rivals.⁴⁹ In reality, firms are motivated by profit and gaining some degree of market power to enter the markets and to innovate. As long as they are within the perfect competition framework (which we can also call “competition on merit”), i.e. they do not engage in anticompetitive conduct, even if they possess a degree of market power, this is in line with the idea of competitive markets. To this end, ordoliberals have suggested a substantive standard – the “as if” standard. When it’s

⁴⁴ For the detailed discussion see Ioannis Lianos ‘Some Reflections on the Question of the Goals of EU Competition Law’ (January 1, 2013), CLES Working Paper Series 3/2013, <<https://ssrn.com/abstract=2235875>> accessed 29 December 2020.

⁴⁵ D Gerber (n 41) 43.

⁴⁶ *Ibid.*, 52.

⁴⁷ Hovenkamp and Scott Morton (n 40) 4-5.

⁴⁸ *Ibid.*

⁴⁹ D Gerber (n 41) 52.

impracticable or undesirable to break up the dominant undertakings, they should follow the “as if” standard - meaning they should not engage in the conduct that they would not be able to perform in the absence of market power.⁵⁰ Such dominant undertakings should behave as if they are subject to competition. This is a very useful guidance that can inform policy choices between breaking up, regulating conduct or leaving as it is in the context of the markets prone to accumulation of the market power.

As this paper will discuss in Chapter 2, modern markets are different from what economists observed in the past. In the past, most firms competed in the clearly defined product and geographical markets and were vertically organised. It was relatively easy to detect a monopoly. The monopolistic conduct fell within the fairly standardised course of behavior that ultimately led to restricting output at the level when the monopoly profit can be maximised. With the advent of technology this framework started to blur. Technological firms rarely compete in one product or geographical market. Instead, they engage in platform competition that often spans across many markets and even industries. Apart from competing in many markets along multiple product lines, they compete with each other at the “super-platform” level for attention and engagement of customers and ultimately for the customers’ financial resources, which are limited. Network effects, learning effects, economy of scale and scope, increasing returns to adoption – all these factors change significantly the competitive dynamics. Hence it is harder to establish whether competition exists in the given market based just on a number of suppliers of a specific product. Even if there is only one pre-dominant supplier it might be hard to justify why he cannot enjoy the acquired market power from the dynamic perspective. The payment markets are not immune to these developments. Quite the opposite – they are at the forefront of the transition from product to platform competition and are experiencing platformisation with the emergence of new business models and competitors driven by consumer-centric experience.⁵¹ Hence taking the dynamic perspective and understanding when accumulation of market power starts to pose concerns in the payment markets is of the utmost importance.

This idea of the interplay between static and dynamic considerations can be summarised in the following quotation:

⁵⁰ Ibid, 52; I Lianos, ‘Goals of EU Competition Law’ (n 44), 25.

⁵¹ See Section 2.2. of this paper.

“(t)o sustain innovative efforts, and thus support dynamic efficiency, firms do not expect to price at short-run marginal cost at every point in time and as a result some degree of allocative inefficiency may be inevitable. Motivating firms to make costly investments in R&D requires some prospect of “profit”... In the absence of this positive return per unit of output sold, a firm would never be able to recoup its up-front investment in R&D, and would therefore have no incentive to undertake this investment. In other words, innovating firms anticipate a period of “incumbency” during which they are able to sell a product at a price exceeding not only the short-run marginal cost of production, but potentially also the price of existing products (if any) that do not incorporate the innovation. Consumers are willing to pay the higher price because they value the additional attributes embodied in the new or improved product sufficiently to pay a premium for it over other firms’ products”.⁵²

Hence, any sector-specific regulations, especially concerning payment markets with their central role in economy, should reconcile these *prima facie* contradictory considerations. On one hand, they should preserve the competitive process that results in short-term economic efficiency: more rivals entering the markets erode incumbents’ market power and potentially drive prices down. On the other hand, they should acknowledge that market power and ability to reap a share of profit is the main motivation behind innovative efforts. And in fact, customers might be willing to pay higher price for better products, valuing other factors beyond the purely price competition.

In the following Chapters, this paper will flesh out this idea of balance between static and dynamic efficiency. There are two main competition problems in the payment markets that need to be addressed: first, long-lasting entrenchment of the market power of incumbents that reduces the innovation and consumer welfare and, second, potential emergence of new dominant players following the digital transformation of the payment industry. Regulation, such as Open Banking, needs to acknowledge the fact that competition is dynamic and both problems do not appear statically. We witness an immediate increase in the number of market entrants at the stage 1 of regulation through intra-platform competition once the entry barriers are lowered (addressing the first problem). But at the stage 2, regulation needs to make sure that markets remain competitive and none of competitors can use market power gained at the stage 1 to incapacitate the performance of rivals (addressing the second problem). This can be done through placing emphasis on preserving inter-platform competition. This question becomes salient, as the payment markets go through the process of platformisation, either through transformation of market players into powerful platforms or through an entry of external platforms in the payment markets. Hence, the Open Banking regulation should deal with the uneasy choice: to allow the entry of all possible

⁵² Andrew Tepperman and Margaret Sanderson, ‘Innovation and Dynamic Efficiencies in Merger Review’ (Canada, Competition Bureau, 2007), 6-7 <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02378.html#key_concepts> accessed 15 December 2020.

competitors, even though some of them have advantage in the form of dominance in adjacent markets, or limit entry and impose additional impediments on some entrants that have more potential for gaining market power (hence favouring traditional incumbents).

This paper stands on the position that neither complete nor perfect competition is achievable and that markets do not always correct themselves. Hence, a degree of public intervention is inevitable, especially in the presence of platform competition with its tendency to a 'winner-takes-all' or 'winner-takes-most' situation (see Section 2.1.). However, this intervention should aim at preserving competitive process, not competitors, and bear in mind the firms' long-term incentives to innovate. Regulation should not only promote new entry in the market, as Open Banking regulation does through mandating access to banks customer accounts to all authorised competitors. To preserve the competition, especially inter-platform competition, in the long term, the application of "as if" standard might be an option because it (a) allows to preserve the competitive process without (b) seriously impairing the firms incentives to enter the markets and innovate. Importantly, it facilitates competition on merit between dominant undertakings and 'as-efficient' competitors that do not possess the same degree of market power. As this paper will explore in the context of Open Banking, the example of conduct, which would not be possible in the absence of market power and, therefore, should be subject to the "as if" standard, is the combination of customer data sets from different sources which is very typical for digital platforms. They would not be not engage in this type of conduct unless they had a dominant position in their core market and could leverage it to obtain users consent to collect various types of data in adjacent markets and combine them in one 'super-profile'. Firms active in one market are not able to replicate this advantage. Hence, the "as if" standard becomes even more important in the age of digital platforms.

In competition law, though, competition is not a goal *per se*. Preserving and maintaining competitive order becomes an important mean to achieve more overarching policy objectives: be it consumer welfare and consumer sovereignty under the EU competition law⁵³ or allocative (economic efficiency-based) approach pertinent to the US antitrust.⁵⁴ Competition is defined as the best way to achieve these societal objectives. Both competition law and regulation aim (each in its own way) at removing obstacles to competitive process and creating conditions for maintaining it. The interplay between these two objectives: immediate (such as competition) and overarching

⁵³ I Lianos , 'Goals of EU Competition Law' (n 44), 27.

⁵⁴ Ibid.

(such as consumer welfare) is a part of competition assessment of Open Banking regulation. As discussed, it should be viewed in dynamic perspective: for example, customers are ready to pay higher prices in the short run for better product, more choice or even to differentiate themselves from peers (conspicuous consumption), thus stimulating firms to invest in high-end products. On the other hand, a certain practice can be found detrimental in the absence of immediate consumer harm, when consumers will be likely deprived due to impairment of the competitive process.⁵⁵ Moreover, consumer benefits proclaimed by companies as the main reason for their course of action are not always genuine. Often they reveal the firms' incentives to penetrate or create new market segments, gain market power and exclude rivals without delivering any socially optimal results (see Section 2.3.3.). All these factors require a specific approach in analysing Open Banking regulation in the payment markets: through competition lenses but having the objective consumer welfare standard in mind.

⁵⁵ See Case C-52/09, *Konkurrenverket v. TeliaSonera Sverige AB* [2011] ECR 527, paras 21-24: "Accordingly, Article 102 TFEU must be interpreted as referring not only to practices which may cause damage to consumers directly, but also to those which are detrimental to them through their impact on competition".

1.2 The Scope of Competition Law Assessment: Market Definition vs. Ecosystem

The market definition has always been a key building block of competition law analysis,⁵⁶ especially for finding an abuse of dominance and for merger control. Definition of the relevant product and geographic market was traditionally used to infer the existence of market power. However, the complexity and opacity of the markets (in particular, financial markets), the difficulty of delineating the relevant market,⁵⁷ and the consensus that the concentration level is not on its own a reliable indicator of the market power in financial markets⁵⁸ – all continue to pose a permanent challenge to economists and competition authorities. The ongoing shift from product to platform competition and the rise of new, technology-based competitors (Fintech and Big Tech) renders traditional, market-based analysis decreasingly relevant.⁵⁹ The effective application of competition law requires rethinking of a conventional approach to market definition. Instead of fragmented, silo-based assessment, competition authorities need to switch their focus to assessing the whole value chains or broader ecosystems,⁶⁰ of which financial institutions form an indispensable part.

1.2.1 Classical Market Definition

A product market 'comprises all those products and/or services which are regarded as interchangeable or substitutable by consumers, by reason of the products' characteristics, their prices and their intended use'.⁶¹ Currently, many banks and non-banking institutions provide

⁵⁶ See Heike Schweitzer and others, 'Modernising the Law on Abuse of Market Power' Summary of the Report for the German Federal Ministry for Economic Affairs and Energy 7 <<https://www.bmwi.de/Redaktion/DE/Downloads/Studien/modernisierung-der-missbrauchsaufsicht-fuer-marktmaechtige-unternehmen-zusammenfassung-englisch.html>> accessed 10 December 2018; Commission Notice of 9 December 1997 on the definition of relevant market for the purposes of Community competition law (97/C 372/03) OJ C372, 5–13.

⁵⁷ See Jacob Bikker and Laura Spierdijk, 'Measuring and Explaining Competition in the Financial Sector' (2009) University of Utrecht Discussion Paper Series 09-01 <<https://core.ac.uk/download/pdf/6372048.pdf>> accessed 20 February 2020.

⁵⁸ See for instance *United States v Aluminum Co of America* 148 F2d 416, 430 (2d Circuit 1945); *United States v Microsoft* 253 F 3d34 (DC Circuit 2001); the commentary of Thomas O Barnett, Assistant Attorney General, US Department of Justice, 'Opening Remarks before the Antitrust Division and Federal Trade Commission: The Gales of Creative Destruction: The Need for Clear and Objective Standards for Enforcing Section 2 of the Sherman Act' (June 20, 2006) **Error! Hyperlink reference not valid.** Note that this complacent view of big companies has been recently challenged by some scholars calling for vigorous antitrust enforcement against the big firms (see, for instance, Tim Wu, *The Curse of Bigness: Antitrust in the New Gilded Age* (Columbia Global Reports 2018)).

⁵⁹ Lianos (n 17).

⁶⁰ *ibid* 103-104.

⁶¹ Commission Notice of 9 December 1997 on the definition of relevant market for the purposes of Community competition law (97/C 372/03) OJ C372, para 7.

services that can in principle be considered substitutes from the consumers' perspective, thereby blurring the clear distinction between product markets. For example, debit cards, credit cards and prepaid cards can be considered as substitutable products serving as a medium of payment.⁶² In a broader context, they are competing with cash, mobile payments and potentially even cryptocurrencies.⁶³ Customers tend to hold and use various financial products simultaneously based on their convenience, fees, complementary services (such as airmiles or cashback), and even non-economic considerations. It could therefore be difficult to apply the classical 'Small But Significant Non-Transitory Increase in Price' (SSNIP) test⁶⁴ to financial products. Furthermore, many financial services are delivered through multi-sided platforms, which poses difficult questions, for example, should all sides be included or only one when defining the relevant market and how should the SSNIP test be applied in such cases.⁶⁵

The definition of a geographical market is also complicated, as many financial markets are global in nature, spanning across many countries. In contrast, the traditional competition law definition of geographical markets tends to be local or national.⁶⁶ Changing economic and financial conditions, shifting to online banking and other advances in financial technology made the concept of a local market obsolete.⁶⁷ Digital technologies have opened up markets and expanded their geographical boundaries.⁶⁸ The emergence of large platforms and value creation networks make 'the conditions of competition sufficiently homogeneous'⁶⁹ across different countries, despite the economic and legal differences still in place. For example, peer-to-peer money transfer networks (such as Weswap or Transferwise) help users exchange US dollars to Turkish liras. They do so by pooling the dollars sent by US users and matching these amounts with Turkish liras sent the other way around by users

⁶² See Stijn Claessens, 'Competition in the Financial Sector: Overview of Competition Policies' (2009) 24 *The World Bank Research Observer* 83, 104.

⁶³ Assuming the merchants are willing to accept cryptocurrencies as a payment. See Jonathan Tarud, 'Is Traditional Banking Under Threat from Cryptocurrency?' <<https://www.koombea.com/blog/cryptocurrency/>> accessed 18 December 2018. As of now, a number of factors (such as, for example, extreme volatility, scalability problems, unclear regulatory status and heavy reliance on banking infrastructure as a portal into the real-world economy) prevent cryptocurrencies from turning into full-fledge competitors of traditional payment services. Some argues that before becoming a true payment facility, cryptocurrency needs to pass several evolutionary stages including: first, it needs to be a collectable; then, become a store value; third, a medium of exchange and finally a unit of account (see the interview of Anthony Pompliano and Murad Mahmudov, 'The Ultimate Bitcoin Argument' (31 October 2018) <<https://medium.com/@apompliano/murad-mahmudov-the-ultimate-bitcoin-argument-b205a1987408>> accessed 20 December 2018). Further, it is legitimately argued that Bitcoin is 'not competing against PayPal or VISA. Bitcoin is competing against central banks or even more precisely [...] against the Bank of International Settlements as a major settlement network for large transactions as well as against central banks for currency issuance' (ibid).

⁶⁴ The SSNIP test assesses whether customers would switch to other readily available substitute products or to suppliers located elsewhere in response to a hypothetical small (5–10%) but permanent increase in price of the product (Commission notice on the definition of relevant market (n 142) para 7). If such increase will lead to customer switching to another product, such product should be included in the definition of the relevant market.

⁶⁵ Schweitzer and others (n 60) 1; Lapo Filistrucchi, 'A SSNIP Test for Two-sided Markets: The Case of Media' (2008) NET Institute Working Paper 8, 34 <<https://ideas.repec.org/p/net/wpaper/0834.html>> accessed 10 March 2020.

⁶⁶ See Claessens (n 66) 104; Brett Christophers, 'Competition, Law, and the Power of (Imagined) Geography: Market Definition and the Emergence of Too-Big-to-Fail Banking in the United States' (2014) 90(4) *Economic Geography* 429, 440.

⁶⁷ Christophers (n 70) 441.

⁶⁸ Alexey Ivanov and Ioannis Lianos (eds), 'Digital Era Competition: A BRICS View' (2019) BRICS Competition Law and Policy Centre Report 84, 231 <<http://bricscompetition.org/materials/news/digital-era-competition-brics-report/>> accessed 20 December 2019.

⁶⁹ Commission Notice on the definition of relevant market (n 61) para 8.

in Turkey. The platform then uses these pools of funds to pay out transfers via local bank transfer.⁷⁰ In reality, the money never cross the border. What is the relevant geographic market in this case? Are there two geographical markets or a single global market of peer-to-peer money transfers? Ultimately, the very question of the geographical market becomes less relevant to establishing anticompetitive nature of the conduct, because it does not help define what kind of competitive pressure the firm experiences in the real world.

To summarise, focusing on narrowly defined product and geographical markets imposes serious limitations on the ability of competition law to capture the market dynamics. It is unhelpful and adds a further layer of complexity to the competition law analysis of financial markets.

1.2.2 From Markets to Ecosystems and Value Chains

Lately, the traditional approach to competition occurring in a specific, well-defined product and geographical market has been severely criticised. Some economists (such as Louis Kaplow) questioned the practice of market definition and suggested measuring market power directly through firms' price-cost mark-ups.⁷¹ Other scholars went further. Based on the ecosystem and platform competition theories developed by Michael Jacobides⁷² and David Teece,⁷³ Ioannis Lianos suggested grounding the competition analysis in the concept of 'ecosystem' or 'value chain' rather than product and geographical markets.⁷⁴ He argues that:

The essence of this new insight comes from the realisation that competition analysis should engage with the 'value capture strategies' put in place by economic actors competing for strategic or architectural advantage. That should form the starting point of competition analysis, rather than the relevant market concept *which does not anymore constitute the sole reference point firms consider when devising their strategies and the competitive constraints they are subject to.*⁷⁵

The ecosystem can be defined as 'a group of interacting firms that depend on each other's activities'.⁷⁶ The ecosystem ensures coordination of independent yet interdependent firms

⁷⁰ Wikipedia, 'Transfer Process' <https://en.wikipedia.org/wiki/TransferWise#Transfer_process>.

⁷¹ Louis Kaplow, 'On the Relevance of Market Power' (2017) 130 Harvard Law Review 1303.

⁷² Jacobides, Cennano, and Gawer (n 15).

⁷³ Teece, 'Business Ecosystems' (n 16); Teece, 'Business Models, Value Capture, and the Digital Enterprise' (n 16).

⁷⁴ Lianos (n 17) 103-104.

⁷⁵ *ibid* (emphasis added).

⁷⁶ Jacobides, Cennano, and Gawer (n 15) 2256.

providing complementary products that jointly add value for customers.⁷⁷ Unlike a value chain, an ecosystem is not strictly hierarchical. However, it requires significant coordination and alignment through rules, standards, technological requirements, interfaces, etc.⁷⁸ Those are set by an ‘ecosystem manager’ or architect who plays a crucial role in the survival and functioning of the ecosystem. An ecosystem manager is a leading firm that sets a system-level goal, controls the underlying platform technology, and determines who can participate in the platform.⁷⁹ Being in a position to influence how the ecosystem is organised and the value allocation among ecosystem actors provides ‘architectural advantage’.⁸⁰ Examples of such ecosystems include Android, Apple iOS, Airbnb, Tinder, or, to a lesser extent, Ethereum.⁸¹

The value capture mechanism is particularly important for competition analysis of ecosystems. The value capture component of an ecosystem must strike a balance between profits for the ecosystem manager and the profitability of the ecosystem partners (providers of complementary products).⁸² The latter is important to attract more partners to the ecosystem and expand it. In many cases, however, a platform-based business model is marked by the unequal distribution of profit. A centralised platform keeps the overwhelming part of the surplus generated by providers of complementary products, thus accumulating significant profit (and economic power).⁸³ This is due to its crucial position in the functioning of the ecosystem as a rule-setter and a ‘gate-keeper’ deciding who can have access to the platform (and to its vast customer base).

In the context of an ecosystem, the definition of market power becomes less relevant. In the digital economy, power can be exercised through various dimensions, beyond the simple reduction of output or increase in prices.⁸⁴ Digital platforms can exclude competitors and steer customers to particular offers without possessing the market shares usually associated with market power. In this sense, we are talking here about ‘economic power’, rather than ‘market power’, because the power of a platform is not limited to a single product and geographical market, but spreads across multiple markets where the platform is active. Therefore, the term ‘market power’ does not always mean power attained in a specific product market, but rather the ability to make a decisive influence on the circulation of products within the platform and exclude platform complementors from access to customers.

⁷⁷ *ibid* 2257, 2260.

⁷⁸ *ibid*.

⁷⁹ *ibid* 2258-2259; see also Mine Kansu and Geoffrey Parker, ‘Transitioning from Services to Platforms: The Financial Services Industry’ (9 August 2018) MIT Initiative on the Digital Economy 3, <https://www.db.com/newsroom_news/Whitepaper_MIT_financial_services_platform.pdf> accessed 20 March 2019.

⁸⁰ Lianos (n 17) 140.

⁸¹ For the detailed analysis see Annex I: ‘Private Governance of Digital Platforms: Case Studies’ in ‘Digital Era Competition: A BRICS View’ (n 72).

⁸² Teece, ‘Business Models, Value Capture, and the Digital Enterprise’ (n 16) 4.

⁸³ Lianos (n 17) 58.

⁸⁴ ‘Digital Era Competition: A BRICS View’ (n 72) 314.

Following these insights, some recent studies introduced new forms of economic power to deal with this ability of digital platforms to shape their ecosystems.⁸⁵ Thus, the German Report ‘Modernising the law on abuse of market power’ (**‘German Report’**) proposed to introduce ‘intermediation power’ as distinguished from market power.⁸⁶ The German Report appreciated the special role that intermediation platforms play in the economy due to the reliance of both sellers and customers on intermediaries to perform economic activities. This special role of intermediation platforms is not captured by the traditional definition of market power. Throughout this study, we use the term ‘market power’ when describing banks and digital platforms. However, this concept should be construed broadly to incorporate the latest developments in the competition law theoretical toolkit, such as introducing alternative forms of economic power.

1.2.3 Application to Financial Markets

So why is this analysis relevant to financial markets? Many studies and reports emphasise the ongoing transitions of the financial industry from product to platform competition, with the rise of financial platforms only to accelerate in the future,⁸⁷ as will be further explored in Chapter 2. Examples of such platforms are currently found in various types of financial services, including account aggregation services (Mint), retail deposit/credit marketplace (Tencent), online wealth management platforms (Nutmeg, Wealthify), etc.

Competition law is particularly concerned about the dynamics of platform emergence and the distribution of economic power within an ecosystem. First, due to the ‘tipping’ effect and competition for the market, it is very hard or impossible to reverse the rise of a platform’s economic power.⁸⁸ The point at which a platform becomes of interest for competition law (i.e. when it abuses its dominant position) might be already too late. It is the platform’s ability to shape the conditions of competition and to form bottlenecks across several markets that makes this business model so

⁸⁵ *ibid*, 322-342; Schweitzer and others (n 60) 2.

⁸⁶ Schweitzer and others (n 60) 2.

⁸⁷ World Economic Forum Report (n 1); KPMG, ‘The rise of digital platforms in financial services’ <<https://assets.kpmg/content/dam/kpmg/xx/pdf/2018/02/kpmg-rise-of-digital-platforms.pdf>> accessed 20 January 2019; Gulamhuseinwala I, ‘How Banks Could Join the Platform Economy’ E&Y Report (July 2017) <<https://www.ey.com/gl/en/industries/financial-services/fso-insights-how-banks-could-join-the-platform-economy>> accessed 20 January 2019; The Future of the Financial Services: the Banks as a Platform (17 April 2017) <<https://www.realdolmen.com/en/blog/future-of-financial-services-bank-as-a-platform>> accessed 20 January 2019>; Kansu and Parker (n 79).

⁸⁸ See Joseph Stiglitz, “Competition and Consumer Protection in 21st century” (Presentation, 21 September 2018) <<https://www8.gsb.columbia.edu/faculty/jstiglitz/sites/jstiglitz/files/Stiglitz%20FTC%20Hearing%20PPT%20FINAL.pdf>> accessed 18 December 2018. Slide 21 points that it’s important to recognise that ‘market power, once established, can persist’. Hence, ex ante control of monopolisation is required.

attractive to market players and, at the same time, raises considerable competitive concerns. The inherent logic of the platform business model causes the platform to accumulate more economic power to capture the lion's share of the profit generated on the platform. Therefore, competition law should deal with platforms pro-actively, monitoring their development and preventing the rise of over-centralised, closed, monopolistic environments.

Second, the emergence and development of a platform ecosystem is not a natural process. This process is shaped by the decisions of the ecosystem manager which might take an anticompetitive direction.⁸⁹ Therefore, the decisions and business strategies aimed at tipping the market into a monopoly (such as obstruction of multi-homing or denial of access to an important input) should be subject to competition law assessment.

Finally, abuse of economic power by an ecosystem manager is very similar to abuse of dominant position in the relevant product market.⁹⁰ In the digital economy, power may take various dimensions rather than market power, i.e., power to raise prices or reduce output. It can be based on control of superior technology, important data, or even a position in a social network.⁹¹ Yet, possessing this power, which falls short the classical definition of the "market power", can also lead to exclusion of competitors and exploitation of consumers. Some academics and competition authorities call for broadening the traditional scope of market power in competition law and recognising 'intermediation power', 'bottleneck power', 'superior bargaining power', 'architectural power'. These new forms of economic power are based on a firm's special position in the ecosystem or its control over a source of dependency.⁹² To respond to real challenges, competition law should take into account other sources of economic power, not just the power resulting from the dominant position in the specific market based on a firm's market share.⁹³

As the financial industry undergoes a transition to a digital, ecosystem-based economy, the new approaches to competition law analysis become highly relevant. Big financial institutions and technological giants start to increasingly resemble each other and overlap in their use of network effects, harvesting customer data and developing dynamic capabilities in the form of AI, innovative technologies and interfaces. Moreover, technological giants are entering financial markets and bringing the platform business models with them.⁹⁴ The distinction between banks and non-banks is blurring. At the same time, financial industry preserves its special features, including a high level of interconnectedness, a dramatic impact on the real economy, and its particular concern about financial stability. All these considerations call for a more systemic approach to competition in the

⁸⁹ Jacobides, Cennano, and Gawer (n 15) 2263; Schweitzer and others (n 60) 3.

⁹⁰ See Schweitzer and others (n 60) 3.

⁹¹ *ibid* 114-115.

⁹² Schweitzer and others (n 60) 3; Lianos (n 17) 116-119; 'Digital Era Competition: A BRICS View' (n 72) 322-341.

⁹³ Lianos (n 17) 112, 115-119.

⁹⁴ See Section 2.3. of this paper.

financial industry in the digital age. The concept of competition has changed, as the financial industry faces new challenges and new type of competitors emerge, such as Fintech and Big Tech companies. The rise of Fintech and Big Tech might be a solution to existing competition concerns (such as the entrenched market power of incumbents and high entry barriers). The rise of Fintech might even be an answer to the financial stability problem by reducing the oligopolistic structure of the industry and its excessive dependence on large institutions. Alternatively, if competition and regulation policies remain unsuited to current conditions, the rise of Fintech and especially the entry of Big Tech in financial markets could exacerbate competition concerns, as the next chapters will explore.

Conclusion

This Chapter set the scene for the further analysis by providing a brief introduction into the discussion on competition in financial markets. The Chapter explored the importance of the concept of competition for the proper functioning of market economy. It argued that competition is the preferred way to achieve the desired societal outcomes (for example, customer welfare, innovation and technological advancement). However, as the state of “complete” or “perfect” competition is not achievable in financial industry, regulation and competition law should carefully balance the static efficiency (for example, immediate increase in the number of competitors following Open Banking regulation) with dynamic effects (lack of incentives to innovate). Due to the blurring of boundaries between product and geographical markets and increasing complexity of economic models, a more systematic approach to competition in the financial industry is necessary based on an ecosystem as the unit of analysis, rather than a relevant market. As it will be explored in the next Chapter, the focus on platform competition, in particular, distinction between inter-platform competition (competition between platforms for the market) and intra-platform competition (competition within the same platform) proves to be the key in analysing Open Banking regulation and its effects in competition in the payment markets. This new approach, drawn from the digital markets, could prove very beneficial in promoting competition in the financial sector as it undergoes digital transformation.

The Chapter 2 will explore in more detail the transition of financial markets from product to platform competition and from hierarchical value chains to ecosystems.

Chapter 2 Financial Markets: From Product to Platform Competition

Finance has always been considered a very traditional industry, with a lot of factors contributing to its sluggish response to change (from legacy infrastructure and high entry barriers to rigid regulations and customer lock-in).⁹⁵ In fact, banks had been king, with little competitive pressure from alternative providers, up to the financial crisis of 2008, when it turned out that these emperors had no clothes. Since then, the traditional banking business model has become less profitable and banks have had to face 'low-interest rates, declining revenues, customer distrust, lack of loyalty, and rising expenses'.⁹⁶ Two factors contributed to this change. The first stems from customers' mistrust of the traditional financial industry, following the global financial crisis of 2008. The second is related to innovation, whereby technological companies, Fintech, increasingly employ their knowhow in processing Big Data at high speed and low costs, and challenge the traditional financial institutions' business models.⁹⁷

This is reflection of the broader economic trends affecting most sectors and industries around the globe. The digitalisation of economy is accompanied by a shift from product markets to platforms, a transformative process that will be discussed in more detail in this Chapter.

Before exploring the competitive landscape of the financial industry, in particular, the payment markets, which are in the focus of this thesis, it is important to lay out the analytical framework of this thesis. The first section will discuss how platform competition differs from traditional competition in product markets. Network effects are the most important differentiators, because they enable a successful platform owner to scale up quickly and gain a significant share of the market (to 'tip' the market). After the market is tipped and a few winners have emerged, competition usually stalls, with the third, fourth and fifth-ranking competitors lagging far behind. Payment markets are a perfect example of markets with network effects in the financial sector. The

⁹⁵ 'World Fintech Report 2018' (n 5).

⁹⁶ *ibid* 15.

⁹⁷ Svetlana Saksonova and Irina Kuzmina-Merlino, 'Fintech as Financial Innovation – The Possibilities and Problems of Implementation' *European Research Studies Journal* (2017) 20(3A) 961, 962; A Fraile Carmona and others, 'Competition issues in the Area of Financial Technology (FinTech)' *EU Directorate General for Internal Policies* (July 2018) 18-19 <[http://www.europarl.europa.eu/RegData/etudes/STUD/2018/619027/IPOL_STU\(2018\)619027_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2018/619027/IPOL_STU(2018)619027_EN.pdf)> accessed 25 March 2019.

first section will also distinguish between inter-platform and intra-platform competition and explain why it is vital for assessing competition in the payment markets.

The second and third sections will delve into discussion of the new competitors which emerged during the digital transformation of finance, namely: Fintech and Big Tech companies. It will pave the way to introduce Open Banking and the access regulation which facilitate Open Banking in Chapter 3.

2.1 From the Product to Platform Competition

The rise of platform business models across many industries is linked to technological advances through powerful network effects that technology creates and facilitates.

2.1.1 Network Effects as Drivers of Platform Competition

The widespread use of technology (such as the Internet, smartphones, the Internet of Things, etc.) has led to network effects. Katz and Shapiro (1994) define network effects as the situation when ‘the value of [a] membership to one user [...] is positively affected when another user joins and enlarges the network’.⁹⁸ Church, Gandal and Krause (2002) emphasise that ‘network effect exists if consumption benefits depend positively on the total number of consumers who purchase compatible products’.⁹⁹

There are two distinctive types of network effects: direct and indirect. Direct (‘same-side’) network effects emerge when consumers value the fact that other consumers use a particular product or service.¹⁰⁰ In other words, direct network effects arise between members of the same group. For example, the value of a social network increases for a consumer when more of his friends (users belonging to the same group) use it. On the other hand, indirect (‘cross-side’) network effects occur when users in one group value a product or service more, when more users from another group (the other side of the platform) join the platform.¹⁰¹ This occurs because of the impact on the incentives for the provision of a complementary product.¹⁰² For example, the users of a smartphone operating system (OS) benefit from more users. However, this benefit is indirect, because it stems from the creation of incentives for the provision of various applications (complementary products) which operation in the OS and thus attract more developers to join the platform. Developers are another group of platform participants. This, in turn, generates value for the first group, the smartphone OS users.

⁹⁸ Michael Katz and Carl Shapiro, ‘Systems Competition and Network Effects’ (1994) 8(2) *Journal of Economic Perspectives* 93, 94.

⁹⁹ Jeffrey Church, Neil Gandal and David Peter Krause, ‘Indirect Network Effects and Adoption Externalities’ (December 19, 2002) Foerder Institute for Economic Research Working Paper No 02-30, 1 <<https://ssrn.com/abstract=369120>> or <<http://dx.doi.org/10.2139/ssrn.369120>> accessed 24 July 2019.

¹⁰⁰ *ibid.* See also, Feng Zhu and Marco Iansiti, ‘Why Some Platforms Thrive and Others Don’t’ (2019) 97 *Harvard Business Review* 118, 121.

¹⁰¹ Erik Hovenkamp, ‘Platform Antitrust’ (2019) *Journal of Corporation Law* 10 (forthcoming).

¹⁰² Jacobides, Cennamo, and Gawer (n 15); Church, Gandal, and Krause (n 99) 1.

Though digital markets are a perfect example of positive network externalities,¹⁰³ financial markets exhibit similar tendencies, especially as they become more data-driven¹⁰⁴ and take advantage of the latest technological developments.¹⁰⁵ Harnessing network effects provides significant value in the digital economy, so large banks or tech giant entering the financial sector will have an upfront advantage due to their access to large quantities of data and a vast customer base which they can tap into using their platforms.¹⁰⁶ Lacking the scale to build a platform and attract a crucial number of customers has already driven out or prevented the entry of small and medium financial institutions into certain markets, such as the credit-card businesses¹⁰⁷ and foreign exchange trading.¹⁰⁸ This trend will likely intensify in the future as financial markets move to the platform business model with financial services delivered increasingly through platforms that serve as intermediaries between customers and suppliers of financial services.

Indirect network effects create a basis for multi-sided markets. Multi-sided markets bring together two or more interdependent groups of consumers. This is not exactly a new phenomenon. A classic example is advertising in newspapers, which brings together readers and advertisers, or credit cards which connect payers and merchants. However, due to the rise of digital technologies, with their ability to store and utilise increasing volumes of data, network effects enable unprecedented economies of scale and scope and make multi-sided markets a prevalent business model in the digital economy.¹⁰⁹ There is no common explanation why technology, in particular the Internet, has created such powerful network effects. One explanation could be a 'positive feedback loop', where a product or service constantly improves the more users use it.¹¹⁰ This is particularly characteristic of search engines and targeted advertisement. For example, each additional user of a search engine increases the quality of searches because the technology is able to improve with each new query. Targeted advertising also improves as users provide feedback by clicking on certain adds and ignoring others. Another explanation of powerful network effects lies in particular business models, such as where one group of users are 'subsidised' to use a platform at no cost in exchange for their data. The data, in turn, enables other groups of users, such as advertisers, to receive more targeted and efficient services.¹¹¹

¹⁰³ See The Economist, 'The World's Most Valuable Resource Is No Longer Oil, But Data' *The Economist* (London, 6 May 2017) <<https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>>.

¹⁰⁴ The Economist, 'Crunching the Numbers' *The Economist* (London, 19 May 2012) <<https://www.economist.com/special-report/2012/05/19/crunching-the-numbers>> accessed 20 March 2019.

¹⁰⁵ Frank Pasquale, *The Black Box Society: The Secret Algorithms that Control Money and Information* (Harvard University Press 2015) Ch 4: 'Finance's Algorithms: The Emperor's New Codes'.

¹⁰⁶ Van Loo (n 4); Kansu and Parker (n 79).

¹⁰⁷ The Economist, 'Crunching the numbers' (n 109).

¹⁰⁸ M King, C Osler, D Rime, 'Foreign Exchange Market Structure, Players and Evolution' (*Norges Bank Research Department*, 2011) <<https://onlinelibrary.wiley.com/doi/10.1002/9781118445785.ch1>> accessed 10 December 2017, 22.

¹⁰⁹ Lianos (n 17) 10-11; Stigler Committee Final Report (n 2).

¹¹⁰ Ioannis Lianos, 'Blockchain Competition: Gaining Competitive Advantage in the Digital Economy – Competition Law Implications' in Philipp Hacker (eds), *Regulating Blockchain: Techno-Social and Legal Challenges* (Oxford University Press 2019) 336.

¹¹¹ See Stigler Committee Final Report (n 2) 16.

Multi-sided market models are distributed broadly in the financial industry. First, the traditional banking model involving banks acting as intermediaries connecting money holders (depositors) with those who seek to borrow money (borrowers) represents a two-sided market in a broader sense, with banks being able to corner one market to achieve a monopoly on the other.¹¹² Other markets, such as credit card payment systems,¹¹³ digital payments¹¹⁴ or money markets for securities and bonds,¹¹⁵ also exhibit multi-sided market features. Therefore, the potential for applying multi-sided market analysis to finance is huge.

Network effects and multi-sided platforms are not considered inherently anti-competitive,¹¹⁶ but they pose challenges for competition law. Powerful network effects inhibit inter-platform competition (i.e. competition between platforms), because they make market entry much more difficult for a new platform. One of the main issues is how to ensure that efficient potential competitors can enter markets with positive network externalities. This could be implemented through various instruments such as product differentiation, multi-homing, easy switching, interoperability, etc.¹¹⁷ The methods used in other network industries can be successfully applied to financial markets, as will be discussed in Chapter 4.¹¹⁸

¹¹² See Carletti and Vives (n 24) 7.

¹¹³ See Lista Andrea Lista, *EU Competition Law and the Financial Services Sector* (Informa Law 2013), 147-148.

¹¹⁴ See, for example, Erol Kazan and Jan Damsgaard, 'A Framework For Analyzing Digital Payment as a Multi-Sided Platform: A Study Of Three European NFC Solutions' (2013) ECIS 2013 Proceedings Paper 155.

¹¹⁵ See, for example, Investopedia, 'Two-Sided Markets': "the relationship between market-makers, who are required to give both a firm bid and firm ask for each security in which they make a market (acting as intermediaries), and buyers and sellers of securities" <<https://www.investopedia.com/terms/t/two-sidedmarket.asp>> accessed 15 January 2019.

¹¹⁶ See, for example, Case COMP/M.7217 *Facebook/WhatsApp* (Commission Decision of 03 October 2014) OJ C297, 04.09.2014, para 130.

¹¹⁷ Gönenç Gürkaynak and others, 'Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis' (2017) 5 *Journal of Antitrust Enforcement* 106; Alfonso Lamadrid de Pablo, 'Regulating Platforms? A Competition Law Perspective' (*The Disruptive Competition Project*, 24 November 2015) <<http://www.project-disco.org/competition/112415-regulating-platforms-a-competition-law-perspective/#.VvulC-KLTIV>> accessed 7 January 2019.

¹¹⁸ See Claessens (n 66) 107-108.

Box 1. Network Effects and Multi-Sided Platform Analysis in Competition Law

The appreciation that network effects and multi-sided platforms (MSPs) significantly change the dynamic of competition has started to penetrate competition law analysis. There is already a plethora of competition law cases that establish that network effects result in higher entry barriers and that in MSP market definition, effects on both sides should be taken into account.

Thus, in the *Google Search (Shopping)* case, the European Commission established that positive feedback effects on both sides of the two-sided platform create an additional barrier to entry (see paras 292-296 of the Decision of the EU Commission in the Case AT.39740 *Google Search (Shopping)* [2017] OJ 12.01.2018 9/11). In addition, the Commission considered the fact that only a minority of users that use Google multi-home, i.e. use other general search services. These factors contributed to establishing the dominant position of Google in the general search services market, despite the fact that general search services are offered free of charge (para 272 of the Decision) and despite the belief that in fast-growing sectors characterised by rapid innovation, large market shares might not indicate a sustained position of dominance.

Ohio v. American Express Co. 138 S Ct 2274 (2018) ('**Amex**') was the first major case where the US Supreme Court considered antitrust issues involving two-sided platforms. In this case American Express, the large credit card network, included an anti-steering clause in its contracts with merchants. The clause prohibited merchants from steering customers to use a credit card with a lower transaction fee than the Amex card. The practice, therefore, impeded multi-homing and aimed at restricting inter-platform competition between credit card networks. The Supreme Court held that Amex was a platform which operated in a two-sided market which embraced interactions, first, between the merchant and Amex and, second, between the cardholder and Amex. Because of the simultaneous nature of these interactions, the relevant product market included both sides of the transaction. Therefore, the antitrust analysis must consider the effects on both sides of the MSP to establish the anticompetitive effects. The court found that for this larger market the complainants did not prove that the anti-steering clause had an anticompetitive effect, because the complainants did not show that the anti-steering clause enabled Amex to charge higher merchant fees or lead to any other restriction of competition between the credit card companies. This case had a profound impact on the development of platform antitrust. It has also attracted severe criticism from the scholar community for favouring one platform's economic interests over preserving competition between platforms.

Another way to mitigate network effects is to introduce sector-specific regulations. For example, access regulation, such as the Second Payment Services Directive, have emerged to lower the entry

barriers created by network effects in the payment markets, as will be explored in Chapter 3. The network nature of payment (the payer needs to be a part of the same network as the payee) has led to the emergence of incumbent banks, which act as an important gateway to the payment value chain. In order to overcome these network effects, new entrants need to recreate the whole payment value chain and attract a critical mass of users. Alternatively, they need to negotiate with banks and become a part of their payment value chains.¹¹⁹ In both scenarios, it is hard for new entrants to scale up and effectively challenge the position of incumbent banks. The PSD2 and other Open Banking initiatives aim to reduce the lock-in created by these network effects.

To summarise, the ability of technology to handle vast amounts of data and provide data-driven benefits, which crucially depend on the volume of data and the number of network members, lies at the heart of the network effects in digital markets. This in turn leads to the wide diffusion of the platform business model. Accordingly, as of early 2017, the top five companies globally by market capitalisation were all platforms.¹²⁰ Platforms threaten to render traditional business models obsolete across many industries. The next subsection explores what a platform is and how the platform business model differs from traditional ones.

2.1.2 Definition of Platforms and their Business Models

Platform normally refers to a business model which allows multiple participants (for example, producers and consumers or users and advertisers) to connect to it, interact with each other and create and exchange value.¹²¹ According to the European Commission, “platforms” are “two-sided” or “multi-sided” markets, where a platform operator brings users together to facilitate an interaction, such as an exchange of information, or a commercial transaction’.¹²² Users can transact with each other on a platform and create value that would otherwise not emerge due to prohibitive transaction costs.¹²³

David Evans points out that an opportunity for a platform arises when three conditions are met:

¹¹⁹ See Chapter 3 “Data Sharing and Open Banking”.

¹²⁰ Alex Moazed, ‘Platform Business Model’ <<https://www.applicoinc.com/blog/what-is-a-platform-business-model/>> accessed 30 May 2019.

¹²¹ See, Stephane Castellani, ‘Everything You Need to Know About Digital Platforms’ (2016) <<http://stephane-castellani.com/everything-you-need-to-know-about-digital-platforms/>> accessed 20 April 2019.

¹²² European Commission, ‘Online Platforms’ accompanying the document ‘Communication on Online Platforms and the Digital Single Market’ (2016) <http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=15947> accessed 05 August 2019.

¹²³ See Patrick F Todd, ‘Intra-Platform Exclusion in Software Markets’ (2018) 6 *Journal of Antitrust Enforcement* 409, 411.

- 1) there are distinct groups of customers;
- 2) a member of one group benefits from having his demand coordinated with one or more members of another group; and
- 3) an intermediary can facilitate that coordination more efficiently than bilateral relationships between the members of the group would.¹²⁴

For example, PayPal, an end-to-end payment network, brings together two distinct groups of customers: merchants and consumers (condition N1).¹²⁵ Merchants benefit as more consumers use PayPal, because they experience incremental sales. On the other hand, consumers benefit as more merchants accept PayPal payments, because it allows them to buy products and services from a single account (condition N2). Condition N3 is probably the most important for the success of the payment network. One can imagine a situation when a consumer sends money directly to a merchant within a bilateral framework. However, this is associated with a number of risks and inefficiencies, including the trust problem and the high costs of transferring money. On the contrary, PayPal first collects funds from a customer's PayPal balance or credit card and, only after it asserts that the payment is genuine, does PayPal 'deposit' the payment virtually in the merchant's account.¹²⁶ Therefore, the payment network solves the coordination problem more efficiently than bilateral relationships between merchants and consumers would, due to the reduction in transaction costs and the resolution of a trust problem.

The example of PayPal demonstrates that two-sidedness is crucial for the platform business model.¹²⁷ The value of the platform is proportional to the size of the community connected to it. PayPal customers value the fact that a wide range of merchants accept PayPal payments. Otherwise, customers would not use it. As another example, users value the services provided by Uber, not because the users can order a ride, but because of the ability to choose from a variety of ride options in numerous locations using a single app. In a word, Uber's customers value the size of the driver community on the other side of the platform. In this sense, traditional banks remain vertically integrated firms, even if they deal with two groups of customers – e.g. depositors and borrowers. This is because the demand on one side does not depend on the supply on the other side. For instance, the number of depositors depends on the reputation of a bank and the interest rates it offers, rather than on the number of its borrowers. In essence, a bank itself provides the services to each customer group and absorbs the risks related to a mismatch between the money demand and supply. Therefore, we have two separate groups of interactions: depositor–bank and bank–borrower, which are not directly connected. On a platform, however, each group of user is

¹²⁴ See David S Evans, *Platform Economics: Essays on Multi-Sided Businesses* (Competition Policy International 2011) 31.

¹²⁵ Gennaro Cuofano, 'How Does PayPal Make Money? PayPal Business Model In A Nutshell' (FourWeeksMBA) <https://fourweekmba.com/how-does-paypal-make-money/#PayPal_business_model_dissected> accessed 30 July 2019.

¹²⁶ Business Model Navigator, 'PayPal' <<https://businessmodelnavigator.com/case-firm?id=75>> accessed 30 July 2019.

¹²⁷ *ibid.*

aware of a group on the opposite side and enters into tripartite interactions (user-platform-service provider), not bilateral ones (user-platform). For example, the Chinese Fintech giant, WeChat Pay, acts as a platform rather than as a traditional vertically integrated firm, because both individuals and merchants using WeChat Pay crucially depend on the size of the network. The more individual users deposit on their WeChat Pay accounts, the more merchants they can pay or the more other users they can send money to.¹²⁸ More merchants join WeChat Pay, as more money is deposited in user accounts which can potentially be paid to merchants.¹²⁹

Therefore, intermediation is at the heart of the platform business model. The platform serves as an intermediary between two distinct groups of users by aggregating and matching demand and supply.¹³⁰ Moreover, platforms solve the trust problem by serving as a 'trusted third party' and thereby remedy certain market failures related to the lack of trust (information asymmetry, uncertainties).¹³¹ By using controlling mechanisms such as control of access to platform, content quality and standardisation, platforms reduce the participants' costs of searching and verifying their partners, as long as the platform retains credibility.¹³²

Data is a crucial component of platform economics.¹³³ The amount of consumer data accumulated on one side of the platform provides the value to another side (e.g. advertisers), as it enables more targeted advertising or product matching (thereby, increasing the quality of the proposition). Data itself adds value to platforms, as it facilitates extremely strong economies of scope. For example, data can be used as an input for multiple products and facilitate machine learning capabilities to improve the products.¹³⁴

The University of Chicago Report on digital platforms notes that digital platforms pose unique challenges for competition not due to a single new characteristic, but to the combination of several factors at a scale that has not been seen before.¹³⁵ These factors include:

- extremely strong network effects;

¹²⁸ See Aaron Klein, 'Is China's new payment system the future?' (June 2019) The Brookings Institution 12 <https://www.brookings.edu/wp-content/uploads/2019/06/ES_20190614_Klein_ChinaPayments_2.pdf> accessed 02 November 2019.

¹²⁹ *ibid.*

¹³⁰ See David S Evans, *Platform Economics* (n 124), 218.

¹³¹ See Teresa Rodriguez de las Heras Ballell, 'Refusal to Deal, Abuse of Right and Competition Law in Electronic Markets and Digital Communities' (2014) 22 *European Review of Private Law* 685, 688, 692.

¹³² *ibid.*

¹³³ Erik Hovenkamp, 'Platform Antitrust' (2019) *Journal of Corporation Law* 10.

¹³⁴ Stigler Committee Final Report (n 2) 14.

¹³⁵ *ibid.* 11.

- very strong economies of scale and scope due to the role played by data;
- marginal costs close to zero;
- drastically lower distribution costs than bricks-and-mortar firms; and
- global reach.¹³⁶

This unique combination of characteristics gives platforms a significant competitive advantage over the pipeline business models deployed by traditional companies. A number of factors (such as stability concerns, strategic importance of big banks and extensive regulatory requirements) have been holding back the digital transformation of finance for a while, but now many experts emphasise its ongoing transition from product to platform competition.¹³⁷ They point to the fact that 'platform business models pioneered by the major technology firms are having increasingly significant impacts on traditional banking, insurance, and investment advisory services'.¹³⁸ The World Economic Forum identifies platform emergence as among eight disruptive forces that have the potential to transform the competitive landscape of the financial ecosystem, with power shifting from financial institutions to the owners of the customer interface, i.e. platforms.¹³⁹ The platform's goal is to develop an ecosystem with different components produced by separate but interconnected firms in a modular manner¹⁴⁰ and offered via a common customer interface.¹⁴¹ As pointed by Michael Jacobides '[f]or ecosystems to be useful, there must also exist a significant need for coordination that cannot be dealt with in markets, but which also does not require the fiat and authority structure of a central actor'.¹⁴² Some unique characteristics of the financial markets, for example, interdependency, information asymmetry that requires a trusted intermediary and coordination, can create conditions for the emergence of ecosystems and a shift to the platform model. This is also related to the trend towards commoditisation of banking services which is replacing the universal banking model in the digital age.¹⁴³ Commoditisation occurs when the

¹³⁶ *ibid* 12.

¹³⁷ World Economic Forum Report (n 1); Gulamhuseinwala (n 91); 'The Future of the Financial Services: the Banks as a Platform' (17 April 2017) <<https://www.realdolmen.com/en/blog/future-of-financial-services-bank-as-a-platform>> accessed 20 January 2019>; E&Y Report, 'A Vision for the Platform-Based Banking', <[https://www.ey.com/Publication/vwLUAssets/ey-a-vision-for-platform-based-banking/\\$File/ey-a-vision-for-platform-based-banking.pdf](https://www.ey.com/Publication/vwLUAssets/ey-a-vision-for-platform-based-banking/$File/ey-a-vision-for-platform-based-banking.pdf)> accessed 25 May 2019; GFT, Banking Expert Survey 2017 (25 October 2017) <<https://www.gft.com/uk/en/index/sectors/banking/exponential-banking/open-banking/bank-as-a-platform/>> accessed 25 May 2019.

¹³⁸ Kansu and Parker (n 79).

¹³⁹ World Economic Forum Report (n 1) 14.

¹⁴⁰ Modularization as an essential condition for emergence of platform ecosystem was emphasized by the work of the Professor Michael Jacobides, who states that '[t]echnological modularity allows interdependent components of a system to be produced by different producers, with limited coordination required. While the overarching architecture design parameters may be set by a hub, organizations have a large degree of autonomy in how they design, price, and operate their respective modules, as long as they interconnect with others in agreed and predefined ways' (Jacobides, Cennamo, and Gawer (n 15)).

¹⁴¹ The principles of platform's functioning are mostly based on the works of Michael Jacobides and David Teece. See, for example, Jacobides, Cennamo, and Gawer (n 15) 2260; and Teece, 'Business Models, Value Capture, and the Digital Enterprise' (n 16).

¹⁴² Jacobides, Cennamo, and Gawer (n 15) 2260.

¹⁴³ Lianos (n 110) 371; Anna Eugenia Omarini, 'Banks and Fintechs: How to Develop a Digital Open Banking Approach for the Bank's Future' (2018) 11 *International Business Research* 23, 27.

various financial sectors are unbundled and specialised suppliers can deliver financial products as commodities, rather than a single financial institution managing the whole payment chain.¹⁴⁴ Commoditisation facilitates the shift to the platform model in finance, as many specialised providers of modular components emerge governed by the platform manager ‘through rules of engagement, standards, and codified interfaces’.¹⁴⁵

This Section has established that platforms in digital markets differ from vertically integrated firms in how they operate and engage with their customers. The next Section will analyse the characteristics of platform competition when compared to competition in traditional markets.

¹⁴⁴ *ibid*; World Economic Forum Report (n 1) 19; Christoffer Hernæs, ‘What Facebook’s European Payment License Could Mean for Banks’ *TechCrunch* (12 January 2017) <<https://techcrunch.com/2017/01/12/what-facebooks-european-payment-license-could-mean-for-banks/>> accessed 23 May 2019.

¹⁴⁵ Jacobides, Cennamo, and Gawer (n 15) 2260.

2.1.3 Deconstructing Platform Competition

It is important to understand how platform competition differs from the competition in product markets.

The competition between platforms is competition *for* the market, rather than competition *in* the market.¹⁴⁶ This means that due to the powerful network effects, platforms compete not for a limited share of a market, but to become the leading platform controlling most of the market. In this situation, the second or third players in the market do not come anywhere near the leading platform and lose the overall battle for the market.¹⁴⁷

The typical dynamic of platform competition is following. At an initial stage there is fierce competition between emerging platforms to win the whole market.¹⁴⁸ This is a 'honeymoon' for consumers who benefit from vigorous competition, as rivals often engage in price wars and subsidise the delivery of services, including free and even negative price services,¹⁴⁹ in order to attract a critical mass of users to their platform.¹⁵⁰ Once the market is 'tipped' in favour of one firm, however, a 'winner-takes-most' or 'winner-takes-all' situation emerges. This means that the winner can squeeze all actual or potential competitors out of the market, as well as reap most of the profit generated through the platform.¹⁵¹ The result is a *de facto* monopoly in the market.¹⁵² Therefore, platform markets tend to be very concentrated, served by only a few platforms or even a single platform (e.g. Microsoft's Windows).¹⁵³ Some academics refer to this position as that of a 'fragile monopolist'. They note that this position is 'permanently questioned, on the one hand, by a strong innovative pressure that results in a dynamic and repairing competition and, on the other hand, by a creative *coopetition* that encourages rivals first to cooperate in order to compete afterwards'.¹⁵⁴ Reality, however, does not seem to support this conclusion. The new digital monopolies whose

¹⁴⁶ See, for example, Stigler Committee Final Report (n 2) 12; David S Evans and Richard Schmalensee, 'The Industrial Organization of Markets with Two-Sided Platforms' (2007) 3 Competition Policy International 151, 164.

¹⁴⁷ Lianos (n 110) 339.

¹⁴⁸ Ballell Teresa Rodriguez de las Heras Ballell, 'Refusal to Deal, Abuse of Right and Competition Law in Electronic Markets and Digital Communities' (2014) 22 European Review of Private Law 685, 688.

¹⁴⁹ For example, the web browser Bing belonging to Microsoft offered their users 'credits' for each search they made on the platform. The credits could be further redeemed through buying products from Bing's partners, exchanging them for airline points etc. Essentially, Microsoft paid customers to use Bing, in attempt to break Google's hold over the online search market (see <<https://www.wordstream.com/blog/ws/2015/01/08/bing-rewards>> accessed 20 November 2019).

¹⁵⁰ Stigler Committee Final Report (n 2) 12.

¹⁵¹ Lianos (n 17) 57-58.

¹⁵² Stigler Committee Final Report (n 2) 17.

¹⁵³ See Thomas Eisenmann, Geoffrey Parker and Marshall Van Alstyne, 'Platform Envelopment' (2011) 32 Strategic Management Journal 1270, 1274.

¹⁵⁴ Ballell (n 131) 688.

power initially stemmed from innovation (Microsoft, Google, Amazon, Facebook, Apple) persist, even though the technology is constantly developing. This means that the Schumpeterian dynamics does not work perfectly in the real world and digital platforms have incentives and ability to monopolise innovation.¹⁵⁵ Platform competition thus leads us to question the old theories and rethink them to explain the realities of digital economy. In particular, competition in platform markets is not limited to horizontal competition between large players. This Section will focus on the distinction between two types of competition: *intra-platform* and *inter-platform competition*.¹⁵⁶

The concepts of intra-platform and inter-platform competition first emerged in the traditional network industries, such as telecommunications. When a new entrant tries to penetrate the market, it can do this in two ways. First, it can rely on the incumbent's network. In this case, the new entrant competes with the incumbent in delivering services in the downstream market, while relying on its backbone infrastructure in the upstream market.¹⁵⁷ The competition occurs within a single platform or technology. Therefore, it is called *intra-platform competition*.¹⁵⁸ Alternatively, entrants can completely bypass the incumbent's network, using an alternative technology (such as metallic cable, optical fibre, wireless LAN or cable modem) and building its own network.¹⁵⁹ In this scenario, competition occurs between different platforms or technologies, hence, it is known as *inter-platform competition*.¹⁶⁰ Access-based market entry is thus associated with intra-platform competition, and independent entry with inter-platform competition.

Inter-platform competition has stronger effect on innovation compared to intra-platform competition. Intra-platform competition is important for product differentiation and consumer choice, but inter-platform competition generates higher incentives to innovate. In fact, if entry barriers were reduced, a new entrant would not have to settle for a small fraction of the incumbent's profits, but would compete for all of them and try to replace the incumbent platform.¹⁶¹ This would incentivise potential competitors to develop alternative, more efficient technologies and product strategies to challenge an incumbent. On the other hand, instead of innovating, new entrants might choose to replicate the existing network. This could result in higher fixed costs of entry and deadweight loss for society, if such entry is not based on alternative, more efficient technologies or business models.¹⁶² To summarise, inter-platform competition has more

¹⁵⁵ See Stiglitz (n 88) slide 15.

¹⁵⁶ See, for example, Jean-Charles Rochet and Jean Tirole, 'Platform Competition in Two-sided Markets' (2003) 1(4) Journal of the European Economic Association 990; 'Digital Era Competition: A BRICS View' (n 72) 36, 144-145.

¹⁵⁷ See, for example, Tom Ovington and others, 'The Impact of Intra-Platform Competition on Broadband Penetration' (2017) 41 Telecommunications Policy 185.

¹⁵⁸ IGI Global, 'What is Intra-Platform Competition' <<https://www.igi-global.com/dictionary/intra-platform-competition/15574>>.

¹⁵⁹ See 'Structural Changes and Regulatory Challenges in Japanese Telecommunications' <<https://www.igi-global.com/dictionary/inter-platform-competition/15108>>.

¹⁶⁰ *ibid.*

¹⁶¹ Stigler Committee Final Report (n 2) 8, 55.

¹⁶² See Harald Gruber and Pantelis Koutroumpis, 'Competition Enhancing Regulation and Diffusion of Innovation: The Case of Broadband Networks' (2013) 43 Journal of Regulatory Economics 168, 191-192.

long-term positive effects on the adoption of technology and further innovation than intra-platform competition.¹⁶³

Lately, the concepts of inter-platform and intra-platform competition have been applied to digital markets with prevailing platform models. In this context, inter-platform competition refers to the competition between digital platforms (horizontal competition) to win a larger share of a market. Inter-platform competition is more vigorous at the initial stage of competition for a market and weakens as the market becomes tipped towards a winner.¹⁶⁴ Inter-platform competition refers not only to the competition between rival technologies, but also to the competition between platforms using similar technology, as well as to the entry of potential competitors threatening to disrupt the position of an established platform. Inter-platform competition also refers to competition from companies integrated in a platform, who have the potential to disintermediate the platform and deliver services or products independently. The anticompetitive practices at the inter-platform level include exclusionary practices aimed at increasing industry entry barriers, for example, restrictions on multi-homing.¹⁶⁵ Multi-homing is particularly important for inter-platform competition. If both sides of a platform multi-home (e.g. both suppliers and consumers use several platforms and consider them as substitutes), then rival platforms will compete more aggressively, offering lower overall price levels and/or better services.¹⁶⁶ Anticompetitive practices affecting inter-platform competition also include conglomerate strategies which aim to amass the consumer data from different sources and combine them into detailed user profiles. This results in 'reducing the contestability of the intermediation power of digital platforms'.¹⁶⁷ In the academic literature this practice is called 'envelopment'.¹⁶⁸ Inter-platform envelopment 'entails entry by one platform owner into another [platform provider]'s market by bundling its own platform's functionality with that of the target's'.¹⁶⁹ Section 3.3. of the thesis will provide a detailed analysis of this practice in the context of the payment markets. Though not illegal *per se*, this practice might raise concerns when it facilitates further entrenchment of the market power of the already dominant platform or as a part of merger control.

¹⁶³ See Ovington and others (n 166) 194.

¹⁶⁴ Lianos (n 115) 339.

¹⁶⁵ Hovenkamp (n 133) 17-18; 'Digital Era Competition: A BRICS View' (n 72) 325.

¹⁶⁶ *ibid*; Rochet and Tirole (n 165) 1004.

¹⁶⁷ 'Digital Era Competition: A BRICS View' (n 72) 325.

¹⁶⁸ See Hye Young Kang, 'Intra-platform Envelopment: The Coopetitive Dynamics Between the Platform Owner and Complementors' (2017) 1 *Academy of Management Proceedings* 4, 10 <<https://journals.aom.org/doi/abs/10.5465/AMBPP.2017.11205abstract>> accessed 31 July 2019.

¹⁶⁹ Eisenmann, Parker and Van Alstyne (n 162).

Because the ‘winner-takes-most’ or ‘winner-takes-all’ equilibrium is often established in a market dominated by platforms, intra-platform competition often becomes the single source of competition. Intra-platform competition refers to competition between participants of the same platform for strategic or architectural advantage within the platform ecosystem.¹⁷⁰

Intra-platform competition has two aspects: horizontal and vertical. Horizontal intra-platform competition is competition between competitors using the same platform to mediate most or all of their sales in the relevant product market.¹⁷¹ A platform hosts companies which compete with each other in the relevant product markets, for example, application developers. The platform itself often acts as a seller on one side of the market, in addition to operating as a platform. The platform is thus engaged in horizontal intra-platform competition with its participants.¹⁷² For example, software platforms leaders (e.g. Google Android or Apple iOS) provide a lot of their own applications, apart from allowing third-party developers to plug into their systems. In this case, they enter into two-fold relationships with developers: platform–developer partnerships, on one hand, and competition between providers of rival apps, on the other. This phenomenon has been termed ‘intra-platform envelopment’. Intra-platform envelopment means ‘launching by the platform owner of a product whose functionality overlaps with the functionalities offered by one or more of its platform complementors’.¹⁷³ Intra-platform envelopment often leads to the conflict of interest and anti-competitive practices, notably prioritising the platform’s own services and products to the detriment of its rivals.¹⁷⁴ The overall impact of intra-platform envelopment on competition is found to be negative, with the most negative impact in closed systems (such as Apple).¹⁷⁵

Competition authorities have condemned some platform’s strategies leading to intra-platform envelopment. For example, the European Commission has taken the stance that certain practices, such as self-preferencing and tying, restrict competition at the downstream platform level and amount to abuse of dominance.¹⁷⁶ In particular, the European Commission dealt with intra-platform envelopment in the *Google Search (Shopping)* case.

¹⁷⁰ See Lianos (n 17) 161.

¹⁷¹ See Hovenkamp (n 133) 19.

¹⁷² *ibid* 20.

¹⁷³ Kang (n 168) 10.

¹⁷⁴ See, for example, Case 39740 *Google Search (Shopping)* [2017] OJ 12.01.2018 9/11 and the ongoing investigation of Amazon Marketplace by the European Commission: European Commission Press Release, ‘Antitrust: Commission Opens Investigation Into Possible Anti-competitive Conduct of Amazon’ (17 July 2019), <https://ec.europa.eu/commission/presscorner/detail/en/IP_19_4291> accessed 23 February 2020.

¹⁷⁵ Kang (n 168) 6.

¹⁷⁶ See *Google Search (Shopping)* (n 174); for the detailed analysis of the case, see Dieter Paemen and Aleksander Tombiński, ‘The Google Comparative Shopping Case: A Critical Take on the Arguments’ (2017) 16(8) *Competition Law Insight* 1, 3.

Box 2. Google cases in the EU

During last five years the tech giant Google has been subject to an increasing number of antitrust investigations. The investigations into Google's business practices had been pushed back for a while by the Schumpeterian-style consideration that the market for web searches is highly dynamic and would correct any restrictions on competition in the long run. Later, national competition authorities (e.g. in Russia) and then the European Commission have abandoned this approach. In 2017, the European Commission imposed a €2.4 billion fine on Google for abusing its dominant position in the market for general Internet search by prioritising its own shopping comparison service and demoting the shopping comparison services of its rivals (Case AT.39740 *Google Search (Shopping)*). In this decision, the European Commission put forward the following theory of harm. The Commission stated that Google leveraged its dominance in one market (general online search) to extend it onto an adjacent markets (specialised search services, such as comparison shopping). This envelopment was of vertical nature, because comparison shopping services rely on the general Google search as a major source of customer traffic, thereby using the general Google search as an input. Google's conduct amounted to intra-platform envelopment because Google aimed to increase the market share of its own shopping comparison service at the downstream level through more favourable positioning and display of such service in Google's general search results pages, relative to competing comparison shopping services. Such practice of self-preferencing was found in breach of Article 102 TFEU (Abuse of Dominance). The decision ordered Google to comply with the principle of granting equal treatment to rival comparison shopping services and its own services.

To sum up, the platform leaders sometimes have incentives to restrict horizontal intra-platform competition when they perform a dual role as platform and supplier of a complementary product at the downstream platform level. However, generally, platform leaders benefit from the fierce competition between complementors at the downstream platform level which allows them to impose stringent terms on complementors and extract a higher share of the profit.

Vertical intra-platform competition is not limited to a product or geographic market, but refers to the competition between companies which form part of the same value chain for capturing the surplus value or 'rent'¹⁷⁷ generated by the value chain. In other words, it deals with how the surplus

¹⁷⁷ See Stigler Committee Final Report (n 2) 46.

is distributed between different platform layers which enter into complementary, not competitive relationships. Importantly, this refers to competition between the platform leader and providers of complementary products plugged into the platform to gain a bigger share of the surplus. Figure 1 illustrates the difference between various types of platform competition (intra versus inter-platform and vertical versus horizontal).

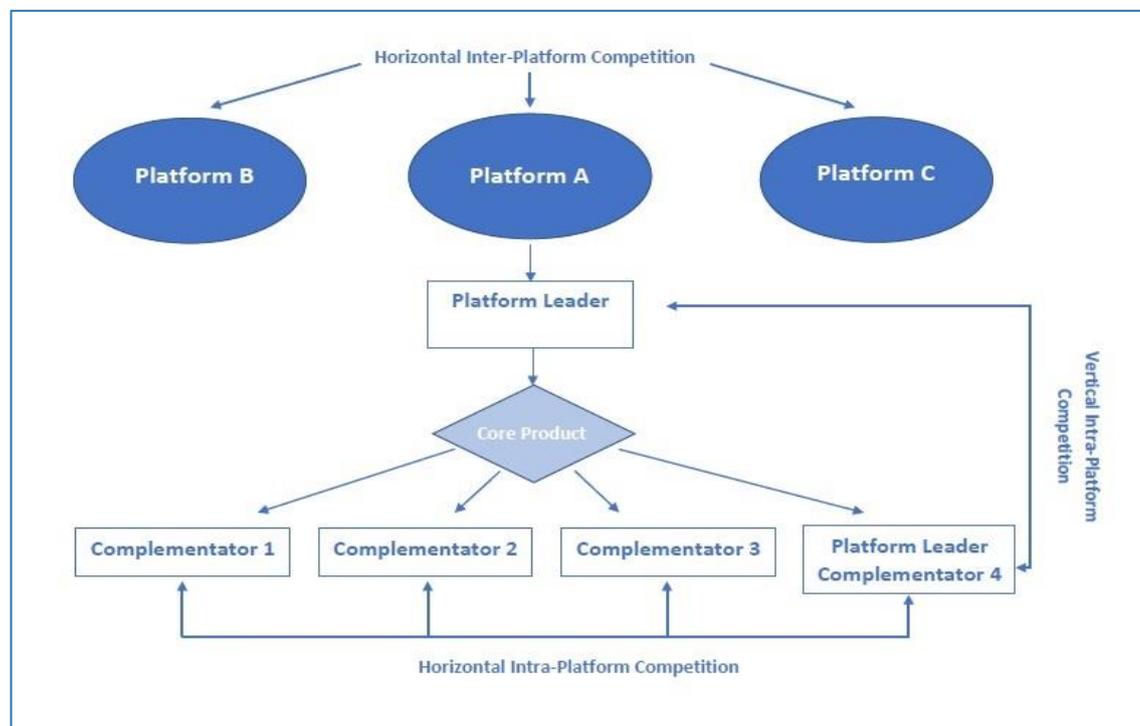


Figure 1: Inter-platform and intra-platform competition explained (inspired by Jacobides, Cennamo and Gawer, 'Towards the Theory of Ecosystems').

Ultimately, the analysis of intra-platform competition hinges on the effects that platform leader's strategies have on 'appropriat[ing] value that could have been captured by the affected complementors'.¹⁷⁸ The allocation of rent between different layers of the platform ecosystem is important for understanding the competitive dynamics within the platform.

Accordingly, a platform leader might choose two value (rent) capture strategies. First, it might allow complementary product providers to earn a share of the total rent thereby incentivising them to stay on the platform. This will allow both the platform's core offering and the complementary offerings provided by its partners to flourish. This strategy is ultimately beneficial for intra-platform competition.¹⁷⁹ It might be implemented even if the platform leader enters the complementary products market, i.e. is engaged in intra-platform envelopment, if there is a level playing field and the 'rules of the game' are fair for all competitors. For example, one empirical study explored how Google's healthcare app, Google Fit, affected the competing healthcare applications offered in

¹⁷⁸ Kang (n 168) 11.

¹⁷⁹ Stigler Committee Final Report (n 2) 47.

Google Play (i.e. intra-platform envelopment by Google). Because Google Fit, in contrast, for example, to Apple Health, was not pre-installed in Android devices and required manual download by users, Google's app was on par with other applications. In addition, Google Fit offered more flexibility in mixing and matching with other developers' apps. In fact, the introduction of Google Fit resulted in an increase in the downloads of alternative health apps.¹⁸⁰ This is an example of the first rent-sharing strategy which leads to more vigorous intra-platform competition.

The second strategy is to expropriate almost the entire surplus available on the platform due to the market power held by the platform leader. The latter is often in the unique position to limit entry into the most profitable segments of the platform, while allowing 'ferocious competition in the complementary assets'.¹⁸¹ Very often, providers of complementary products incur sunk costs to join the platform in the hope of getting a share of the platform's profits. They then become 'locked-in' to the platform. The platform can deploy strategies aimed at strengthening such lock-in, for example, by obstructing technical interoperability with other platforms or imposing unreasonable standards. This allows the platform leader to exploit the providers of complementary products, as they have much fewer opportunities to switch to another platform. This could also lead to intra-platform envelopment with an overall negative effect on the providers of complementary products.¹⁸² One example of such rent-extracting strategies deployed by the platform can be found in a complaint brought by Spotify, the music streaming app, against Apple to the European Commission in March 2019.¹⁸³ In this complaint Spotify *de facto* accused Apple of anticompetitive intra-platform envelopment and requested (i) ending the 'Apple tax' (30% fee that Apple takes from each purchase of streaming services executed via the Apple store) and (ii) levelling the playing field shared by the platform owner and complimentary product providers.¹⁸⁴ In this case, the European Commission will have to assess the rent-extracting strategies of the platform owner (Apple) applied to its complementors (such as Spotify).

¹⁸⁰ Kang (n 168) 21-22.

¹⁸¹ Stigler Committee Final Report (n 2) 47; Michael G Jacobides, Thorbjørn Knudsen, and Mie Augier, 'Benefiting from Innovation: Value Creation, Value Appropriation and the Role of Industry Architectures' (2006) 35 *Research Policy* 1200, 1209.

¹⁸² See Todd (n 123).

¹⁸³ Ingrid Lunden, 'Spotify files a complaint against Apple with the European Commission over 'Apple tax' and restrictive rules' (TechCrunch, 13 March 2019) <https://guce.techcrunch.com/copyConsent?sessionId=3_cc-session_3403601e-5268-4b0f-b04f-e4ba9c7d9a63&inline=false&lang=en-GB> accessed 01 September 2019; Daniel Boffey, 'Apple Braces for EU Investigation After Spotify Complaint' *The Guardian* (London, 6 May 2019) <<https://www.theguardian.com/technology/2019/may/06/apple-eu-investigation-spotify-iphone-app-store>> accessed 06 May 2019.

¹⁸⁴ *ibid.*

Whether such rent capture practices are anticompetitive depends on a number of factors. There is no universal consensus on what these factors are. Thus in the US, the conduct of a platform leader can be found anticompetitive when ‘the complementor may be able to disintermediate the platform and is therefore a potential rival’.¹⁸⁵ The horizontal dimension is necessary to bring such exclusionary conduct within the scope of competition law. In a similar vein, the European Commission has been concerned mainly with horizontal intra-platform platform competition, with its main focus being on intra-platform envelopment. The reason for this, as Ioannis Lianos observed, is that because ‘economic efficiency constitutes the main goal of competition law [...], [mainstream economics] takes the view that the exercise of relative bargaining power [of a supplier versus the platform] should not be a primary concern for competition law, with the exception of course of the

¹⁸⁵ Stigler Committee Final Report (n 2) 48.

situation where its exercise may harm economic efficiency'.¹⁸⁶ However, the competition case law of the recent years (for example, the famous *Microsoft* cases – see Box 3) demonstrates that often issues of horizontal and vertical relationships, inter-platform and intra-platform competition are so closely intertwined that it is difficult – indeed almost impossible – to build a theory of harm based on a single horizontal dimension of competition in a clearly defined product and geographic market.

¹⁸⁶ Lianos (n 17) 57.

Box 3. Microsoft Cases in the US and EU

In 1990s and 2000s, *Microsoft*, then a leader in the personal computer operating system (OS) market and one of the first software platforms, got involved in a number of antitrust procedures which spanned the continents. In the US, Microsoft was accused of bundling its pre-installed browser, Internet Explorer, with the Windows OS and of exclusionary practices aimed at preventing users from switching to rival internet browsers (*United States v Microsoft* 253 F 3d34 (DC Circuit 2001)). The district court established that these practices constituted unlawful monopolisation under Section 2 of the Sherman Antitrust Act. The US Court of Appeals for the Washington DC Circuit affirmed most of the arguments set out in the district court's judgment. The central question was whether Microsoft deployed restrictive practices solely for exclusionary purposes or to provide some efficiency gains to end users. In their decisions, the courts for the first time engaged in the analysis of platform markets, where providers of complementary services (e.g. web browsers) added value to the core platform product (e.g. the OS), with the particular focus on how the platform's practices affect platform end users (for the detailed analysis see the Nicholas Economides, 'The Microsoft Antitrust Case' (April 2 2001) NYU Center for Law and Business Research Paper No 01-003 and Andrew I Gavil and Harry First, *The Microsoft Antitrust Cases: Competition Policy for the Twenty-first Century* (MIT Press 2014)). Though this new approach was largely welcomed, the remedies fell short of producing any measurable impact on Microsoft's behaviour.

Another Microsoft case was decided by the European Commission in 2004 and upheld on appeal by the General Court in 2007 (Case T-201/04 *Microsoft Corp v European Commission* [2007] ECR II-03601). In 2004, the European Commission found that Microsoft illegally tied Windows Media Player (WMP) to its dominant Windows OS platform, which foreclosed competition in the market for media players. In analysing the tying practices, the Commission found that the Windows OS and WMP were separate products, because Microsoft advertised WMP as a standalone product, it was designed to work with competitor operating systems, there were separate licensing agreements for the media player, etc. The European Commission stated that due to user inertia, it was difficult for rivals to persuade them to stop using the pre-installed WMP and switch to alternative products. In the same decision, the European Commission took account also of indirect network effects between users and creators of content for WMP and found that the pre-installation of WMP was likely to foreclose competing suppliers of media players because it increased the likelihood that the market would tip in WMP's favour, even if better technically alternatives existed. To summarise, the EU Microsoft cases took account of many novel concepts related to platform competition (network effects, intra-platform switching costs and user biases), even though the Commission was criticised for paying little attention to the efficiency side of the situation considered.

Accordingly, failure to take into account both the vertical and horizontal dimensions of competition

could result in false negatives and an irreversible ‘winner-take-all’ situation, permeating increasingly many sectors.

To sum up, the conceptualisation of intra-platform and inter-platform competition, along with the understanding of complex horizontal and vertical relationships between various actors, offers a new perspective for competition law analysis. It helps define novel, more nuanced theories of harm in the digital economy and understand the effects of a specific platform strategy on competition. In my view, incorporating both inter-platform and intra-platform dimension in competition law analysis provides competition authorities with a much better understanding of how firms operate in the real world. It reconciles the theory of antitrust with the dynamics of modern markets.

Conclusion

This Section demonstrated that competition law has started to embrace the novel concepts related to platform competition, such as network effects, multi-sided markets and intra-platform envelopment. There is a certain divergence between different jurisdictions, with the US antitrust authorities relying more on the Chicago School approach and avoiding false positives, while the EU taking a more pro-active stance towards the digital platforms.¹⁸⁷ Competition authorities expand traditional competition law concepts and theories of harm on various grounds. On the one hand, they rely on the consumer welfare standard, in particular where consumer biases are manipulated or their data is collected illegally or in access of what is necessary for the legitimate purposes. On the other hand, there is also a specific concern about a level playing field in the markets where large digital platforms are dominant. In cases such as *Microsoft*, *Google* and *Apple v Spotify*, the competition authorities express concerns that certain platform practices exclude the providers of complementary products from the platform, promote the platform’s own products and allow platforms to extract unreasonable rents (such as the ‘Apple tax’). This reveals awareness of intra-platform competition often being stifled by platforms once they reach the position of dominant incumbent. As the following sections will demonstrate, the same concerns about consumer welfare and intra-platform competition stifled by incumbents are present in financial markets. Consumer welfare, innovation and a level playing field for smaller competitors have been the main drivers for the adoption of access regulations in the payment markets, such as the Second Payment Directive in the EU or the UK’s Open Banking regulation. That said, the above cases show seemingly less concern about inter-platform competition. This might stem not from a lack of awareness on the

¹⁸⁷ Todd (n 123) 420.

part of competition authorities, but rather from the difficulty of promoting inter-platform competition in markets that have already been ‘tipped’ in favour of the large dominant platforms. Another reason is a deep-rooted Chicagoan-style belief that digital platforms are ‘fragile monopolists’¹⁸⁸ subject to continuous pressure from other innovators. Therefore, free market forces will take care of inter-platform competition, as the high profits platforms extract will attract new competitors who will provide better, innovative products and disrupt the position of ‘fragile monopolists’. In reality, however, network effects, economies of scale and scope, and extensive customer profiling largely insulate the tech giants from competitive pressure.¹⁸⁹ This requires rethinking of the traditionally cautious approach to the practices, which can harm inter-platform competition in the digital markets. It also necessitates the shift of the focus to balancing both inter-platform and intra-platform competition.

When we consider the relationships between various actors in the payment markets it is important to take into account both *intra-platform* and *inter-platform competition*. This approach differs from the traditional product market assessment, but can provide valuable insights into the impact that access regulation have on competition in the payment markets, as this thesis will further demonstrate. To understand how intra-platform and inter-platform competition works in the payment markets, this thesis will go on to discuss who the main market players are and how the balance of power has changed since the emergence of the new competitors.

¹⁸⁸ Ballell (n 131) 688.

¹⁸⁹ Stigler Committee Final Report (n 2) 17; Stiglitz (n 88) slide 15.

2.2 Emergence of New Competitors in Financial Markets - Fintech

The previous section discussed that the equilibrium in the financial industry had shifted in the aftermath of the financial crisis prompted by exponential development of technology. One of the major consequences of this development is the emergence of platform business models and platform competition replacing traditional competition between relatively independent service providers. Consumer behaviour has also changed. A growing number of consumers are willing to use financial products offered by alternative providers.¹⁹⁰ This is particularly true of millennials whose representation in the customer base is increasing.¹⁹¹ They have more trust in technological firms than in traditional institutions and want smooth integration with the other products they use. Unlike in the past, the new generation of customers is more willing to share their data (including data about their bank transactions) with non-traditional providers in exchange for innovative products.

This Section analyses the rise of new competitors whose business models are based on the extensive use of technology. Following demand for better service delivery and the broad penetration of the Internet and mobile connections, Fintech and large technological companies (so-called 'Big Tech') have emerged as alternative providers of financial services.¹⁹²

2.2.1 Fintech Overview

'Fintech' became a buzzword a few years after the financial crisis of 2008. A large number of start-ups emerged offering innovative financial services and promising to reshape the future of finance in response to the call for change in the financial industry.

Fintech is an abbreviation for Financial Technologies. It refers to organisations which deliver financial services 'through a better experience using digital technologies to reduce costs, increase revenue and remove friction'.¹⁹³ Their business models based entirely on digital products set them

¹⁹⁰ Jim Marous, 'The Future of Banking: Fintech or Techfin?' *Forbes* (27 August 2018) <<https://www.forbes.com/sites/jimmarous/2018/08/27/future-of-banking-fintech-or-techfin-technology/#23c7024a5f2d>> accessed 19 January 2019.

¹⁹¹ Brett Johnson, 'Fintech: Friend or Foe?' *NJBiz* (3 April 2017) <<https://njbiz.com/welcome-ad/?retUrl=/friend-or-foe-some-banks-see-growing-fintech-industry-as-an-asset-while-others-see-it-as-unwanted-competition/>> accessed 10 April 2019.

¹⁹² See Marous (n 190); 'World Fintech Report 2018' (n 5) 60-63.

¹⁹³ Marous (n 190).

apart from traditional banks whose services might be similar but originally lacked a digital component.¹⁹⁴

There are certain difficulties with defining the exact scope of Fintech. However, there are easily identifiable Fintech product clusters, such as payments, lending/crowdfunding, deposits, financial planning, trading and investments, insurance, digital currency, wealth and asset management, enabling technologies and infrastructure.¹⁹⁵ This reflects the gradual penetration of Fintech into areas which have been the domain of traditional banking such as lending, as well as the emergence of completely new areas such as digital asset trading.

The adoption level for Fintech has been growing steadily. The average global percentage of consumers using Fintech services thus reached 33% in 2017, compared to 16% in 2015.¹⁹⁶ The Fintech adoption level is considerably higher across emerging markets (46%)¹⁹⁷ with China and India having the highest rates of Fintech adoption.¹⁹⁸ This can be explained by the high level of tech literacy, Internet and mobile penetration in emerging markets, on the one hand, and the vast proportion of financially underserved populations, on the other.¹⁹⁹ As a rule, if there is a large unbanked population, Fintech companies are able to gain momentum and scale up quickly (leading to a potential rise of large companies, like Ant Financial).²⁰⁰ On the contrary, in well-served markets, such as Europe or the United States, Fintech companies are focused on improving user experience by complementing the existing offerings of traditional financial institutions²⁰¹ rather than trying to displace them. Due to the stable incumbents' position and the high level of financial services penetration in more mature markets, small Fintech start-ups often struggle to build scale on their own.²⁰²

2.2.2 Fintech Business Models

Since the invention of ATM (Automated Teller Machine), technology has become an essential part of financial industry. Debit and credit cards, online banking, high-frequency trading and many more technological innovations have led to changes in the business models of traditional banks.

¹⁹⁴ Van Loo (n 4) 239.

¹⁹⁵ Carmona and others (n 97) 11; IOSCO, 'Research Report on Financial Technologies (FinTech)' (2017) 4 <<https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf>> accessed 31 March 2019.

¹⁹⁶ 'EY FinTech Adoption Index 2017' (2017) <[https://www.ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/\\$FILE/ey-fintech-adoption-index-2017.pdf](https://www.ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/$FILE/ey-fintech-adoption-index-2017.pdf)> accessed 07 April 2019. EY survey compared across 20 markets including Australia, Belgium and Luxembourg, Brazil, Canada, China, France, Germany, Hong Kong, India, Ireland, Japan, Mexico, the Netherlands, Singapore, South Africa, South Korea, Spain, Switzerland, the UK and the US.

¹⁹⁷ *ibid* 7.

¹⁹⁸ 'EY FinTech Adoption Index 2017' (n 196) 12.

¹⁹⁹ *ibid*; Carmona and others (n 97) 27.

²⁰⁰ In China alone, Alipay (the mobile payment division of Ant Financial) dominates the country's \$5.5 trillion mobile payment sector (54% of the total market share): Lerong Lu, 'How a Little Ant Challenges Giant Banks? The Rise of Ant Financial (Alipay)'s Fintech Empire and Relevant Regulatory Concerns' (2018) 28 *International Company and Commercial Law Review* 12, 18.

²⁰¹ Carmona and others (n 97) 46.

²⁰² 'World Fintech Report 2018' (n 5).

However, if technology had previously been used mostly for incremental improvements through cost reduction and efficiency gains (e.g. replacing human tellers with ATMs through process automation), the recent digital transformation has enabled completely new ways to capture business value through technology. This has led to the emergence of new business models that combine finance with technology.²⁰³ Fintech is associated with breakthrough or ‘disruptive’ innovations which can cause a structural change to the financial industry.²⁰⁴ It is important to define Fintech companies as offering, at least potentially, new channels for meeting customers’ financial needs,²⁰⁵ rather than just improving the old ways of doing things. Whether this is an evolutionary, incremental change, or a completely new model, it is the potential for the replacement of existing business models, gaining wide adoption and causing structural change to the industry that sets the Fintech innovation apart from mere improvements through technology.²⁰⁶

There is no common classification of the business models deployed by Fintech. Most of the taxonomies tend to be descriptive. For example, ‘Competition issues in the Area of Financial Technology (FinTech)’, the study commissioned by the EU Parliament, defines eight types of financial services and corresponding business models: Banking — deposits; Banking – lending; Payments, Transfers and Forex; Digital currencies; Wealth and Asset Management; Personal Finance; InsurTech; and Enabling technologies and infrastructures.²⁰⁷ Lee and Yong Jae Shin point to six Fintech business models (based on the ‘value propositions, operating mechanisms, and major fintech companies in each business model’): payment; wealth management; crowd-funding; lending; capital market; and insurance services.²⁰⁸ Most of these taxonomies are overlapping with payments forming a distinctive part of Fintech offerings.

Matthias Eickhoff, Jan Muntermann and Timo Weinrich offer the most comprehensive taxonomy of business models, based, *inter alia*, on the type of service/product, value proposition (utility for customers), operating mechanism, technology and target customer (see **Table 1** ‘Archetypes of Fintech Business Models’. Source: University of Goettingen, Eickhoff, Muntermann, Weinrich).²⁰⁹

²⁰³ Matthias Eickhoff, Jan Muntermann, and Timo Weinrich, ‘What Do FinTechs Actually Do? A Taxonomy of FinTech Business Models’ International Conference on Information Systems (December 2017) 1-2 <https://www.researchgate.net/publication/320215812_What_do_FinTechs_actually_do_A_Taxonomy_of_FinTech_Business_Models> accessed 22 June 2019.

²⁰⁴ Iris H-Y Chiu, ‘The Disruptive Implications of Fintech - Policy Themes for Financial Regulators’ (2017) 21 Journal of Technology Law & Policy 9 <<https://ssrn.com/abstract=2812667>> accessed 22 June 2019.

²⁰⁵ *ibid* 10.

²⁰⁶ *ibid* 12.

²⁰⁷ Carmona and others (n 97) 11.

²⁰⁸ In Lee, Yong Jae Shin, ‘Fintech: Ecosystem, Business Models, Investment Decisions, and Challenges’ (2018) 61 Business Horizons 35, 38.

²⁰⁹ Eickhoff, Muntermann, and Weinrich (n 203) 13.

Archetype Label	Cluster	Dominant Technology Component	Value Proposition	Delivery Channel	Customers	Revenue Stream	Product/Service Offering
Cryptocurrency	A	Blockchain	Convenience/Usability	API	B2C	Unknown	Currency Exchange
Payment Service	B_E	Transaction Processing System	Convenience/Usability	App	B2B	Unknown	Payment Service
Financial Markets Intermediary	F	Marketplace; Transaction Processing System	Matching/Intermediation; Security	Physical / WWW	B2B	Sales, Unknown	Brokerage; Device
Information Aggregator	G	Decision Support System	Convenience/Usability	App	B2B, B2C	Unknown	Inform. Aggregation
Information Extractor	H	Decision Support System	Insight	App	B2B	Unknown	Inform. Aggregation
Insourcer of Sub-Processes	I_J	Decision Support System	Automation	App	B2B	Unknown	Inform. Aggregation
Lending Community	K	Marketplace	Monetary; Transparency	WWW	B2C	Revenue Share; Unknown	Lending/Credit; Financing
Alternative Trading Venue	L	Marketplace	Matching/Intermediation	WWW+ App	B2B, B2C	Unknown	Investments; Lending/Credit
Robo Advisor	O	Decision Support System	Monetary	App	B2C	Revenue Share; Unknown	Personal Assistant
Co-Creator of Financial Analysis	Q_R_W	Decision Support System	Convenience/Usability	App	B2B	Unknown	Inform. Aggregation

Table 1 Archetypes of Fintech Business Models. Source: University of Goettingen, Eickhoff, Muntermann, Weinrich.

Interestingly, Table 1 demonstrates that Fintech business models are very diverse in their technology and the products offered, but hinge on the same types of value proposition (efficiencies): mostly, convenience/usability (e.g. payment services, information aggregators and currency exchange) and matching/intermediation (brokerage, lending and investment). Few models provide users with increased insight, security and transparency, let alone reduction of financial risks.²¹⁰ Because efficiencies play a crucial role in the regulatory and competition policy decisions related to Fintech, the next section will explore them in more detail.

2.2.3 Claimed Efficiencies of Fintech

Efficiency gains form an intrinsic part of the competition law analysis of horizontal agreements, abuse of dominance and particularly in merger control.²¹¹ In cases which are not illegal *per se* or hard-core infringements, an undertaking can put forward efficiency gains to offset the anticompetitive effects of its conduct.²¹² It is the obligation of the undertaking or undertakings involved in the conduct in question to prove that any anticompetitive effects of such conduct are outweighed by the increase in efficiency which also benefits consumers.²¹³ Regarding abuse of

²¹⁰ For an explanation of these efficiencies see Eickhoff, Muntermann, and Weinrich (n 203) 16.

²¹¹ OECD, 'The Role of Efficiency Claims in Antitrust Proceedings' (2012) OECD Policy Roundtable 8-9 <<http://www.oecd.org/competition/EfficiencyClaims2012.pdf>> accessed 20 June 2019.

²¹² See Helen Jenkins, 'Efficiency Assessments in European Competition Policy and Practical Tools' in OECD (n 252).

²¹³ See Case C-95/04 *British Airways v Commission* [2007] I-02331 and Case C-209/10 *Post Danmark A/S v Konkurrencerådet* [2012] ECLI:EU:C:2012:172.

dominance cases, an OECD study has recognised that efficiency claims are pertinent, especially in the IT sector.²¹⁴ For example, in the US *Microsoft* case, the courts' analysis hinged largely on the question whether Microsoft had put forward plausible efficiency gains to justify the practices of bundling Internet Explorer with its OS.²¹⁵ Where the efficiency gains were proved, the court dismissed Microsoft's liability for such practices (see Box 3).

Efficiency gains often drive the adoption of sector-specific regulation aiming to unlock the benefits of innovation in a particular sector. Unlike in competition law analysis, such efficiency gains are backed by market studies of the whole industry and are more generalised. Therefore, the question of what efficiency gains Fintech companies bring to the financial markets should be explored carefully, before moving to analysis of Open Banking regulation aiming to facilitate Fintech entry into the financial markets.

Some scholars question whether financial innovation provides genuine benefits to consumers or whether it is largely driven by profit incentives and a desire to monopolise newly emergent product markets.²¹⁶ They criticise the idea that innovation is always the 'product of rational and fully informed market participants responding to the existence of market imperfections'.²¹⁷ Dan Awrey thus proposed a supply-side theory of financial innovation. This theory suggests that financial innovation is often driven by intermediaries' desire to create monopolies for their products to extract maximum rents in an extremely competitive environment.²¹⁸ He points out that this strategy does not necessarily rely on the existence of any natural demand in the marketplace, nor on the innovation itself being 'new' in any material respect. Instead, this strategy 'capitalises on investor short-termism, other behavioural factors, or simply tapping the innate human desire for the "next new thing"'.²¹⁹ Market players can also develop innovation to avoid high regulatory burden and to penetrate into markets which are less transparent and regulated.²²⁰ Technological advances in the financial markets might thus not always bring benefits to the real economy, for instance if they lead

²¹⁴ OECD (n 252).

²¹⁵ *United States v Microsoft* (n 62) 63-64; 84, 92; Todd (n 123) 425-426.

²¹⁶ Chiu (n 204); Dan Awrey, 'Toward a Supply-Side Theory of Financial Innovation' (2013) 41 *Journal of Comparative Economics* 401.

²¹⁷ Awrey (n 257) 419.

²¹⁸ *ibid* 28.

²¹⁹ *ibid* 29.

²²⁰ *ibid*.

to increase in complexity. As Paul Volcker, ex-Chairman of the Federal Reserve, noted, 'there is little correlation between sophistication of a banking system and productivity growth'.²²¹

This is a useful framework to apply to Fintech innovation. Against the initial promise of disintermediating financial value chains and reducing rents collected by middlemen, the new Fintech entrants often reintermediate them and serve as extra layers to traditional financial intermediaries.²²² Whereas disintermediation refers to the elimination of an intermediary from a process, chain or market, 'reintermediation entails [...] the emergence of new areas where intermediation creates value'.²²³ This is triggered by the characteristics of the digital environment itself. On the one hand, new technologies reduce the cost of information gathering and processing. But because the amount of digital data grows exponentially, the same technology makes it difficult to find the relevant information and, most importantly, to ensure the credibility of this information, especially when it comes to such complex areas as finance. This complexity forms the basis for reintermediation in the digital environment.

Bailey and Bakos demonstrated that with the decline of traditional intermediaries, new roles for intermediaries had emerged in digital markets, the most important of which included aggregating information goods, providing trust relationships, and ensuring the integrity of the market.²²⁴ The new digital intermediaries 'identify a product or service gap that no traditional provider currently fills, then, through technological innovation, work to create value in the marketplace by delivering something – a good, a service, or a hybrid with aspects of each - that until now has not been available in the market'.²²⁵ For example, users who pay via mobile wallets, such as Google Pay or Apple Pay, are not engaged in disintermediation, but in reintermediation.²²⁶ The added value of such reintermediaries is based on the use of technological advances such as Near Field Communication ('NFC') to connect with payment terminals, enhanced security and user authentication and a slick customer experience.²²⁷ Another example is the emergence of the plethora of intermediaries within the Bitcoin innovation ecosystem, which provide added value to

²²¹ Pedro da Costa and Kristina Cooke, 'Crisis May Be Worse than Depression: Volcker' *Reuters News* (20 February 2009) <<https://www.reuters.com/article/us-usa-economy-volcker/crisis-may-be-worse-than-depression-volcker-idUSTRE51J5JM20090220>> accessed 15 August 2019.

²²² Chiu (n 204) 25; Ballell (n 131) 693.

²²³ See Ballell (n 131) 693.

²²⁴ J Bailey, and Y Bakos, 'An Exploratory Study of the Emerging Role of Electronic Intermediaries' (1997) 1 *International Journal of Electronic Commerce* 7-20 cited in Andy Yee, 'The Regulation of Cryptocurrencies: From Disintermediation to Reintermediation' (2015) *Internet Policy Review* <<https://policyreview.info/articles/news/regulation-cryptocurrencies-disintermediation-reintermediation/350>> accessed 23 July 2019.

²²⁵ Alina M Chircu and Robert J Kauffman, 'Reintermediation Strategies in Business-to-Business Electronic Commerce' (2000) 4(4) *International Journal of Electronic Commerce* 7, 19.

²²⁶ In fact, the district court in *Amex* case (n **Error! Bookmark not defined.**) in a way of *obiter dictum* viewed these new products, which work on top of a traditional payment network such as a credit or debit card, more as complements (i.e. as additional level of intermediary) than substitutes to credit cards.

²²⁷ Uday Seth and Kartik Hosanagar, 'Apple v. Google v. PayPal: Who Will Win The \$4.5TN Mobile Wallets War?' *Forbes* (16 May 2016) <<https://www.forbes.com/sites/groupthink/2016/05/16/apple-v-google-v-paypal-who-will-win-the-4-5tn-mobile-wallets-war/#3bef8b311b2e>> accessed 23 July 2019.

the initial Bitcoin proposition and attract more users to the ecosystem.²²⁸ To sum up, users might see the value in reintermediation which provides a better overall experience compared to traditional institutions, but reintermediation cannot be considered as efficient *per se*. When it allows the extraction of additional profit from customers without addressing their actual needs, the efficiency of such Fintech innovation should be questioned. As demonstrated above, neither Fintech innovation can be labelled as ‘disintermediation’, as Fintech companies often serve as middlemen between traditional institutions and customers.

Even when Fintech services lead to genuine disintermediation (e.g. peer-to-peer or crowdlending) this is often outweighed by a greater risk for investors. In disintermediation, investors, not intermediaries, bear all the market risks associated with such new forms of investment.²²⁹ Let us take as an example the initial coin offerings (ICOs) which boomed in 2017. ICOs can be considered as an example of disintermediation as they permitted start-ups to seek investment directly from the public, bypassing intermediaries, such as venture capitalists, banks and stock exchanges.²³⁰ Unlike traditional investment mechanisms (e.g. initial public offering), where investors were protected by stringent regulations, participation in ICOs required the extensive collection of information in a highly opaque environment. Participants in ICOs had to assume a greater risk of the project turning out to be a scam and the investor’s money unlikely to be recovered.²³¹ This outweighed the benefits of such innovation for consumers (investors), skewing them in favour of suppliers (the founders and developers of ICO projects). Thus, disintermediation turned out to provide greater value only to a slice of savvy customers, often with an insider information about the market, with the vast majority of customers being worse-off.

Furthermore, financial innovation which produces excessive complexity is unlikely to provide sustainable, long-term efficiencies, as it makes systems and markets more susceptible to systemic risks.²³² Complexity is not an inevitable consequence of technological development though. The underlying technology is often complex (e.g. a blockchain protocol). However, the main concern

²²⁸ Yee (n 224).

²²⁹ *ibid.*

²³⁰ Wikipedia, ‘Initial Coin Offering’ <https://en.wikipedia.org/wiki/Initial_coin_offering> accessed 05 May 2020.

²³¹ Investopedia, ‘Initial Coin Offering’ <<https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp>> accessed 23 June 2019.

²³² Chiu (n 204) 6; Kathryn Judge, ‘Fragmentation Nodes: A Study in Financial Innovation, Complexity and Systemic Risk’ (2012) *Stanford Law Review* 102; Dan Awrey, ‘Complexity, Innovation, and the Regulation of Modern Financial Markets’ (2012) 2 *Harvard Business Law Review* 235. See also the general reflection of Nassim Taleb that ‘Sophistication [...] brings fragility: as societies gain in complexity, the more and more cutting edge sophistication in them, and more and more specialization, they become increasingly vulnerable to collapse’ (Nassim Nicholas Taleb, *Antifragile* (Penguin Books 2012) 34).

lies not in the complexity of financial technology, but in the opacity and complexity of the governance mechanisms and rules shaping the emerging Fintech ecosystems. For example, innovation such as decentralised systems and cryptocurrencies provides true efficiencies, but might bring obfuscation, exploitation of consumer biases and negative implications for monetary policy and financial stability in general.²³³

To summarise, the efficiency claims of Fintech should not be taken at face value. Competition authorities and regulators should carefully assess whether financial innovation produces true net benefits for consumers or merely redistributes the value from traditional to new financial intermediaries.

Regrettably, the efficiency gains of Fintech have rarely been assessed on a case-by-case basis. Many reports on Fintech refer to generic efficiency gains such as lower costs, improved (operational) efficiency, expanded access to services, speed and enhanced convenience,²³⁴ as well as better adaptation to customers' preferences, greater transparency and financial inclusion.²³⁵ The European Commission refers to innovation as a benefit in itself: customers expect the provision of 'the most suitable and accessible products'.²³⁶ One of the indirect benefits of Fintech is the pressure that Fintech start-ups exert on incumbent banks to improve the delivery of their traditional services.²³⁷ Not only the early adopters, but also mainstream customers loyal to traditional banks thereby gain access to improved services, as the industry strives to keep pace with the technological developments. However, according to Dan Awry's supply-side theory of innovation, the competition and regulatory authorities should assess whether Fintech innovation provides more benefits to the supply-side rather than to consumers, in which case the efficiency gains cannot be sustained.

Some financial regulators adopted a more balanced approach based on the 'innovation-focused' paradigm which involves soft law instruments, such as monitoring and informal coordination of financial innovation.²³⁸ In theory, over the course of time this will help distinguish between truly beneficial innovations and those which aim purely at creating bottlenecks in the financial value chains and redistributing profit. The FCA thus launched its Innovate programme in October 2014 as a way of enabling financial innovation which works in the interests of consumers.²³⁹ An important

²³³ Carmona and others (n 97) 32.

²³⁴ See 'US Note for OECD Report 'Digital Disruption in Financial Markets'' (2019) 2-3, 7, <<http://www.oecd.org/daf/competition/digital-disruption-in-financial-markets.htm>> accessed 31 August 2019.

²³⁵ Carmona and others (n 97) 16-17.

²³⁶ *ibid*; Communication from the European Commission 'Fintech Action Plan: for a More Competitive and Innovative European Financial Sector' 3 <https://eur-lex.europa.eu/resource.html?uri=cellar:6793c578-22e6-11e8-ac73-01aa75ed71a1.0001.02/DOC_1&format=PDF> accessed 03 September 2019.

²³⁷ See 'UK Note for OECD Report 'Digital Disruption in Financial Markets'' (2019) 2-3, 4 <<http://www.oecd.org/daf/competition/digital-disruption-in-financial-markets.htm>> accessed 31 August 2019.

²³⁸ For example, FCA's 'regulatory sandbox', which allow financial innovation to be carried out in experimental ways within the parameters of regulatory approval and monitoring.

²³⁹ See UK Note for OECD Report (n 237) 4.

tool of such ‘innovation-focused’ policy is a regulatory sandbox which allows testing new, innovative financial products or business models in a customised regulatory environment and assessing what the ultimate gains for consumers might be.²⁴⁰

Box 4. Example of Efficiency Gains in the Financial Sector

In 2017 the US Department of Justice (‘DoJ’) assessed the efficiency gains of innovation in the case of creation of a new real-time payment rail by the consortium of the 24 largest banks in the United States (TCH Business Review Letter from Andrew Finch, Acting Assistant Attorney General, US DoJ, to Richard Taffet, Morgan, Lewis & Bockius LLP (September 21, 2017)). Banks and payment service providers use real-time payment rails (‘RTPR’) to transfer money among themselves and, ultimately, to ‘facilitate their end user customers’ fund transfers’. The DoJ noticed that ‘collaborations of significant competitors [...] have some potential to harm competition’. However, it concluded that the procompetitive benefits (reduction of banks’ and payment service providers’ risks in providing those services) outweighed the risk of restriction of competition. Before the creation of RTPR, to provide the real-time services, banks had to bear the risks of delayed settlements in case the payer’s bank fail to complete the promised fund transfer. The RTPR removed this risk. Therefore, the creation of RTPR aimed mostly at benefiting financial service providers and increasing productive rather than allocative efficiency, which had not been definitively positively assessed in competition law analysis (see Helen Jenkins (n 212) 246). This is also the type of supply-side efficiency that Dan Awrey contested, because consumers can benefit from real-time payments without the RTPR joint venture, but with higher risks to the banks. However, the DoJ’s analysis didn’t drill into much details on how exactly these supply-side benefits would be passed over to consumers. This is an example of competition authorities’ preconception that innovation automatically equates to consumer benefits.

The nature of Fintech business models and the efficiencies they strive to provide define the strategies adopted by Fintech companies with respect to traditional banks.

²⁴⁰ FCA, Regulatory Sandbox <<https://www.fca.org.uk/firms/regulatory-sandbox>> accessed 03 September 2019.

2.2.4 Fintech Competition Strategies

At the outset, there were two possible routes for Fintech development. The first was to challenge incumbent financial institutions and to eat away at their market shares by creating alternative value chains (*disruptive path*). The initial ambition of Fintech was nothing less than ‘a democratic revolution for all who use financial services’.²⁴¹ For example, alternative online banking first emerged with the aspiration to replace traditional banks.²⁴² But for a number of reasons, most Fintech companies have shifted to building partnerships with incumbent banks (*collaborative path*).²⁴³ Likewise, traditional financial institutions have noticed the opportunities arising from the emergence of new technologies. First threatened by potential disruption from Fintech start-ups, they quickly switched to using them as a ‘supermarket’ for capabilities with a view to integrating them into the traditional banks’ ecosystem.²⁴⁴ Partnerships between traditional financial institutions and Fintech become increasingly common and take various forms.²⁴⁵

To understand why cooperative dynamics have overtaken competitive, we need to look at how Fintech business models have developed using payment services as an example. The Bank for International Settlement (‘BIS’) studied a wide variety of non-bank payment providers and established several main business models deployed by such non-banks based on (i) the stages of the payment chain in which non-banks are involved (pre-transaction, authorisation, clearing, settlement and post-transaction),²⁴⁶ (ii) the type of service provided by the non-bank (front-end or back-end), and (iii) the type of relationship they maintain with banks (reflecting differing degrees of cooperation or competition).²⁴⁷ The main business models of non-bank financial providers are:

- (i) Front-end providers;
- (ii) Back-end providers
- (iii) End-to-end providers.

²⁴¹ Mark Carney, ‘Enabling the FinTech Transformation: Revolution, Restoration, or Reformation?’ (Speech at the Lord Mayor’s Banquet for Bankers and Merchants of the City of London at the Mansion House, London, 16 June 2016) <<https://www.bankofengland.co.uk/-/media/boe/files/speech/2016/enabling-the-fintech-transformation-revolution-restoration-or-reformation>> accessed 24 March 2019.

²⁴² Van Loo (n 4) 241; Bryan Yurcan, ‘How Moven Went From ‘Breaking Banks’ to Breaking Bread With Them’ *American Banker* (02 September 2016) <<https://www.americanbanker.com/news/how-moven-went-from-breaking-banks-to-breaking-bread-with-them>> accessed 30 March 2019.

²⁴³ World Economic Forum Report (n 1) 12; Van Loo (n 4) 234; Milne (n 9).

²⁴⁴ World Economic Forum Report (n 1) 13; Johnson (n 191); Lianos (n 115) 371; Lee and Shin (n 208) 38.

²⁴⁵ For example, Alessandro Hatami has identified four models of the collaboration between traditional banks and Fintech: **channel model** when the bank helps the Fintech to sell its products to the bank’s customers (e.g. the partnership between JPMorgan and OnDeck); **supplier model** when the bank engages with the Fintech as if it were a supplier (e.g. the collaboration between Bud and HSBC’s First Direct); **satellite model** where the bank acquires the Fintech start-up, but leaves it relatively independent (acquisition of Nickel by BNP Paribas), and **classical merger model** where the acquired Fintech is integrated and rebranded within the bank (the acquisition of Final by Goldman Sach’s consumer bank Marcus), see Alessandro Hatami, ‘Bank & FinTech Collaboration Models’ (*Medium*, 14 August 2018) <https://medium.com/@a_hatami/bank-fintech-collaborations-how-big-banks-plan-to-stand-up-to-the-big-tech-challenge-24eea57db095> accessed 20 May 2019.

²⁴⁶ Bank for International Settlement, ‘Non-banks in Retail Payments’ (September 2014) 5 <<https://www.bis.org/cpmi/publ/d118.pdf>> accessed 28 May 2019.

²⁴⁷ *ibid* 9.

Front-end providers typically provide an interface between end users of payment services (payers and/or payees) and traditional providers of clearing and settlement process. They focus their activities on the (1) pre-transaction, (2) authorisation and (3) post-transaction stages.²⁴⁸ Front-end providers may compete with banks along certain dimensions, but they typically cooperate with banks for the clearing and settlement of transactions as they rely on the banks' financial infrastructure. They need continuous and direct access to account information in order to deliver their services.²⁴⁹ Examples of front-end providers include mobile wallets, internet payment gateway providers and credit card acquirers.²⁵⁰

Back-end providers mostly provide specialised back-end services to banks (IT services, security, back-office operations, audit, compliance etc.) without direct interaction with final customers.²⁵¹ They do not compete with banks and are included into their vertical value chain through outsourcing agreements.

End-to-end (E2E) providers (for example, PayPal²⁵² and Klarna²⁵³) manage the whole payment chain from pre-transaction through clearing and settlement to post-transaction. E2E providers move funds from a payer's account to a payee's account and do not require connections with banks, though they might need access to banks infrastructure to send or retrieve funds to and from the system. They are more likely to engage in full-scale competition with banks as they are not reliant on the banks infrastructure to deliver their services. However, they can also be part of a platform in which other banks and non-banks participate.²⁵⁴

Based on the above classification, only Fintech companies that provide E2E payment solutions can compete on a par with banks, while others (front-end providers) typically have to cooperate with banks, with only limited competition in the pre-transaction phase. Therefore, E2E providers are particularly important for *inter-platform competition* in the payment industry.²⁵⁵ However, front-end providers are also important for diversity, usability and providing more choices for consumers. As Bank for International Settlement's report pointed, 'the diversity [of business models] may open up opportunities for specialisation and cooperation, whereby banks provide the basic payment

²⁴⁸ *ibid* 9; Carmona and others (n 97) 58.

²⁴⁹ See Colangelo and Borgogno (n 9) 9.

²⁵⁰ Bank for International Settlement (n 246) 9.

²⁵¹ *ibid*; Carmona and others (n 97) 58.

²⁵² Business Model Navigator (n 131).

²⁵³ Business Model Zoo, 'Klarna: Product Model' <<http://www.businessmodelzoo.com/exemplars/Klarna>> accessed 04 March 2020.

²⁵⁴ *ibid* 13.

²⁵⁵ Colangelo and Borgogno (n 9) 9-10.

services (built on their brand recognition and customer relationships) while non-banks (acting as front-end providers) provide the banks with the specialised technology that supports this increasingly diversified payments landscape'.²⁵⁶ In this scenario, front-end providers tend to compete with each other, rather than with traditional banks, while providing added value to the traditional banks' value chains.

With this gravitation towards the collaborative path, *intra-platform competition* becomes of particular importance, as front-end providers need fair and non-discriminatory access to banks' customer accounts to deliver their services to end customers. As discussed in Section 2.1.3, in the platform ecosystem an 'ecosystem manager' or 'platform architect' sets the rules, controls the underlying platform technology and determines who can participate in the platform.²⁵⁷ This allows him to capture the lion's share of the profit generated by the ecosystem. From the outset, traditional banks are in a better position to gain the architectural advantage within the platform compared to Fintech. The main reasons include the high entry barriers in the industry,²⁵⁸ strong network effects,²⁵⁹ strong brands and trust-based relationships with customers, and the customers' reluctance to switch to Fintech providers while waiting for mass adoption of the new technology.²⁶⁰ The banks' hold on the financial infrastructure, most notably the access to customer accounts, is considered a significant entry barrier.²⁶¹ These industry-specific factors have driven Fintech to take the collaborative path, instead of unleashing the full disruptive potential of new technologies and engaging in inter-platform competition with incumbents.

To make things even more complicated, the third element of the 'competition triad', namely the Big Tech companies, are entering financial markets. They promise to change the competitive landscape in the financial industry significantly.

²⁵⁶ Bank for International Settlement (n 246) 17.

²⁵⁷ Kansu and Parker (n 79).

²⁵⁸ Van Loo (n 4) 242.

²⁵⁹ Milne (n 9) 6-7.

²⁶⁰ World Economic Forum Report (n 1) 13; Van Loo (n 4) 244-245.

²⁶¹ Van Loo (n 4) 242.

2.3 Big Tech Meet Big Banks

Big Tech are defined as global technology-based diversified firms with widespread adoption across geographies.²⁶² These include Google, Apple, Facebook and Amazon (GAFA) in the Western hemisphere and Baidu, Alibaba and Tencent (BAT) in Asia. Many Big Tech companies have already ventured into financial services, starting with payments and lending related to their principal platform offerings.²⁶³ According to the Financial Stability Board's report, as of December 2019, Big Tech offered around 50 financial services, with the majority of Big Tech firms offering payment services to their core customer base.²⁶⁴ This subsection will explore business models of the Big Tech companies and their strategies for penetration into financial markets, as well as their potential advantages over the other competitors – traditional banks and Fintech companies.

2.3.1 Big Tech Business Models

The companies defined as Big Tech are digital platforms of various types. Those types include: 1) transaction platforms which link two parties in a transaction (e.g. buyers and sellers, or landlords and tenants), and 2) media (information) platforms that provide users with some services at zero price but then sell their attention to advertisers.²⁶⁵ Examples of transaction platforms include Amazon, Airbnb and Uber. Companies such as Facebook, Tweeter, Instagram and Google fall under the second type, media platforms. A transaction platform gains profit in the form of a small mark-up on each transaction that it intermediates. A media platform gets its income from advertisers whose ads are displayed to users on the platform. Despite the differences, both models are similar in their incentives to make users stay longer on the platform – or increase their 'engagement' – either to make more transactions or to watch more ads.²⁶⁶ Platforms achieve this using different tactics. One tactic is adding more complementary services to their core proposition. This is easy for platforms, because they have a large user base, rich data about their customers and deep pockets thanks to the core activity. In addition, they often benefit from economies of scope.²⁶⁷ In fact,

²⁶² 'World Fintech Report 2018' (n 5) 61.

²⁶³ *ibid* 61-63; Omarini (n 143) 24.

²⁶⁴ Financial Stability Board, 'BigTech in Finance: Market Developments and Potential Financial Stability Implications' (9 December 2019) 4 <<https://www.fsb.org/wp-content/uploads/P091219-1.pdf>> accessed 21 December 2019.

²⁶⁵ See Carmona and others (n 97) 83. See also classification by David Evans, *Platform Economics* (n 17) 5-9; Hovenkamp (n 133) 14.

²⁶⁶ Stigler Committee Final Report (n 2) 62.

²⁶⁷ *ibid* 37; Crémer, de Montjoye, and Schweitzer (n 288) 33.

bundling is not an uncommon practice for the tech platforms.²⁶⁸ The platform's ultimate goal is to create and grow its ecosystem, expand it into different areas, often bearing losses to enter new markets at scale, all to keep users engaged for as long as possible within their ecosystem.

These features of platforms explain their incentives to enter financial markets as a part of the ecosystem growth strategy. Financial services, in particular payment and lending, are closely intertwined with the products and services offered through platforms. This is more obvious with transaction platforms, where each transaction triggers a payment. But it is also true for information platforms where information exchange often leads to exchange of economic value.²⁶⁹ This is why the Big Tech companies show willingness to offer financial services to their customers to increase engagement in their ecosystems by offering a "one-stop shop" solution.

For example, Amazon is well known for its continuous investments in several areas of finance (see **Figure 2**).²⁷⁰ Amazon's strategy involves 'building a low friction payments service to attract customers online'²⁷¹ ultimately to increase participation (both by buyers and sellers) in its platform. Since the launch of its first payment service 'Pay with Amazon' in 2007, Amazon has ventured into mobile payments and digital wallets (Amazon Pay and its predecessors), cash deposits (Amazon Cash, launched in 2017), B2B lending (Amazon Lending, launched in 2011), B2C lending (Amazon Prime credit cards, the first card launched in 2015) and insurance (Amazon Protect, launched in 2016).²⁷² Each of its financial propositions leverages the network effects and Amazon's vast consumer base in other markets. For instance, the home insurance might be offered in conjunction with its home devices, such as Alexa.²⁷³ Amazon Prime cards first leveraged the strong presence of Amazon in e-commerce (the Amazon Prime programme) and then expanded beyond the e-marketplace to non-Prime customers (Amazon Visa Credit Card).²⁷⁴ In general, the long history of Amazon's expansion into finance demonstrates that it is serious about getting a hold on financial markets and transforming them into a completely digital experience.

²⁶⁸ Stigler Committee Final Report (n 2) 116.

²⁶⁹ The example would be the Chinese social network WeChat that allows its members to send and receive money within the network.

²⁷⁰ CBInsights, 'Everything You Need To Know About What Amazon Is Doing In Financial Services' CBInsights <<https://www.cbinsights.com/research/report/amazon-across-financial-services-fintech/>> accessed 20 May 2019.

²⁷¹ *ibid.*

²⁷² *ibid.*

²⁷³ *ibid.*

²⁷⁴ *ibid.*



Figure 2: All the ways Amazon is unbundling the bank. Source: CBInsights.

Another example of a successful foray into financial markets is the Chinese tech giant Tencent. Its most significant innovation was coupling mobile payments with the online messaging and social media platform, WeChat.²⁷⁵ Due to the largely unbanked population in China, Tencent's innovations – such as WeChat Pay and QQ Wallet – quickly gained momentum, with WeChat payments having risen to \$1.2 trillion in 2016 from less than \$11.6 billion in 2012.²⁷⁶ To further engage users in its ecosystem, Tencent launched wealth management tools (LiCaiTong and LingQianTong, in 2014), a B2C lending platform (WeiLiDai, 2015) and a B2B lending platform (WeiYeDai, 2017), an insurance agency platform (WeSure, 2017), and two online pension funds (2018).²⁷⁷ In 2015 Tencent even set up the chartered bank, WeBank, which is considered the first private Internet bank in China.²⁷⁸ Tencent has thus secured a complete presence throughout the retail banking sector in China, driving all its WeChat users towards its own financial ecosystem.

²⁷⁵ The Economist, 'As Regulators Circle, China's Fintech Giants Put the Emphasis on Tech' *The Economist* (London, 13 September 2018) <<https://www.economist.com/finance-and-economics/2018/09/13/as-regulators-circle-chinas-fintech-giants-put-the-emphasis-on-tech> accessed 2 May 2019>.

²⁷⁶ Tanaya Macheel, 'WeChat shows messaging is the future of financial services 'platforms' (*Tearsheet*, 9 January 2018) <<https://tearsheet.co/future-of-investing/wechat-shows-messaging-is-the-future-of-financial-services-platforms/>> accessed 20 May 2019.

²⁷⁷ Medici, 'Tencent's Payment & FinTech Business, an Important Revenue Growth Driver' (*Medici*, 1 April 2019) <<https://gomedici.com/tencent-payment-fintech-business-important-revenue-growth-driver/>> accessed 20 May 2019.

²⁷⁸ Gaurav Sharma, 'FinTech in China: A 53-Point Summary' *Medici* (28 November 2016) <<https://gomedici.com/fintech-in-china-a-53-point-summary/>> accessed 28 April 2019.

There are more examples like this related to other Big Tech companies, including Google, Apple, Alibaba and Facebook. Virtually all of them have tried to launch financial products and have achieved some success, especially among millennial customers.

Being digital platforms, the Big Tech companies bring platform dynamics into the financial industry. Some areas are more prone to platform dynamics than others. For example, the retail payment markets exhibit clear platform tendencies due to strong network effects compared, for example, to wealth management.²⁷⁹ Though the payment markets are still in a state of flux, the comparison with other network industries suggests that a few dominant platforms or ‘industry architects’ are likely to emerge in retail payment.²⁸⁰ Industry architects are firms which control ‘bottlenecks’ and ‘leverage their position of strength over all other companies’ within the industry.²⁸¹ The battle over who becomes the financial industry architect will ultimately define who shapes the future development of the financial sector.

2.3.2 Strategic Advantages of the Big Tech

The Big Tech companies have a good chance to win the platform competition in the retail payment markets because they already possess several strategic advantages over both traditional financial institutions and Fintech.

First, Big Tech companies have amassed rich customer data resources in other markets where they already have a strong presence (e.g. social media, online marketplace etc.). These data are much more extensive than any data owned by a single bank, let alone a Fintech start-up. Importantly, are updated almost instantly. Big Tech companies can leverage their strong position, revenues and consumer networks in adjacent markets to gain a foothold in the financial sector. This strategy is called inter-platform platform envelopment²⁸² and was discussed in Section 2.1. Because the platforms’ assets (such as the large number of users and the data about their interactions) are valuable in multiple scenarios and across many markets, platforms that have succeeded in one industry can leverage them to enter and scale up into other industries and lines of businesses.²⁸³

Big Tech companies have been quite successful in enveloping incumbents in other industries. Examples of such envelopment include envelopment by Microsoft of the Netscape browser and Adobe’s Flash software and later envelopment by Google of Microsoft’s Internet Explorer; the envelopment by Apple iTunes of Odeo; the envelopment by Apple’s iPhone/iPad platform providers

²⁷⁹ Gerard du Toit and others, ‘In Search of Customers Who Love Their Bank’ Bain and Company Report (November 2018) <<https://www.bain.com/insights/in-search-of-customers-who-love-their-bank-nps-cx-banking/>> accessed 11 August 2019.

²⁸⁰ *ibid.*

²⁸¹ Lianos (n 115) 362, 364.

²⁸² See Eisenmann, Parker and Van Alstyne (n 162).

²⁸³ Zhu and Iansiti (n 182) 125.

in several markets, including personal digital assistants (Palm's Pilot), handheld games (Nintendo's Gameboy) and e-Book readers (Amazon's Kindle).²⁸⁴ There is good reason to expect that Big Tech will penetrate the financial industry by deploying the same strategy, considering that (i) Big Tech have a largely overlapping user base with retail banks and payment providers (i.e. people who shop online or use smartphones normally also use payment systems); (ii) Big Tech can price discriminate more effectively, offering bundling discounts and lower prices for financial products to its customers; and (iii) they can benefit from economies of scope (e.g. producers of smartphones, such as Apple, use the same devices for pre-installing NFC tools for contactless payments,²⁸⁵ so they can reduce the costs of issuing contactless cards).²⁸⁶

For example, Alibaba has applied envelopment strategy by bridging its e-commerce platform with its payment system, Alipay.²⁸⁷ Alibaba has taken advantage of the user data from its e-commerce platforms to launch new financial offerings, such as a credit rating system for merchants and consumers called Sesame Credit Management Group.²⁸⁸ As stated in an Ant Financial press release, '[b]y tapping into Alibaba's vast online ecosystem, Sesame Credit is able to collect data from more than 300 million real-name registered users and 37 million small businesses that buy and sell on Alibaba Group marketplaces including Taobao Marketplace and Tmall.com'.²⁸⁹ The much broader and diverse dataset (combining financial and non-financial data) clearly gives Ant Financial the upper-hand in the loan market compared to traditional lending institutions due to its more accurate scoring, as well as inclusion of 'thin-file' or 'no-file' borrowers into its customer base.²⁹⁰

Importantly, envelopment benefits both markets. Therefore, with the loans issued by Alibaba's lending platform, consumers can purchase more products on the company's e-commerce platform, and Alibaba's merchants can fund more inventory, thereby further boosting Alibaba's e-commerce

²⁸⁴ *ibid* 1274.

²⁸⁵ See, for example, Jason Cross, 'Apple's New NFC Support Will Change the Way you Pay' (*Mac World*, 15 May 2019) <<https://www.macworld.com/article/3395556/apples-new-nfc-support-will-change-the-way-you-pay.html>> accessed 17 August 2019.

²⁸⁶ See Eisenmann, Parker, and Van Alstyne (n 162) 1279.

²⁸⁷ *ibid*.

²⁸⁸ See, for example, Niel Couch, 'Alibaba Data to Help Provide Consumer Credit Ratings' *The New York Times* (New York, 28 January 2015) <<https://dealbook.nytimes.com/2015/01/28/alibaba-creates-a-consumer-credit-rating-service/>> accessed 11 August 2019.

²⁸⁹ Ant Financial Press Release, 'Ant Financial Unveils China's First Credit-Scoring System Using Online Data' (28 January 2015) https://www.alibabagroup.com/en/news/press_pdf/p150128.pdf accessed 11 August 2019.

²⁹⁰ See Nikita Aggarwal, 'Law and Autonomous Systems Series: Algorithmic Credit Scoring and the Regulation of Consumer Credit Markets' (*Oxford Business Law Blog*, 1 November 2018) <<https://www.law.ox.ac.uk/business-law-blog/blog/2018/11/law-and-autonomous-systems-series-algorithmic-credit-scoring-and>> accessed 11 August 2019.

business.²⁹¹ This reinforces the market capture of cross-industry Big Tech companies compared to single-industry incumbents.

In addition, Big Tech companies benefit from emerging technologies, such as data mining, artificial intelligence (AI) and predictive analysis.²⁹² The early adoption of technologies constitutes an architectural advantage as it allows to set the standards for the whole ecosystem.²⁹³ Big Tech companies are in a unique position to harness the learning effects enabled by new technologies, due to the vast pools of data they possess that they can use to improve products, as well as their aggressive investment strategies.²⁹⁴ As a result, learning effects amplify network effects and operate as significant barriers to enter the industry.²⁹⁵ Andrew Ng calls it the 'virtuous circle of AI'²⁹⁶ (**Figure 3**), when 'the users using the product naturally generate data and then the data through machine learning feeds into [the] product to make the product even better. And so this becomes a positive feedback'.²⁹⁷ This strategy further increases the market power of the Big Tech platforms and helps them outperform incumbents. The learning effects in finance can be demonstrated on the above example of a credit-rating system. As users interact with the system and provide more behavioural data, the system becomes better at credit-scoring and predicting defaults on loans. This allows the Big Tech platform to provide loans on better terms and to a larger customer base than its competitors, thereby attracting more users and so on. The virtuous circle is perpetual.

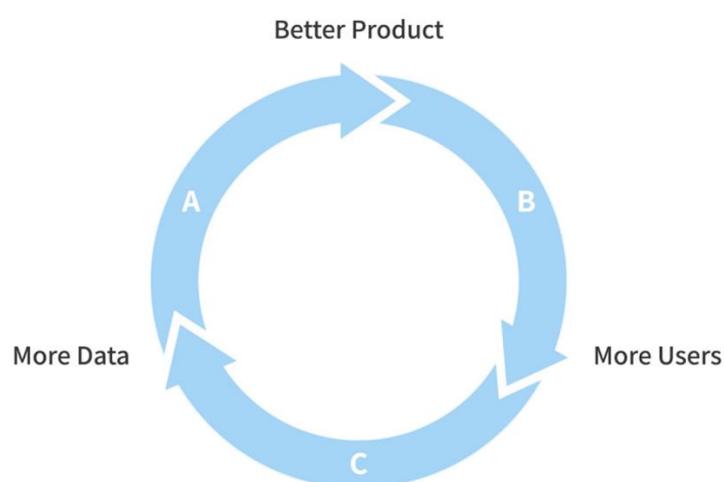


Figure 3: Virtuous Circle of AI. Source: [Andrew Ng, AI Transformation Playbook](#).

²⁹¹ Zhu and Iansiti (n 182) 125.

²⁹² 'World Fintech Report 2018' (n 5) 11.

²⁹³ Lianos (n 115) 363.

²⁹⁴ See Nick Beim, 'Learning effects, network effects, and runaway leaders' (*TechCrunch*, 21 September 2017)

<https://techcrunch.com/2017/09/21/learning-effects-network-effects-and-runaway-leaders/?guccounter=1&guce_referrer_us=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_cs=_3jNeJ8E24P36S1hGBCi_Q> accessed 11 August 2019.

²⁹⁵ Zhu and Iansiti (n 182) 122.

²⁹⁶ Andrew Ng, 'AI Transformation Playbook' <<https://landing.ai/ai-transformation-playbook/>> accessed 10 January 2019.

²⁹⁷ Andrew Ng, 'Artificial Intelligence is the New Electricity' (Transcript of Speech at Stanford MSx Future Forum 25

January 2017) <<https://singjupost.com/andrew-ng-artificial-intelligence-is-the-new-electricity-at-stanford-gsb-transcript/2/?print=print&singlepage=1&pdf=6249>> accessed 11 August 2019. Full video available at:

<<https://www.youtube.com/watch?v=21EiKfQYZXc>>.

Importantly, unlike nascent Fintech companies, Big Tech companies already have strong brand recognition and 'are generating a level of trust previously reserved only for traditional banks'.²⁹⁸ The Bain & Company report thus found that 54% of global respondents trust at least one Big Tech company more than banks in general.²⁹⁹ The Bain's comprehensive survey of consumers found that '[f]irms such as PayPal and Amazon garner a level of trust with consumers almost as high as banks in general'.³⁰⁰ Even on characteristics where banks have been traditionally strong such as an ongoing stability banks perform worse than the leading tech companies. However, others doubt these findings³⁰¹ and point out that consumers are becoming increasingly wary of the Big Tech companies following a series of scandals related to data misuse, fake news etc.³⁰²

Finally, Big Tech companies are still subject to much looser regulation than traditional banks. By adopting a business model as 'intermediaries', they avoid burdensome regulations but can still exert a powerful grip on the most important customer interactions. In fact, Amazon attracts millions of dollars of its customers' money through Amazon Cash without needing to comply with capital requirements as regulated banks do.³⁰³ Alibaba's Yu'e Bao fund is the world's largest money market fund, with \$165.6 billion under management, and loosely regulated.³⁰⁴ These are examples of asymmetrical regulation which can place banks at an artificial disadvantage relative to Big Tech platforms.³⁰⁵ Within the financial industry there is a call for regulation to apply equally to all organisations involved in financial services rather than just banks, to prevent 'unfair competition that can occur when the internet takes on the high street'.³⁰⁶ In my view, in a competitive environment of a mature industry, regulation should be agnostic with regards to a business model and apply based on the characteristics of products and activities rather than the types of market players. That said, I appreciate that less stringent regulation could be applied to new entrants in the industries where incumbents hold the long-lasting dominant position, to invigorate

²⁹⁸ Marous (n 190).

²⁹⁹ du Toit and others (n 395)

³⁰⁰ *ibid.*

³⁰¹ See Ron Shevlin, 'The Biggest Threat To Banks Isn't Fintech Or Big Tech - It's The Government' *Forbes* (19 February 2019) <<https://www.forbes.com/sites/ronshevlin/2019/02/19/the-biggest-threat-to-banks/#5dd381b95665>> accessed 11 August 2019.

³⁰² Specialist Banking, 'Should Banks Fear Tech Giants Entering the Market' <https://specialistbanking.co.uk/article-desc-6576_Should%20banks%20fear%20tech%20giants%20entering%20the%20market>.

³⁰³ See Steve Cocheo, 'Amazon Bank' Is Already Here, Without a Charter or Regulatory Approval' (*The Financial Brand*, 20 August 2018) <<https://thefinancialbrand.com/74543/amazon-bank-checking-account-regulators-charter/>> accessed 08 April 2019.

³⁰⁴ Stella Yifan, 'Jack Ma's Fintech Start-up Shakes up China's Banks' (*Market Watch*, 29 July 2018) <<https://www.marketwatch.com/story/jack-mas-fintech-startup-shakes-up-chinas-banks-2018-07-29>> accessed 08 April 2019.

³⁰⁵ See Miguel de la Mano and Jorge Padilla (n 1) 11 for more details.

³⁰⁶ Specialist Banking (n 418).

competition. Though detailed assessment of the regulatory regimes applied to traditional banks and Big Tech is beyond the scope of this work, the 'asymmetry' of a specific element of regulation, namely Open Banking regulation, will be further assessed in Chapter 3.

Conclusion

This Chapter analysed the new types of competition that emerged from the digital transformation of the financial industry. It outlined how the competition in platform markets differs from the competition in traditional product markets, for example, due to the tendency of such markets to yield ‘winner-takes-all’ or ‘winner-take-most’ outcomes and the high barriers to entry created by network effects. This Chapter particularly focused on two aspects of platform competition: inter-platform competition (competition between digital platforms for winning the market) and intra-platform competition (competition between participants of the same platform for the greater share of the platform’s profit).

It is particularly important to place financial markets in this broader context of platform competition. This Chapter sought to link current tendencies in financial markets with the conceptual understanding of how competition works in platform markets. This is justified because financial markets are currently undergoing a transition from a product to a platform business model. Emergence of new, tech-savvy competitors, and the coalescence of finance and technology keeps pushing the boundaries of financial industry and poses new challenges to regulators and competition authorities.

This Chapter provided a very detailed analysis of the new competitors, such as Fintech and Big Tech companies, which form the ‘competition triad’ together with traditional banks. In particular, it deconstructed the Fintech and Big Tech business models, the way they operate and gain profit, the efficiencies they seek to provide and their competition strategies in gaining the share of financial markets. This analysis created a solid basis for examining the central question of this thesis, namely: what is the rationale for introducing access regulations (such as PSD2 and its like) in payment markets? What effect do they have on inter-platform and intra-platform competition? How do they change the competitive dynamics in the industry from the viewpoint of the competition triad described above (big banks, Fintech and Big Tech)? This provides the ground for Chapter 4, which deals with policy recommendations and seeks to answer how Open Banking regulation can be improved to strike the balance between promoting intra-platform and protecting inter-platform competition.

The digital economy runs on a large amount of consumer data. This data fuels learning effects and allows the companies holding it to target consumers in a very personalised, granular way to increase

their product sales. There are many debates about the importance of data in digital markets and its role as a significant barrier to entry. Chapter 3 will explore how regulators sought to ensure that emerging competitors had access to the data in financial markets to compete on a par with traditional banks. It will analyse Open Banking regulation introduced in response to this data challenge and its long-term effects on competition.

Chapter 3 Data Sharing and Open Banking

Finance is traditionally a data-rich industry. Banks hold large repositories of data about their client current accounts, borrowing, debit and credit card payments etc. However, raw data is very different from processed, structured information. Information is to raw data what petrol is to oil. Raw data is useless until refined and turned into information, which then fuels business decisions. The digital transformation has brought the collection and use of the data to the next level, as data and information have become the very essence of many companies' business models.

This Chapter will explore how data becomes an important source of market power and creates entry barriers in the financial industry. It will deal with the main challenge posed by data, namely: that banks have collected a lot of customer data, but often lag in terms of analysing it and making useful inferences which add value for customers. On the other hand, Fintech companies are much savvier in using the data to offer new products to customers, but they do not have access to as much data as banks.

This Chapter will proceed as follows. The first section will explore when and how data can become a competitive advantage in financial markets. The second section will examine the emergence of Open Banking as a data-driven ecosystem that enables free sharing of banking data through open application programming interfaces with third party providers. It will discuss the variety of approaches to Open Banking across different jurisdictions and will focus specifically on the EU Second Payment Services Directive and Open Banking regulation in the UK. The third section will analyse how Open Banking regulation affects both levels of platform competition (inter-platform and intra-platform) by using the analytical framework discussed in Chapter 2. It is important to consider the implications of access to data for all participants of the financial ecosystem. Therefore, third Section will tackle the question whether Open Banking regulation favours Big Tech companies asymmetrically. This Chapter will conclude with an analysis of how Open Banking affects customers, namely: whether it gives them more control over their data or poses additional challenges in terms of the data protection.

3.1 Data as a Competitive Advantage

There is an ongoing academic debate on whether data can be a source of market power in the digital markets.³⁰⁷ Accumulation of a large amount of individual-level data over a long period gives a strong competitive advantage to data aggregators.³⁰⁸ Countries such as Germany have recognised that Big Data can be a source of market power.³⁰⁹ In financial markets, the data bears particular importance for the ability to compete. The European Parliament's study of Fintech therefore indicates that 'control over unique data troves, resulting from the combination of datasets from multiple sources, should also be one of the main factors considered when assessing potentially anticompetitive behaviours'.³¹⁰

Data alone does not constitute an entry barrier but should be assessed on a case-by-case basis depending on the form of data, level of data and its use.³¹¹ Not all data carries the same value for competition in financial markets. Data is heterogeneous and its potential utility depends on its characteristics.

First, data can be personal and non-personal.³¹² Personal data is any information related to an identified or identifiable natural person.³¹³ This includes the person's name, identification number, location data and online identifiers such as IP address or cookie identifier. Based on this criterion, banking transactional data is personal information. Non-personal data relates to any other data that could not be traced back to individuals. Any anonymised or aggregated data (when it cannot be effectively disaggregated), as well as machine-generated data fall outside the definition of personal data.³¹⁴ Personal data fall under a specific legal framework in many countries, including in

³⁰⁷ Kerber (n 3); For the opposite view, see Colangelo and Maggiolino (n 3).

³⁰⁸ See Crémer, de Montjoye, and Schweitzer (n 288) 29.

³⁰⁹ Thus, the German Competition Act states that the access to data relevant for competition shall be considered in the case of multi-sided markets and networks in assessing the undertaking's market power (para 3(a) s18 'Market Dominance') <https://www.gesetze-im-internet.de/englisch_gwb/englisch_gwb.html> accessed 15 May 2019.

³¹⁰ Carmona and others (n 97) 88.

³¹¹ See Crémer, de Montjoye, and Schweitzer (n 288) 8-10, 76, 105; Heike Schweitzer, Justus Haucap, Wolfgang Kerber, Robert Welker, (n 56), 74; Catherine Tucker, 'Digital Data, Platforms and the Usual [Antitrust] Suspects: Network Effects, Switching Costs, Essential Facility' (2019) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3326385> accessed 05 March 2020.

³¹² Crémer, de Montjoye, and Schweitzer (n 288) 26.

³¹³ Article 4 of the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation 'GDPR') OJ L 119, 4.5.2016, 1.

³¹⁴ See Crémer, de Montjoye, and Schweitzer (n 288) 26.

the EU jurisdiction, which grants certain rights of control to individuals, including the right to port information from one platform to another.³¹⁵ Such a legal framework can interact with competition law, because, first, data holders have a legitimate ground to restrict access to personal data collected by them based on data protection concerns. This might benefit incumbents as opposed to new entrants.³¹⁶ Second, competition authorities should take data protection legislation into account when mandating access to personal data, e.g. by ensuring that such access is permissible on one of the grounds set out in Article 6 GDPR.³¹⁷

Second, data can be categorised as volunteered, observed and inferred.³¹⁸ Data is volunteered when it is intentionally contributed by the user of a product to the data processor.³¹⁹ For example, the personal data a customer provides when opening a bank account is volunteered. Observed data is captured automatically from a user's or a machine's activity in the digital space.³²⁰ Examples include Internet browsing preferences, location data from cell phones or telephone use behaviour. In the financial domain, transactional data is 'observed', because customers do not provide it intentionally, but generate it during their main activity (e.g. depositing funds and making payments). Finally, data is inferred when it is obtained by transforming in a non-trivial manner volunteered and/or observed data still related to an individual or a machine.³²¹ This includes the profiling of users or creating credit ratings. Inferred data is not just raw data, but *information*, meaning data which has undergone processes of refinement and systematisation.³²² Therefore, information is worth much more than raw data. According to the chief economist of Google, Hal Varian, we need to 'analyse [raw data] and process it to be able to come up with information, knowledge and understanding that helps you apply it to real-world problems'.³²³ From a competition perspective, volunteered data is less valuable than observed or inferred, because it is more easily reproducible. Users can (and indeed do – through multi-homing) volunteer their data to many competing providers. On the other hand, observed and inferred data is the result of continuous, long-term interactions between the user and the provider. This is why the most powerful platforms seek to retain users within their ecosystem as long as possible to amass their otherwise inimitable datasets comprised mostly of observed and inferred data.³²⁴

³¹⁵ See Article 20 of GDPR.

³¹⁶ See Catherine Tucker (n 311) 16; de la Mano and Padilla (n 1) 10.

³¹⁷ See Crémer, de Montjoye, and Schweitzer (n 288) 104.

³¹⁸ *ibid* 26.

³¹⁹ *ibid* 24.

³²⁰ *ibid*; World Economic Forum, 'Personal Data: The Emergence of a New Asset Class' (January 2011) 14 <http://www3.weforum.org/docs/WEF_ITTC_PersonalDataNewAsset_Report_2011.pdf> accessed 20 June 2019.

³²¹ *ibid*, 25.

³²² See the discussion on the data and competition at the OECD Conference, 'Competition and Digital Economy' (3 June 2019) <<https://oecd.streamakaci.com/ccde2019/>> accessed 10 June 2019.

³²³ Melbourne Business School Lecture, 'Hal Varian from Google: Like Oil, Data Must be Refined Before it's Valuable' (22 October 2018) <https://1.mbs.edu/news/hal-varian-from-google-like-oil-data-must-be-refi> accessed 19 June 2019.

³²⁴ For the criteria of a sustainable competitive advantage see Anja Lambrecht and Catherine E Tucker, 'Can big Data Protect a Firm From Competition?' (2017) Competition Policy International <<https://www.competitionpolicyinternational.com/wp-content/uploads/2017/01/CPI-Lambrecht-Tucker.pdf>> accessed 19 June 2019.

Information (refined data) is more valuable from the competition perspective than raw data.³²⁵ It is not the raw data, but the insights drawn from it which enable competitors to deliver better services to users and thus gain a competitive advantage.³²⁶ Moreover, while raw data is often widely available, the insights drawn from it are unique to each company. These insights provide a lot of space for improvement and experimentation, as long as the company deploys cutting-edge analytical tools. Recent studies have shown that the accuracy of predictions and personalisation depends not on the amount of raw data collected, but on the application of the right algorithm to the relevant data.³²⁷ Raw data is reproducible, while insights from it are unique. Let us consider an example from the finance domain. Customer transactions generate raw data. The categorisation of these transactions, insights into users' spending patterns and predictions about the users' preferences are the refined information. Refined information gives the data aggregator a true competitive edge, but to obtain it the data aggregator needs both access to the raw data and powerful analytical tools.

The data sources and level of refinement are not the only relevant matters for competition. The volume of the data is also very important. A University of Chicago study observes that digital companies can obtain best value from datasets which are large in two dimensions: datasets that contain 'many people's data and also have a great deal of information about each person in the dataset'.³²⁸ This combination of a large population of data subjects along with detailed insights into each subject's behavioural patterns gives data owners the highest degree of power. Banks own vast amounts of data on their customers' transaction histories, a large population dataset, but specific in nature. When combined with more personalised data on the same customers collected by third-party providers (e.g. customers' online shopping patterns), these data can give the data owner a significant competitive advantage in the financial markets and beyond. This is why the cross-use of data, i.e. combination of user data collected in different markets, is such a powerful instrument for consolidating a dominant position, as will be further discussed in Sections 3.3.4 and 4.3.

The data can be a source of market power for several reasons. First, data provides an ability to predict customer preferences, profitability and risk more accurately and, as a result, offer more targeted services to customers.³²⁹ When certain companies are able to better predict customer

³²⁵ See the opinion of Hal Varian at the OECD Conference (n 438).

³²⁶ Crémer, de Montjoye, and Schweitzer (n 288) 27.

³²⁷ Lambrecht and Tucker (n 324) 6-7.

³²⁸ Stigler Committee Final Report (n 2) 23.

³²⁹ Carmona and others (n 97) 87.

preferences and target them with better offers, they gain a significant competitive advantage. Second, collecting detailed data about customers helps exploit user biases through manipulative practices such as framing, nudging, using default options to steer customer decisions etc.³³⁰ Third, Big Data enable new forms of economies of scope. Firms can reuse the same dataset to offer different products to customers and thus reduce the cost of production and marketing of these products.³³¹ Finally data sometimes is an essential input for providing new products and services. Examples include products based on AI algorithms that need large datasets to be trained or IoT that need collection of real-time data.³³² In all these cases, privileged access to data can increase the market power of the data holder. The latter can use its power to exclude potential competitors, impose unfair terms of data access or to tie and bundle services.³³³

To sum up, data, especially Big Data, plays a very important role in the digital economy. In fact, data can be a source of market power in the digital markets, as it increases a company's ability to provide targeted services, exploit consumer biases and benefit from new forms of economies of scope. Data can also serve as an essential input for downstream markets (e.g. AI products or IoT). This Section has explored what types of data are the most important for competition. The latter include refined, as opposed to raw, data and large population data combined with detailed personal profiles. The above analysis suggests that access to customer data coupled with the ability to extract valuable insights from these data will largely define the outcome of the fight for an architectural advantage in financial markets. Firms that control the access to important data, or better, to the most insightful combination of the data, will likely become architects of the emerging ecosystems and dominate the markets.

The next Section will explore how the growing importance of customer data in financial markets spurred the phenomenon called Open Banking.

³³⁰ Stigler Committee Final Report (n 2) 30.

³³¹ *ibid* 37: 'Firms may also be able to leverage the data, or the insights due to machine learning, that they receive from an existing service to enter into an adjacent market with a higher quality product, demonstrating a novel form of economies of scope'.

³³² *ibid*.

³³³ *ibid*. See also See also Nicholas Economides, 'Bundling and Tying' (17 October 2014) NET Institute Working Paper No 14-22 <<https://ssrn.com/abstract=2511508>> accessed 19 June 2019.

3.2 Access to Data in Finance – Open Banking

The digitalisation of finance has led to the emergence of new business models hinged on opening the incumbents' data up to third parties and letting innovative products and services emerge from this flow of information. These initiatives went even further. Instead of just opening up access to data, they aim at full data and protocol interoperability between the various systems. Once implemented fully, they will allow customers to move their data around easily without sticking to their banks' legacy interfaces. In this rosy scenario, customers, rather than firms, stand at the cutting edge of the technological advances, benefitting from the most powerful insights and value from their data.

These ideas have driven regulators towards shaping a legal framework to support the emergence of this new business model – called 'Open Banking'.

3.2.1 Background to Open Banking

The datafication of many traditional industries has affected financial sector. Finance is a data-rich industry. Financial institutions accumulate and use data in many ways, including for risk analytics, fraud detection, algorithmic trading, regulatory compliance and so on.³³⁴ In the field of risk management and analysis, financial institutions have been the true pioneers of using Big Data. This is much less the case in the field of customer analytics. In fact, the rich customer data traditionally held by banks has always been and still is very siloed, confined to a single financial institution, even a single division of one. This has been very much driven by the product-oriented business model and enhanced security concerns.³³⁵ As a result, financial institutions have not obtained the full advantage of technological developments and left gaps in serving customers that new competitors started to fill. With the advent of Fintech competitors offering products based on the savvier use of customer data, incumbent financial institutions have started to rethink the use of data within their organisations.³³⁶

³³⁴ DataFlair, '7 Breathtaking Applications of Data Science in Finance' (*DataFlair*, 28 May 2019) <<https://data-flair.training/blogs/data-science-in-finance/>> accessed 20 October 2019.

³³⁵ Joris Lochy, 'Big Data in the Financial Services Industry - From Data to Insights' (*Finextra*, 09 September 2019) <<https://www.finextra.com/blogposting/17847/big-data-in-the-financial-services-industry---from-data-to-insights>>; see also 'World Fintech Report 2018' (n 5) 17.

³³⁶ 'World Fintech Report 2018' (n 5) 16.

This is how the concept of 'Open Banking' has emerged as opposed to the closed, vertical model of traditional banking. Open Banking in a narrow sense refers to 'a collaborative model in which banking data is shared through open application programming interfaces (APIs) between two or more unaffiliated parties to deliver enhanced capabilities to the marketplace'.³³⁷ However, this thesis shares the view that Open Banking cannot be confined to the use of a specific technology (such as APIs). It is based on a broader principle of combining and reconstructing various financial services through a common customer interface. Anna Omarini links the idea of Open Banking to the concept of Open Innovation that enables 'the free flow of inside and outside ideas to develop products and services'.³³⁸ The Open Banking approach, if implemented in full, results in the abandonment of the pipeline, vertical paradigm and creation of thriving open ecosystems based on a modular structure.³³⁹ As Tom Blomfield, the founder of Monzo bank pointed out: 'The idea behind Open Banking is to let transaction data out into the wild in the hope that startups will turn it into innovative products [...] or even a new type of bank'.³⁴⁰ Open Banking is an innovative model not only from a competition perspective but also from customer engagement perspective.³⁴¹ It is 'the first significant attempt to use technology to rebalance markets in favour of consumers',³⁴² because consumers start perceive the data as their own, rather than belonging to banks, which enables easy switching between various financial services providers.

The technology of APIs is central to understanding Open Banking. An Application Programming Interface (API) is a method of standardised data exchange which allows easy and seamless communications between various components and devices.³⁴³ Its objective is to allow other developers to build on top of someone else's software. APIs have been widely used in information and communications technology to enable data exchange within organisations and with external developers in a 'scalable, reusable and secure' manner.³⁴⁴ This technology specifically targets breaking silos between data stored in various systems. APIs can be closed (internal) and open

³³⁷ L Brodsky and L Oakes, 'Data Sharing and Open Banking' (July 2017) 2 <<https://www.mckinsey.com/industries/financial-services/our-insights/data-sharing-and-open-banking>> accessed 5 April 2019; See also Anshu Premchand and Anurag Choudhry, 'Open Banking & APIs for Transformation in Banking' (2018) International Conference on Communication, Computing and Internet of Things (IC3IoT) 25.

³³⁸ Omarini (n 143) 28.

³³⁹ *ibid* 23.

³⁴⁰ Rowland Manthorpe, 'To Change How You Use Money, Open Banking Must Break Banks' *Wired* (16 October 2017) <<https://www.wired.co.uk/article/psd2-future-of-banking>> accessed 20 October 2019.

³⁴¹ Premchand and Choudhry (n 337) 25.

³⁴² ODI and Fingleton Report, 'Open Banking, Preparing for Lift Off' (July 2019) 11 <<https://www.openbanking.org.uk/wp-content/uploads/open-banking-report-150719.pdf>> accessed 05 May 2020.

³⁴³ *ibid*.

³⁴⁴ Euro Banking Association, 'Open Banking: Advancing Customer-Centricity, Analysis and Overview' (Open Banking Working Group, March 2017) 20 <https://www.abe-eba.eu/media/azure/production/1355/eba_open_banking_advancing_customer-centricity_march_2017.pdf> accessed 18 October 2019.

(external), with varying degrees of openness from the partnership or membership model to being completely public.³⁴⁵

In finance, the concept of APIs emerged in the early 2010s, when banks used internal APIs to ensure smooth communication between different elements of the banks' infrastructure.³⁴⁶ Later on, some banks (for example BBVA) developed an Open Banking initiative that offered developers and third party providers an opportunity to plug into the APIs of the bank to build various value-adding services.³⁴⁷ Many banks, for instance, JPMorgan Chase, have developed partnerships with the selected Fintech companies that allowed the latter to access the bank's customer data through API.³⁴⁸ The vexed point, however, was granting access to customer accounts through external APIs to all third-party providers, not just to some selected business partners.

Access to customer accounts is important from two perspectives. First, front-end Fintech providers need access to customer data on the consumer's transaction history. As discussed in Section 3.1, this is highly individualised, observed data on the customer's expenditure, which would enable Fintech companies to provide their clients with a range of innovative financial services, such as an overview of their financial situation, aggregation of banking products³⁴⁹ and personalised financial advice. Second, Fintech companies need technical access to customer accounts to allow them to initiate payments from these accounts as though the payment requests came directly from customers.³⁵⁰ The access to customer accounts through APIs has proven to be crucial for Fintech companies to enter financial markets, as they struggled to build their own end-to-end systems .

Without any regulation in place, banks would provide access to the account information and technical access for payment initiation at their discretion, which would require contractual arrangements between a bank and a service provider.³⁵¹ This means building vertical relationships with banks. In this case the service provider 'buys' access to customer accounts from a bank which plays the role of 'gatekeeper' (see Figure 4).³⁵²

³⁴⁵ Euro Banking Association, 'Understanding the business relevance of Open APIs and Open Banking for banks: Information Paper' (May 2016) 8 <<https://www.abe-eba.eu/media/azure/production/1522/business-relevance-of-open-apis-and-open-banking-for-banks.pdf>> accessed 18 October 2019.

³⁴⁶ Omarini (n 143) 32.

³⁴⁷ *ibid* 31.

³⁴⁸ Castro and Steinberg (n 9).

³⁴⁹ Aggregation enables users to aggregate and compare all account information from different providers on a single platform.

³⁵⁰ See Colangelo and Borgogno (n 9) 8-9.

³⁵¹ Castro and Steinberg (n 9).

³⁵² Brodsky and Oakes (n 337) 4.

Three types of APIs

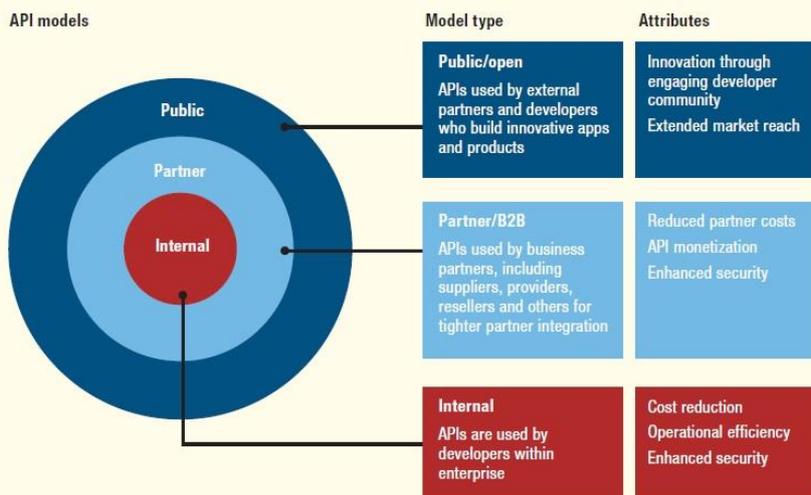


Figure 4: Types of APIs

This approach is based on the bank's goodwill in opening its systems to Fintech providers and on the bank's setting the rules and shaping the structure of the nascent ecosystem. However, contractual arrangements will work without friction only when 'the holder of data has an economic interest in sharing the data with others and where the bargaining power of the contracting parties is equally strong'.³⁵³ This is not the case for banks and Fintech companies, where banks possess superior bargaining power with regard to Fintech start-ups and often perceive the latter as a threat to their established business models.

Most banks were not very keen on opening their customer accounts information to Fintech companies. Many have engaged in various forms of anticompetitive foreclosure of Fintech companies, mostly front-end service providers dependent on having access to the banks' customer accounts.³⁵⁴ In fact, there were instances of banks refusing or limiting third parties' access to customer accounts due to the fear that Fintech companies would thus disrupt their relationships with customers and draw away their profit.³⁵⁵ Accordingly, in 2015 the German Competition Authority (*Bundeskartellamt*) found that the restriction imposed by the German Banking Association on the initiation of payment services by third-party providers was illegal.³⁵⁶ Furthermore, in 2016 the European Commission raided some banks in Poland and the Netherlands

³⁵³ Josef Drexl, 'Designing Competitive Markets for Industrial Data – Between Propertisation and Access' (2017) 8 *Journal of Intellectual Property, Information Technology and Electronic Commerce Law* 257, 278.

³⁵⁴ European Commission, Commission staff working document: Impact Assessment accompanying the Proposal for a directive on payment service in the internal market, SWD (2013) 288 <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD:2013:0288:FIN>> accessed 06 May 2020.

³⁵⁵ Brodsky and Oakes (n 337).

³⁵⁶ *Bundeskartellamt*, 'Restriction of online payment services by German banking industry in violation of competition law' <https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/05_07_2016_Sofort%C3%BCberweisung.html> accessed 08 May 2019>.

to investigate the alleged anti-competitive practices preventing Fintech providers from ‘gaining legitimate access to customer information’.³⁵⁷ There were instances of US financial institutions limiting third parties’ access to bank customer data.³⁵⁸ Another array of cases on refusal of access have arisen in relation to cryptocurrencies. Several banks in Latin America leveraged their position as important gateways for customer interactions and shut down cryptocurrency start-ups’ access to the banking system.³⁵⁹ In these cases the courts admitted that there was potentially a competition issue in limiting the access of cryptocurrency exchanges to the banking system, as this prevented them from entering the market. The courts thus reconfirmed the ‘gatekeeper’ position of traditional banks in relation to Fintech start-ups.

Even when a bank does provide access to its customer accounts, it possesses superior bargaining power against Fintech companies.³⁶⁰ The bank can impose unfair terms of access, for example, large fees, bundling the access with other services or imposing a requirement to steer the Fintech company’s customers to the bank’s own products etc. Moreover, this model is not scalable in large markets (such as the US),³⁶¹ as the financial services provider needs to build partnerships with all the major financial institutions to deliver competitive services to its customers. This prevents efficient scaling up of non-bank competitors. In a nutshell, denying Fintech companies’ access to customer accounts increases the probability of exclusionary conduct on the part of banks and gives them the upper hand in the fight for architectural advantage.³⁶² As the COO of Fidor Bank put it: ‘[B]ank accounts are the last mile. Finance has had a hold on that, and will continue to leverage it’.³⁶³

³⁵⁷ European Commission Press Release, ‘Antitrust: Commission confirms unannounced inspections concerning access to bank account information by competing services’ (6 October 2017) <http://europa.eu/rapid/press-release_MEMO-17-3761_en.htm> accessed 20 May 2019.

³⁵⁸ Castro and Steinberg (n 9) 9.

³⁵⁹ Competition Policy International, ‘Chile: Regulator Orders Banks to Keep Crypto Accounts’ (6 January 2019) <<https://www.competitionpolicyinternational.com/chile-regulator-orders-banks-to-keep-crypto-accounts/>> accessed 20 January 2019; CrowdfundInsider, ‘Adjunct to Its Investigation of Banks, Brazil Antitrust Body Orders Crypto Exchanges to Answer Survey or Face Large Fines’ (3 October 2018) <<https://www.crowdfundinsider.com/2018/10/139736-adjunct-to-its-investigation-of-banks-brazil-antitrust-body-orders-crypto-exchanges-to-answer-survey-or-face-large-fines/>> accessed 15 May 2019.

³⁶⁰ See Colangelo and Borgogno (n 9) 15. See also Ioannis Lianos and Clausio Lombardi, ‘Superior Bargaining Power and the Global Food Value Chain: The Wuthering Heights of Holistic Competition Law?’ *Concurrences* No 1-2016 22; International Competition Network, ‘Report on Abuse of Superior Bargaining Position’ (April 2008) <<https://centrocedec.files.wordpress.com/2015/07/abuse-of-superior-bargaining-position-2008.pdf>> accessed 25 March 2020.

³⁶¹ Brodsky and Oakes (n 337) 5.

³⁶² Carmona and others (n 97) 14.

³⁶³ Daniel Cawrey, ‘Fidor Exec: Banks Can’t Avoid Competition from Cryptocurrencies’ (5 June 2014) <<https://www.coindesk.com/fidor-banks-cant-avoid-competition-cryptocurrencies>> accessed 02 April 2019.

To summarise, though Open Banking has emerged as an attractive option to move to more innovative, customer-centred ecosystems in the financial sector, the fear of disruption by Fintech has discouraged incumbent financial institutions from implementing the Open Banking model at any significant scale. The following section will discuss the recent regulatory initiatives intended to facilitate the emergence of Open Banking.

3.2.2 The EU Second Payment Services Directive

The second EU Payment Services Directive ('PSD2') was approved by the European parliament in 2015 and entered into force on 13 January 2018.³⁶⁴ The PSD2 aims at harmonizing payment regulations and consumer protection across the EU.³⁶⁵ The previous Payments Services Directive enacted in 2007³⁶⁶ was the first legal framework for the retail payments in the common European market. It focused on promoting competition by establishing a mechanism for access to the technical infrastructure of payment systems based on 'the non-discriminatory treatment of authorised payment institutions'.³⁶⁷ It was clearly aimed to pave the way for a Single Euro Payments Area (SEPA),³⁶⁸ and was thus quite limited in scope. For example, it covered only a few categories of payment services providers and explicitly excluded some innovative entrants, such as end-to-end payment systems (e.g. Paypal), mobile wallets and digital platforms that handle their users' payments.³⁶⁹ It set out generic obligations for the Member States to ensure that rules of access to payment systems for payment services providers are 'objective, non-discriminatory and proportionate'.³⁷⁰

However, due to the fast-paced digital transformation, the Payments Services Directive quickly became outdated.³⁷¹ The European Commission noted that 'since the adoption of PSD1, new services emerged in the area of internet payments', provided by third-party providers (TPP).³⁷² This prompted revision of the scope of the PSD to cover new types of market players, those we referred to as Fintech in Chapter 2.

PSD2 introduced two new types of payment services: Payment Initiation Service and Account Information Service.³⁷³ **Payment Initiation Service** refers to a 'service to initiate a payment order at the request of the payment service user with respect to a payment account held at another

³⁶⁴ Directive 2015/2366/EU (n 7).

³⁶⁵ Colangelo and Borgogno (n 9) 7.

³⁶⁶ Directive 2007/64/EC on payment services in the internal market (2007) OJ L319/1 (PSD).

³⁶⁷ *ibid* Recital 16.

³⁶⁸ European Commission Fact Sheet, 'Payment Services Directive: frequently asked questions' (12 January 2018) <https://europa.eu/rapid/press-release_MEMO-15-5793_en> accessed 01 October 2019.

³⁶⁹ PSD, Article 1, Recital 6.

³⁷⁰ PSD, Article 28 (1).

³⁷¹ Colangelo and Borgogno (n 9) 12-13.

³⁷² European Commission Fact Sheet (n 368).

³⁷³ PSD2.

payment service provider'.³⁷⁴ In essence, the user (payer) gives the third party – a Payment Initiation Service Provider ('PISP') – an instruction to initiate a payment from an account in the payer's bank. The PISP communicates this to the payer's bank and the payer's bank transfers funds to the payee's bank account. Importantly, at no point in this process does the PISP into possession of funds. The bank ensures the PISP's access to the payer's bank account, without emulating the payer's behaviour (e.g. by providing the payer's credentials).³⁷⁵

Account Information Service refers to an 'online service to provide consolidated information on one or more payment accounts held by the payment service user with either another payment service provider or with more than one payment service provider'.³⁷⁶ In other words, an Account Information Service Provider ('AISP') receives a request from a user and requests overview information from all the banks with which the user holds payment accounts. The AISP then consolidates this information and makes it available to the user. Again, according to PSD2, AISPs should receive information from banks directly, without emulating the payer's behaviour (e.g. by providing the payer's credentials).³⁷⁷ In both cases, the user logs in and uses the PISP's or AISP's software, not the software of the institution that holds the user's payment account.

According to Articles 66 and 67 of PSD2, the Member States should adopt legislation that obliges payment institutions holding users' accounts to communicate securely with PISPs and AISPs to enable the provision of payment initiation and account information services.³⁷⁸ PISPs and AISPs need a user's explicit consent to provide their respective services.³⁷⁹ Service provision should not be dependent on the existence of contractual obligations between the PISP or AISP and the bank.³⁸⁰ PSD2 states that the European Banking Authority (EBA) should develop regulatory technical standards specifying 'the requirements for common and secure open standards of communication' for the purpose of delivering the payment initiation and account information services.³⁸¹ Banks should ensure neutrality and non-discrimination with regard to payment orders and data requests received from PISPs and AISPs.³⁸² In addition, PSD2 delineates the responsibility for unauthorised

³⁷⁴ PSD2, Article 4 (15).

³⁷⁵ For a detailed explanation see, for instance PwC, 'PSD2 in a Nutshell 5: Roles for Banks and Payment Operators. How the Scenario Might Evolve in the Future' 3 <<https://www.pwc.com/it/en/industries/banking/assets/docs/psd2-nutshell-n05.pdf>> accessed 17 October 2019.

³⁷⁶ PSD2, Article 4 (16).

³⁷⁷ PSD2 in a nutshell 5 (n 375) 3.

³⁷⁸ PSD2, Article 66 (1), (2) and (4); Article 67 (1) and (3).

³⁷⁹ PSD2, Article 66 (2) and Article 67 (2a).

³⁸⁰ PSD2, Article 66 (5) and Article 67 (4).

³⁸¹ PSD2, point (d) of Article 98 (1).

³⁸² PSD2, point (c) of Article 66 (4) and point (b) of Article 67 (3).

payment transactions between banks and PISPs, with banks bearing principal liability for refunding the contested amount to the user's account.³⁸³

This legal framework significantly redesigns the payment industry. First, it frees third party providers from the need to negotiate and enter into contractual relations with banks to receive access to user accounts. *Prima facie*, it reduces the superior bargaining power of banks vis-à-vis third party providers, allows TPPs to receive access on fair and non-discriminatory terms. Second, it fills the gaps in consumer protection, personal data protection and security by clearly defining procedures, obligations and guarantees that should be put in place. It thus provides stimuli for the broader adoption of Fintech services by users. Finally, it drives the industry towards the Open Banking model with a potential 'platform' ecosystem structure, where users connect to multiple services and providers from a single interface and begin to look at the world through the apps lens.

Fintech companies welcomed PSD2 as it promised to deliver all kinds of benefits, such as 'more choice and more transparency of payment services, while strengthening the trust of customers'.³⁸⁴ Banks expressed much less appetite for adopting the Open Banking approach. For various reasons, including the difficulty in replacing legacy technology to permit open API integration, the implementation of PSD2 took longer than expected.³⁸⁵ September 2019 was the deadline for the implementation of PSD2 as banks were expected to put in place dedicated APIs compliant with the European Banking Authority ('EBA')'s Regulatory Technical Standards.³⁸⁶ However, due to the banks' failure to comply with the strong customer authentication requirement for initiating electronic payments, the EBA has pushed this deadline to 31 December 2020.³⁸⁷

Importantly, customers showed little interest in the PSD2 initiative. According to some polls, one fourth of customers had not even heard of it, whilst most of them are reluctant to grant third-party providers access to their banking data due to security concerns and fears that their data would be shared or sold to other companies.³⁸⁸ This indicates that customers do not see immediate value from allowing TPPs access to their bank data³⁸⁹ and are generally wary of sharing their data. In the absence of a clear and tangible value proposition, customers might perceive PISPs and AISPs as yet another layer in the long chain of the data extraction mechanism.

³⁸³ PSD2, Article 73 (2).

³⁸⁴ PSD2, Preamble (6).

³⁸⁵ Paysafe, 'Are Banks Delivering the Open Banking we Were Promised?' <<https://www.paysafe.com/blog/are-banks-delivering-the-open-banking-we-were-promised/>>; Gilly Write, 'Open Banking Stealth Debut' (2018) 32 Global Finance.

³⁸⁶ EBA, Technical Standards on the EBA Register under PSD2 (29 November 2018) <<https://eba.europa.eu/regulation-and-policy/payment-services-and-electronic-money/technical-standards-on-the-eba-register-under-psd2>> accessed 23 May 2019.

³⁸⁷ European Banking Authority Press Release, 'EBA publishes Opinion on the deadline and process for completing the migration to strong customer authentication (SCA) for e-commerce card-based payment transactions' (16 October 2019) <<https://eba.europa.eu/eba-publishes-opinion-on-the-deadline-and-process-for-completing-the-migration-to-strong-customer-authentication-sca-for-e-commerce-card-based-payment>> accessed 31 October 2019.

³⁸⁸ Will North, 'Open Season: Almost half of all financial services firms have already adopted Open Banking but to what end?' (September 2019) *Credit Management* 54, 55.

³⁸⁹ See Write (n 385).

PSD2 is still in the experimental phase. The outcomes of the PSD2 implementation will therefore influence the broader regulatory policy in the digital markets. If these outcomes are assessed as positive, this framework will likely be extended to other areas. This is why an in-depth analysis of how PSD2 affects competition in the payment markets is important. Before moving to it, it is instructive to have a look at how other jurisdictions deal with the Open Banking.

3.2.3 The Open Banking regulation in the UK

If PSD2 in the EU was born as a regulatory initiative, Open Banking regulation in the UK followed the competition authority's investigation into retail banking in 2016.³⁹⁰ The Competition and Markets Authority ('CMA') found that the competitive situation in the retail banking market (including personal current account and small and medium enterprise (SME) banking) was quite precarious. For example, the CMA established that 4 major banks had large and stable market shares (~80%),³⁹¹ current account switching rates between providers was very low (~3%),³⁹² SMEs were locked within their banks etc.³⁹³ In sum, the incumbent banks 'd[id] not have to compete hard enough to win and retain customers' compared to new entrants.³⁹⁴ As a remedy, CMA required the nine biggest UK banks ('CMA9')³⁹⁵ to grant licensed start-ups direct access to their personal and small business account customers' banking data.³⁹⁶ Like PSD2 in Europe, Open Banking regulation in the UK allows third party providers to gain access to banks' APIs upon one-off authorisation by the national regulator, without any contractual agreements and lengthy negotiations.³⁹⁷ Unlike PSD2, the UK Open Banking remedies had an initially strong focus on APIs as the common technological standard.

³⁹⁰ Competition and Markets Authority, 'CMA, Retail Banking Market Investigation: Final Report' (2016) <<https://assets.publishing.service.gov.uk/media/57ac9667e5274a0f6c00007a/retail-banking-market-investigation-full-final-report.pdf>> accessed 20 May 2019.

³⁹¹ Competition and Markets Authority, 'Retail Banking Market Investigation: Summary of the Final Report' (2016) paras 95, 104, 148.

³⁹² *ibid* para 68.

³⁹³ *ibid* para 106.

³⁹⁴ See Competition and Markets Authority Press Release 'CMA Paves the Way for Open Banking Revolution' (9 August 2016) <<https://www.gov.uk/government/news/cma-paves-the-way-for-open-banking-revolution>> accessed 02 April 2019.

³⁹⁵ HSBC, Barclays, RBS, Santander, Bank of Ireland, Allied Irish Bank, Danske Bank, Lloyds and Nationwide.

³⁹⁶ Competition and Markets Authority, 'Retail Banking Market Investigation Order' (2017) <<https://www.gov.uk/government/publications/retail-banking-market-investigation-order-2017>> accessed 01 September 2019.

³⁹⁷ Hakan Eroglu, 'The art of Open Banking regulation' (*Finextra Blog*, 28 August 2018)

<<https://www.finextra.com/blogposting/15715/the-art-of-open-banking-regulation>> accessed 20 October 2019.

Open Banking in the UK was launched as a competition law remedy aimed at correcting distortions of competition in the payment markets. However, due to its behavioural nature, it required regulation for the implementation and ongoing monitoring. The CMA established the Open Banking Implementation Entity ('**OBIE**') to implement and monitoring the Open Banking directives. The OBIE is led by an independent expert (the Implementation Trustee).³⁹⁸ The CMA has been constantly monitoring the process of implementation of Open Banking by issuing mandatory directives. To summarise, Open Banking regulation in the UK seems a more flexible response to market conditions (in the spirit of minimum viable regulations) than PSD2. However, it has a stronger focus on the unified technical standard (API) than the latter.

As of September 2019, one year and nine months from the launch of Open Banking, it featured 116 regulated third-party providers, including 53 providers with at least one proposition live with customers.³⁹⁹ In fact, UK Open Banking has been the first operational Open Banking project implemented through the government initiative.⁴⁰⁰ But despite these remarkable achievements,⁴⁰¹ consumers continue to show little awareness of how Open Banking can benefit them.⁴⁰²

³⁹⁸ Summary of the Final Report (n 391) para 169.

³⁹⁹ Open Banking, 'Open Banking: Highlights August-September 2019' <<https://www.openbanking.org.uk/about-us/news/open-banking-august-september-highlights/>> accessed 21 October 2019.

⁴⁰⁰ Open Banking, Press Release 'One Year of Open Banking' <https://www.openbanking.org.uk/about-us/news-release-archive/one-year-of-open-banking/> accessed 21 October 2019.

⁴⁰¹ According to North (n 388): 'a near unanimous 99 percent of financial services organisations polled expect Open Banking to benefit their business', mostly through improving customer experience and keeping pace with the competitive landscape.

⁴⁰² North (n 388) 54.

Box 5. Open Banking and Competition: CMA Assessment

In 2018, the Competition and Markets Authority officially assessed the impact of Open Banking regulation on competition in its provisional report on the merger between *Experian and Credit Laser Holdings Limited* (*'Experian Merger'*). Both companies are active and compete in the market for credit-score checking in the UK. The CMA established that the *Experian Merger* could result in a substantial lessening of competition (CMA, 'Anticipated acquisition by Experian plc of Credit Laser Holdings Limited – Provisional Findings Report' dated 28 November 2018). The UK competition authority proceeded to in-depth Phase II investigation, which resulted in the companies abandoning the proposed transaction in February 2019.

The parties to the *Experian Merger* referred to the Open Banking regulation to prove that the industry was in a state of flux and therefore that the static approach to merger assessment was not appropriate. They stated that 'regulatory developments (the GDPR, PSD2 and the Open Banking initiative) are already facilitating access to rich sets of consumer data' and enable new competitors to emerge, lowering entry barriers and mitigating the possibility of lessening competition as a result of the *Experian Merger* (paras 6.5 – 6.6; 13.2 of the Report). However, CMA refused to include the Open Banking in the counterfactual analysis (para 6.14 of the Report). CMA concluded that it would be difficult to predict how the Open Banking will affect the long-term development of the market. CMA found that there was a slow customer take-up and the uncertainties remaining 'because the value of additional data available through Open Banking and PSD2 is hard to estimate' (para 6.10 of the Report). In particular, it pointed to certain asymmetries between incumbents and the new competitors: 'it may be that larger incumbents, i.e. established firms, find it easier than new entrants to gain from increased access to data' (ibid). The CMA also concluded that despite the Open Banking regulation in place, the barriers to enter the market and effectively scale up to compete with incumbents were still very high, mostly due to significant marketing costs and costs of acquiring new customers (paras 13.48, 13.57-13.60 of the Report). This analysis apparently contradicts the competition authority's own high expectations for the implementation of Open Banking in the UK, or likely reveals the high level of uncertainty inherent in implementation of Open Banking.

With all that, the UK competition authority and the OBIE assess the results of the Open Banking initiative as positive. They promote plans to extend Open Banking to the whole finance and other industries. Currently, Open Banking regulation is limited only to personal and business current

accounts, but the UK Financial Conduct Authority is seeking to expand Open Banking to the whole financial industry including cash saving accounts, mortgages etc. (**'Open Finance'**).⁴⁰³ The CMA explores the potential of extending the perimeter of the Open Banking regulation to other sectors, such as energy, telecoms, pensions and insurance.⁴⁰⁴ The main focus remains on efficiency, immediate consumer benefits and increasing the number of undertakings entering the market following the Open Banking initiative.

3.2.4 Other Jurisdictions

Open Banking, as a phenomenon, is not unique to Europe and the UK. A number of other jurisdictions have enacted similar access regulations or are actively exploring such opportunities. Government approaches to Open Banking can be broadly classified as market-driven and regulatory-driven.⁴⁰⁵

In the countries with a **market-driven approach**, no mandatory regulations are in place, but regulators can adopt measures to encourage data sharing frameworks. Japan, Singapore and India follow this approach. For instance, **Japan** has implemented 'soft' Open Banking regulation by amending Japanese Banking Law in 2018.⁴⁰⁶ By 2020, this should persuade the big Japanese banks to release APIs to provide access to payment accounts to third parties. Implementation of Open Banking, including the choice of API standards and infrastructure, remains voluntary. It has been noted that in Japan 'the focus is not on promoting competition, but on increasing efficiency and automation'.⁴⁰⁷

In the **US** there are no regulatory initiatives currently in place. Adoption of open APIs remains completely voluntary, based on contractual relationships. The US Department of the Treasury investigated the possibility of access regulation and concluded that due to the peculiarities of the US financial market (e.g. highly fragmented and state-based nature of banking), 'an equivalent Open Banking regime for the U.S. market is not readily applicable'.⁴⁰⁸ The Treasury Report

⁴⁰³ Magnus Falk, 'Why Firms Should Not Wait to Be Pushed on Open Finance' FCA (26 June 2019)

<<https://www.fca.org.uk/insight/why-firms-should-not-wait-be-pushed-open-finance>> accessed 03 November 2019; Financial Conduct Authority, 'Advisory Group on Open Finance' (08 August 2019), <<https://www.fca.org.uk/firms/advisory-group-open-finance>> accessed 30 March 2020.

⁴⁰⁴ ODI and Fingleton Report (n 342); Department for Business, Energy and Industrial Strategy, 'Smart Data Review' <<https://www.gov.uk/government/publications/smart-data-review>> accessed 07 May 2020.

⁴⁰⁵ See 'Open Banking Around the World: Towards a Cross-industry Data Sharing Ecosystem' (Deloitte) <<https://www2.deloitte.com/global/en/pages/financial-services/articles/open-banking-around-the-world.html>> accessed 03 November 2019.

⁴⁰⁶ Hakan Eroglu, 'The Asia-Pacific way of Open Banking regulation' (*Finextra Blog*, 20 June 2019) <<https://www.finextra.com/blogposting/17396/the-asia-pacific-way-of-open-banking-regulation>> accessed 03 November 2019; <<https://www.frbsf.org/banking/asia-program/pacific-exchanges-podcast/open-banking-apis-japan/>>.

⁴⁰⁷ *ibid.*

⁴⁰⁸ US Department of the Treasury, 'A Financial System That Creates Economic Opportunities: Nonbank Financials, Fintech, and Innovation' (July 2018) 29 <https://home.treasury.gov/sites/default/files/2018-08/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financials-Fintech-and-Innovation_0.pdf> accessed 03 November 2019.

established that the current approach to data aggregation (mostly via screen scraping)⁴⁰⁹ is not satisfactory and more secure and efficient API-based data sharing is desired.⁴¹⁰ Such access can in principle be granted based on Section 1033 of the Dodd-Frank Act. Section 1033 requires that financial institutions covered by the Act should make available to a customer (or his authorised representative) at his request certain financial account and transaction data. However, the Report recommended developing ‘best practices on disclosures and terms and conditions regarding consumers’ use of products and services powered by consumer financial account and transaction data provided by data aggregators’, to ensure secure data sharing.⁴¹¹ The Open Banking solution should be market-based with ‘appropriate involvement of federal and state financial regulators’.⁴¹²

A **regulatory-driven approach** involves regulators imposing on banks a legal obligation to share customer account data with third-party providers. Outside the EU, Mexico and Australia have opted for a regulatory-driven approach.⁴¹³ Other countries, such as Brazil, New Zealand and Canada, will seek to implement Open Banking regulation⁴¹⁴ in the coming years.⁴¹⁵

Australia has demonstrated a willingness to go further than the PSD2. In August 2019 the Australian Government passed the Consumer Data Rights Act (CDR).⁴¹⁶ This piece of legislation intends to give customers more control over their data and to exert pressure on the long-standing oligopoly in some industries. CDR applies initially to the banking sector, but with further roll-out to designated sectors, including energy and telecommunications, and eventually across the whole economy. At its outset, the four largest Australian banks, then followed by all other authorised deposit-taking institutions, will have to provide access for customers and accredited third parties to certain types of product and customer data through open APIs. Importantly, *inferred* data (or ‘materially enhanced information’) is explicitly excluded from the scope of the data sharing obligations. Materially enhanced information is defined as information that has been ‘derived through the application of insight or analysis’ and which is significantly more valuable than the source

⁴⁰⁹ Screen scraping is an automated use of software through which the customer shares its security credentials with a third party (such as a FinTech company) to allow the latter’s access to a bank’s web site to extract data or perform actions that users would usually perform manually (see Giuseppe Colangelo and Oscar Borgogno (n 9) 22).

⁴¹⁰ *ibid* 27-28.

⁴¹¹ *ibid* 33.

⁴¹² *ibid* 35.

⁴¹³ ‘Open Banking Around the World...’ (n 405); ODI and Fingleton Report (n 342) 18-19.

⁴¹⁴ *ibid*.

⁴¹⁵ Hakan Eroglu, ‘The Brazilian Way of Open Banking Regulation’ (*Finextra Blog*, 14 December 2019) <<https://www.finextra.com/blogposting/18251/the-brazilian-way-of-open-banking-regulation>> accessed 18 December 2019.

⁴¹⁶ Australian Competition and Consumer Commission (n 8).

material.⁴¹⁷ Therefore, the CDR protects the banks' ownership of the most valuable and insightful information about the customers (e.g. income or asset verification assessment or the categorisation of transactions). It should be noted that the Australian Government does not mention the technology and e-commerce sectors, where the most of consumer data is aggregated, as the next designated sectors under the CDR, thereby showing certain limitations to its scope and ambition.

That said, Australia is the first jurisdiction seeking to introduce the principle of reciprocity in data sharing obligations. The Open Banking review, which formed the basis for the CDR, noted that a system in which all eligible entities exchange data based on reciprocity would be 'more vibrant and dynamic' and promote greater competition.⁴¹⁸ The principle of reciprocity implies that an accredited data recipient in a designated sector should be obliged to provide equivalent data to the data holder at the customer's request. However, determining what 'equivalent data' is, especially when the data holders and data recipients operate in different sectors, poses a significant challenge. The Review suggested that for data recipients which do not primarily operate in the banking sector, such as data recipients from the technology sector, '*the competition regulator should determine what constitutes equivalent data for the purposes of participating in Open Banking*'.⁴¹⁹ Because the issue required further consideration, reciprocity was excluded from the first implementation phase, started in July 2019.⁴²⁰

3.2.5 Efficiencies of the Open Banking regulation – Expected versus Materialised

Open Banking inspire enthusiasm due to the efficiencies that it promised to bring about. Many of these efficiencies remain hypothetical, because Open Banking is a relatively new phenomenon with few true benefits actually materialised. Some of these benefits have been observed in other industries implementing open standards and interoperability⁴²¹ and are then extrapolated to the financial markets. This subsection takes a closer look at the efficiencies of Open Banking regulation. The analysis of efficiencies helps us understand whether the potential downsides of Open Banking regulation for competition can be offset by an increase in consumer welfare or other kinds of public benefit.

At first glance, the efficiencies of Open Banking fall into three main categories:

⁴¹⁷ Australian Government, the Treasury, 'Consultation on Open Banking Designation Instrument' <<https://treasury.gov.au/consultation/c2019-t364234>> accessed 05 May 2020.

⁴¹⁸ Australian Government, 'Open Banking: Customers Choice, Convenience, Confidence' (December 2017) 43 <https://treasury.gov.au/sites/default/files/2019-03/Review-into-Open-Banking-_For-web-1.pdf> accessed 03 November 2019.

⁴¹⁹ *ibid.*

⁴²⁰ 'Open Banking Around the World...' (n 405).

⁴²¹ This is true for APIs widely spread in the ITC sector. For example, Google Map App enabled the whole plethora of new services, like Uber, and helped greatly expand the reach of Google's service. Emergence of innovative products and greater, more seamless customer experience is among most off-quoted benefits of APIs.

- (i) Efficiencies related to third-party providers which receive access to data,
- (ii) Efficiencies related to financial institutions which open access to data, and
- (iii) Efficiencies related to customers who share their data.

Third-party providers are the most obvious beneficiaries of Open Banking. They can enter the payment markets more easily and start providing new services directly to customers. Open Banking regulation enables them to build upon their existing customer databases using the common and open standards of APIs, whereas in the absence of Open Banking regulation they would have had to enter into lengthy and expensive contractual negotiations with banks and potentially adjust their technological solutions to each bank's requirements. The Open Banking regulation thus shifts the burden of investing in the data sharing infrastructure and responsibility for any risks of such data sharing from start-ups to incumbents.⁴²² No wonder that third-party providers are the most enthusiastic adopters of Open Banking.⁴²³

Traditional banks also have a lot to gain from Open Banking regulation, despite the non-negligible risks and costs associated with it. First, in collaboration with Fintech companies they can start offering new services and products based, for example, on personalisation.⁴²⁴ This can create the 'all-in-one' engagement point for customers, similar to e-commerce apps. More personalised and quick digital experiences will drive greater customer engagement and facilitate faster application or onboarding processes.⁴²⁵ It has been noted that '[i]n today's competitive landscape, it's unsurprising that customer experience is recognised as a top priority, and Open Banking is a key platform for delivering' the smoother one.⁴²⁶

Moreover, Open Banking helps banks speed up their digitalisation and adoption of new technologies.⁴²⁷ Traditional banks have been notoriously slow in embracing new technology, due to legacy systems and backward business models. Open Banking represents an opportunity to piggyback on Fintech companies' technological expertise, without 're-inventing' the whole business structure and learning from their own mistakes. It also promises to increase stagnating bank revenues through new digital channels.⁴²⁸ As a testimony to this, by September 2019, the Open

⁴²² See de la Mano and Padilla (n 1) 11.

⁴²³ See, for example, 'Open Banking: Highlights August-September 2019' (n 405).

⁴²⁴ See Brodsky and Oakes (n 337) 6.

⁴²⁵ North (n 388) 55.

⁴²⁶ *ibid.*

⁴²⁷ UK Open Banking Working Group, 'Unlocking the Potential of Open Banking to Improve Competition, Efficiency and Stimulate Innovation' (2016) 15 <<https://www.dgen.net/1/The-Open-Banking-Standard.pdf>> accessed 24 October 2019.

⁴²⁸ Premchand and Choudhry (n 337) 26.

Banking in the UK showed quite a significant rate of adoption by the banks, especially smaller and challenger banks which had been struggling to increase their market shares in the presence of the strong incumbents. As of September 2019, open APIs had thus been implemented by

- 9 major banks on a mandatory basis;
- 75 smaller/challenger banks on a voluntary basis.⁴²⁹

Third, it is important to assess efficiencies related to the customers who share their data. Competition authorities across the globe generally adhere to the consumer welfare standard. They accept efficiency gains when such gains benefit not only producers (e.g. in terms of greater productive efficiency or reduced costs), but also consumers. This is reflected, for example, in the requirement to pass on efficiency gains to consumers, in order to obtain clearance for conduct that has anticompetitive effects.⁴³⁰ Open Banking regulation is expected to increase consumer welfare in a number of ways. First, consumers will have access to an array of new services (such as aggregation of account information, digital financial management, credit file enhancement etc.).⁴³¹ Second, financial services will become more personalised (e.g. credit terms will better reflect a particular financial situation of a borrower).⁴³² Third, Open Banking regulation can address concerns about financial inclusion. For example, access to more financial information about ‘thin file’ borrowers (i.e. consumer who do not have any conventional financial credit data for the purpose of the credit risk assessment)⁴³³ will allow Fintech companies to lend money to these customers on acceptable terms.⁴³⁴ Finally, Open Banking regulation seeks to rethink the relations between customers, their data and companies that collect the data. Open Banking regulation strives to give customers control over their data.⁴³⁵ It will ‘allow[s] the customer to leverage her own data to reduce the information asymmetry’.⁴³⁶ One of the ways of giving customers more control is to introduce a ‘one-stop shop’ approach where customers use their banks’ API as a single gateway for sharing information with multiple providers for different purposes, without the need to share credentials with each provider.⁴³⁷

However, for objective assessment of any efficiency gains from the Open Banking regulation, it is important to keep a broader, long-term perspective. Let us consider, for example, consumer

⁴²⁹ Head of Open Banking, ‘Open Banking – The UK Experience’ Presentation at CMA for Open Bank Expo in September (2019) slide 16.

⁴³⁰ This interpretation of efficiency gains is common for the European Commission, the United Kingdom, the United States, and many other countries (apart from few, like Norway and Canada, that apply total welfare standard) – see OECD (n 211) 22, 27.

⁴³¹ ODI and Fingleton Report (n 342) 27-29.

⁴³² *ibid.*

⁴³³ See Aggarval (n 290).

⁴³⁴ See Brodsky and Oakes (n 337) 6: ‘By introducing more consumers to the formal financial system, open banking increases the market opportunity’.

⁴³⁵ Vezzoso (n 9) 34; Omarini (n 143) 28.

⁴³⁶ Vezzoso (n 9) 16.

⁴³⁷ *ibid.* 30.

benefits such as access to new services and more personalisation. Many studies have already shown that in the presence of numerous consumer biases, a broader range of choice and new products do not benefit consumers as such.⁴³⁸ A Chicago School digital platform study warns competition authorities and regulators that '[g]iven the prevalence of behavioral effects in the digital economy, the measurement of consumer welfare must be carried out very carefully'.⁴³⁹ Digital platform business models aim to collect as much user data as possible and also 'to influence their choice and manipulate their preferences through a some (insidious) process of choice architecture'.⁴⁴⁰ New products and offers are instrumental to these exploitative strategies, as they drive customer engagement. Consumers generally do not assess adequately the value of new products, which often constitute a new way to collect more data about a consumer, rather than deliver genuine value.⁴⁴¹ This becomes a serious concern because Open Banking contains incentives for 'data harvesting'⁴⁴² and combining various datasets (e.g. financial data obtained through Open Banking with non-financial data) to 'glean new insights'⁴⁴³ into consumer behaviour and achieve ever more detailed customer profiling. There is a true danger in unbridled gathering of highly sensitive financial data and combining it with other datasets in a way that will leave customers an 'open book' for exploitative practices by sophisticated digital players. No wonder that while discussing Open Banking, customers expressed a high level of concern about their data being harvested by TPPs and then sold or exploited.⁴⁴⁴

⁴³⁸ See Barry Schwartz, 'More Isn't Always Better' (June 2006) Harvard Business Review, <<https://hbr.org/2006/06/more-isnt-always-better>> accessed 24 October 2019; Sheena Iyengar and Mark Lepper, 'When Choice is Demotivating: Can One Desire Too Much of a Good Thing?' (2000) 79(6) Journal of Personality and Social Psychology 995-1006. For more nuanced findings see Leilei Gao and Itamar Simonson, 'The Positive Effect of Assortment Size on Purchase Likelihood: The Moderating Influence of Decision Order' (2016) 26(4) Journal of Consumer Psychology 542-549. Schwartz noted that "choice can no longer be used to justify a marketing strategy in and of itself". If it cannot justify a marketing strategy, why can it alone justify the regulatory decisions concerning competition in the markets?

⁴³⁹ Stigler Committee Final Report (n 2) 45.

⁴⁴⁰ 'Digital Era Competition: A BRICS View' (n 72) 277.

⁴⁴¹ One of notorious examples of such a product is FaceApp, a 'face aging' application that allows users to upload their photos and see them artificially aged, in exchange for collecting almost infinite amount of data from the users' devices (see Meghan Collie, 'Just Walk Away From It: the Scary Things Companies Like FaceApp Can Do With Your Data' <<https://globalnews.ca/news/5653531/faceapp-data-mining/>> accessed 26 October 2019). The same logic applies to most 'attention markets' players, e.g. Facebook (Brian Barrett, 'Think FaceApp Is Scary? Wait Till You Hear About Facebook' (*Wired*, 17 July 2019) <<https://www.wired.com/story/faceapp-privacy-backlash-facebook/>> accessed 26 October 2019).

⁴⁴² There seems to be no established definition of data harvesting, that usually refers to the process of extracting a lot of raw user data from web sites (e.g. social media) often using unsolicited methods.

⁴⁴³ See Brodsky and Oakes (n 337) 6.

⁴⁴⁴ North (n 388) 55; James Warrington, 'Open Banking 'held Back' by Lack of Trust Over Data Sharing' (*City AM*, 13 January 2020) <<https://www.cityam.com/open-banking-held-back-by-lack-of-trust-over-data-sharing/>> accessed 09 March 2020; Paige McNamee, 'Will Trust Woes Undermine Open Banking Under PSD2?' (*Finextra*, 06 November 2019) <<https://www.finextra.com/newsarticle/34723/will-trust-woes-undermine-open-banking-under-psd2>> accessed 09 March 2020.

Personalisation might also not be as good for customers as it seems. Sometimes personalisation can result in better services, for example, through reduction of search costs, lower prices and the inclusion of underserved groups of customers. On the other hand, personalisation might lead to reduced consumer surplus, because it enables platforms to predict consumer behaviour and increase the response to their offerings (e.g. clicking targeted ads). This gives the platform a power, for example, to price discriminate against its users.⁴⁴⁵ One of such strategies called ‘behavioural discrimination’ is to identify what could prompt a user to buy a product. In other words, firms that have created detailed user profiles can increase demand for their products by exploiting the users’ biases. As a result, ‘behavioural discrimination increases profit by increasing overall consumption [...] and reducing consumer surplus’.⁴⁴⁶ This increase in overall consumption does not serve the genuine good of consumers, but rather to increase the profits of the digital ‘data harvesters’.

In view of all these concerns, regulators and competition authorities should pay special attention to the assessment of the benefits resulting from opening up access to customer accounts. This assessment should not be superfluous and needs to be based on the revisited concept of ‘consumer welfare’ in the digital age. Thus, the requirement to put in place ‘information firewalls’ to separate the data obtained through Open Banking from other customer data and prohibition of the use of Open Banking data for unrelated commercial purposes benefits consumers, as it prevents detailed profiling and behavioural discrimination.⁴⁴⁷ Such requirements are not only in line with the data protection rules (see Section 3.3.4 for more detailed discussion). It will also steer Open Banking in the right direction – from sheer data harvesting to creating useful products and responding to genuine customer demand. As Chapter 4 ‘**Alternatives. Open Banking regulation – Remedial Blueprint for the Digital Era?**’ will show, the information firewall requirement is also beneficial for inter-platform competition, because it demands that cross-market platforms should compete on merit in each market rather than leverage their data advantages stemming from their markets of origin.

To conclude, the efficiencies of Open Banking regulation should be assessed in a dynamic context, taking into account the long-term effects of such regulation. If short-term benefits, such as increased consumer choice, personalisation and lower entry barriers, are weighed against the entry of large digital platforms into the payment market and the reduction of the other players’ roles to mere suppliers of unbundled financial products, the benefits of Open Banking regulation become less evident.

⁴⁴⁵ ‘Digital Era Competition: A BRICS View’ (n 72) 871.

⁴⁴⁶ See Ariel Ezrachi and Maurice E Stucke, *Virtual Competition* (Harvard University Press 2016) 101, 103.

⁴⁴⁷ See Section 4.3. for the more detailed discussion of restrictions on the cross-use of data.

This thesis therefore argues that the assessment of Open Banking should not only focus on how easy it is for new competitors to enter the industry. It should also ask what kind of new competitors enter the payment markets and what use they can make of the data collected through Open Banking. In fact, Open Banking regulation might encourage the market entry of the Big Tech companies, which have attained the highest degree of sophistication in collecting, analysing and utilising customer data.

The Section 3.2 has shown that Open Banking is gaining a lot of traction across the globe. No doubt, it is here to stay. However, there is no consensus about its implementation. Approaches differ from market-based voluntary frameworks to quite detailed regulations. There is also a question of whether these regulations might act as blueprints for other sectors, and even for the broader economy.

Open Banking is at a very early stage of implementation to draw any empirical conclusions about its success. This does not prevent us from applying the theoretical framework discussed in the Chapter 2 to understand how Open Banking regulation can affect competition in the financial sector. This approach is robust because it requires the right theoretical framework to make sense of empirical data. This thesis suggests that a suitable theoretical framework for analysing Open Banking regulation is based on: 1) distinction between inter-platform and intra-platform competition, and 2) ecosystem instead of product market analysis. The following Section deconstructs Open Banking regulation to understand whether Open Banking regulation is a solution to the major competition concerns in the financial markets.

3.3 Deconstructing Open Banking regulation

The previous Section showed that Open Banking regulation has been enacted with an important goal in mind: lowering the barriers to entry for Fintech companies and re-energizing competition in the payment industry. Policymakers expect that Open Banking will result in more vigorous competition in financial markets stifled by the long-standing stranglehold of big banks. This Section applies the platform competition framework discussed in Chapter 2 ‘**Financial Markets: From Product to Platform Competition**’ to Open Banking to answer the question: what is the impact of Open Banking regulation on intra-platform competition, i.e. competition between the various layers of a financial platform? The second question is how Open Banking regulation affects inter-platform competition, i.e. competition at the higher level of the value chain. Then the Section will analyse whether Open Banking regulation favours disproportionately the Big Tech companies and whether their entry into the payment markets poses competition concerns. Does Open Banking regulation ensure that markets affected by platforms are competitive? Finally, this Section will assess the interplay between such regulation and the protection of personal customer data.

Importantly, this thesis adopts a dynamic perspective based on the idea that ‘although the specific standard may appear efficient, from a static perspective, it may lack in dynamic efficiency’.⁴⁴⁸ Very often when platforms enter a market, the number of new participants increases and the competition between them intensifies. But when the market tips, competition withers and concentration increases to the extent that very few (or only one) platforms hold a significant share of the market. Therefore, regulators and competition authorities should not focus exclusively on the immediate increase in new entrants (especially, when the new entrants are dominant platforms in other markets). They should bear in mind that this seeming increase in competition might not be sustained and the situation could reverse in the long run. Regulators and competition authorities should therefore assess whether the markets are likely to tip and a *de facto* monopoly be established as a long-term outcome of new entries. From this viewpoint, they should assess specific strategies (e.g. tying and bundling or combination of various data sets by exploiting a broad consumer consent) that can lead to exclusion of “as-efficient” competitors and aim their remedial actions at such strategies rather than taking extreme positions (either banning the entry of the Big Tech companies into the payment markets or adopting a complete *laissez-faire* approach).

⁴⁴⁸ ‘Digital Era Competition: A BRICS View’ (n 72) 354.

3.3.1 Effects of Open Banking on Intra-Platform Competition

As discussed in details in Section 2.1 ‘From the Product to Platform Competition’, intra-platform competition means competition between participants to the same platform. It has horizontal and vertical aspects. Horizontal intra-platform competition is competition between participants offering substituting products within the platform, while vertical competition refers to competition between companies which form part of the same value chain and offer complementary products.

As mentioned in Section 2.1, intra-platform competition also refers to a specific strategy to enter a market by plugging into the incumbent’s network. This allows new service providers to offer services and products in the downstream markets (sometimes even in competition with the incumbent), while relying on the incumbent’s infrastructure in the upstream market. As discussed in Section 2.2., some strategies of incumbents leading to reduction in intra-platform competition (such as limiting entry into the most profitable segments of the value chain or self-preferencing) can be considered anti-competitive, if there is a horizontal dimension to such a conduct.

The intra-platform competition following implementation of Open Banking is illustrated in **Figure 5** using the example of PISPs – Payment Initiation Service Providers.

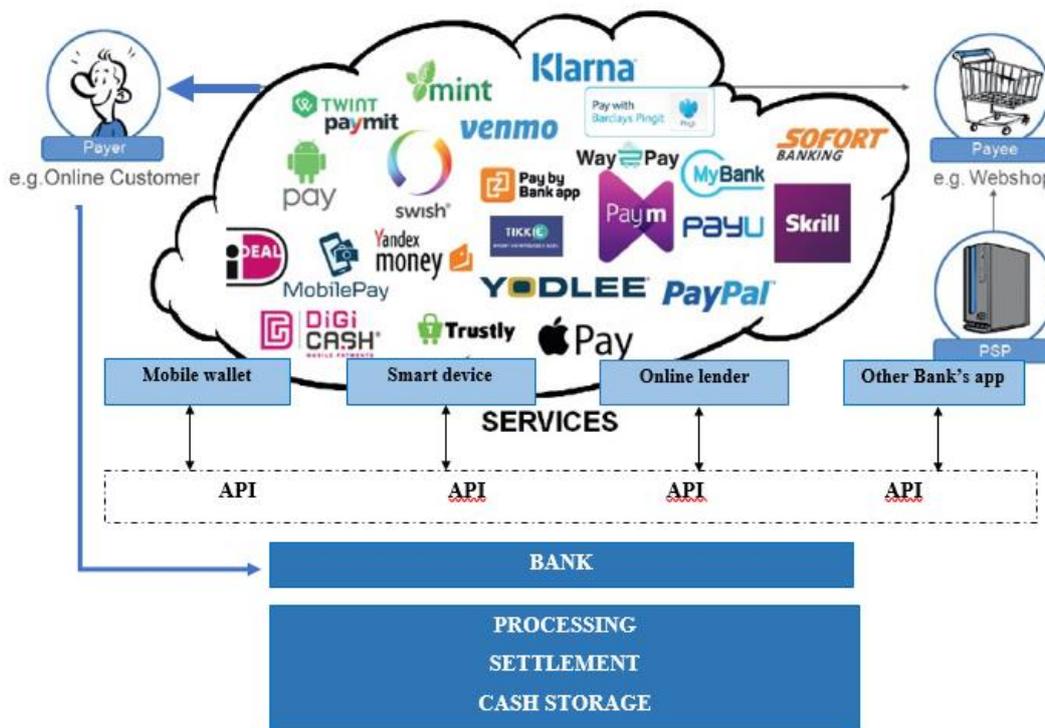


Figure 5: Intra-platform competition in Open Banking

The upstream market is the current accounts market, which comprises a whole array of activities – savings, foreign exchange, short-term credit and money management. Such fundamental activities

as processing, clearing and settlement of payments lie at its core.⁴⁴⁹ Traditionally, most banks have played the role of integrators, because they have controlled the whole payment value chain.⁴⁵⁰ Providers who wanted to offer payment initiation or information aggregation services had to agree with banks on access to the payment infrastructure (core activities constituting the current account service) on the terms offered by the banks.⁴⁵¹ The banks retained vast control over the whole value chain and, therefore, captured a significant share of rent. While the share of rent captured by banks within a single value chain was large, their profits were limited by competitive pressure from other banks or end-to-end providers, i.e. by competition between various value chains (inter-platform competition). Therefore, external competitive pressure, rather than the internal structure of the value chain defined the banks' market power and profitability levels.

Following the implementation of Open Banking, traditional banks continue to operate in their core activities sector, i.e. processing, clearing and settlement of payments, and potentially, cash storage (see Figure 5). However, on top of these core activities, there is an emerging market of complementary services, including pre-transactional and post-transactional support, information aggregation, personal financial advice and financial planning, micro-payments through smart devices, micro-lending etc. This paper discussed in Section 2.2.4 that new competitors fall into one of two categories – front-end providers or end-to end providers. Front-end providers are companies that position themselves as an interface between the end users of payment services (payers and payees) and account service providers (e.g. banks).⁴⁵² The distinctive features of front-end providers is that (1) they do not hold or actually transfer customer funds, and hence (2) they need banks to deliver the payment service to customers.⁴⁵³ Such providers do not offer bank accounts, so they do not compete with the core activities of banks. However, they potentially compete with account service providers in the downstream payment services markets that are complementary to core activities (e.g. micro-payments, information aggregation, etc). Hence, front-end payment services providers are engaged in intra-platform competition with traditional account service providers.

⁴⁴⁹ See Carmona and others (n 97) 57; Bank for International Settlement (n 246) 10.

⁴⁵⁰ Euro Banking Association (n 344) 28.

⁴⁵¹ *ibid.*

⁴⁵² Colangelo and Borgogno (n 9) 9; Bank for International Settlement (n 246) 9.

⁴⁵³ Colangelo and Borgogno (n 9) 10.

According to the analysis in Section 2.2. **'Deconstructing Platform Competition'**, entering the market as a front-end provider equates to intra-platform entry. Such an entrant does not compete directly with an incumbent for the whole surplus generated by the value chain, but only for a fraction of it. In fact, front-end providers try to occupy the 'sweet spots' in the relationships between incumbents and their customers and to unbundle the more profitable banking activities related to current accounts, for example, overdrafts.⁴⁵⁴ They do not challenge the position of incumbents in the whole value chain, because incumbent failure is essentially not in their interests. On the other hand, if the service delivered by such front-end providers increases the whole surplus generated by the value chain, their entry will be profitable for the incumbents willing to share a small fraction of the increased surplus. Therefore, intra-platform entry leads to cooperation between incumbents in the core market and new entrants in the downstream (complementary) markets even though they can partially compete with each other if an incumbent is also active in the downstream markets (intra-platform envelopment)⁴⁵⁵.

Open Banking regulation focuses on challenges that front-end providers face when trying to enter downstream payment services market (the upper part of the Figure 5). As discussed in Section 2.2., before enacting Open Banking regulation, new entrants had been often struggling to enter and gain scale in the markets of payment services associated with current accounts. Among the reasons are high entry barriers, network effects, strong brands and trust-based relationships between traditional financial institutions and their customers, and the banks' exclusive access to the financial infrastructure, most notably the access to customer accounts.⁴⁵⁶ Even if banks gave new entrants access to their customer accounts on a contractual basis, they possessed superior bargaining power with regards to Fintech companies and could therefore dictate the terms of such access, including charging a high access price, obstructing interoperability and imposing stringent technical requirements, which resulted in large sunk costs and high entry barriers for new entrants.⁴⁵⁷ This could ultimately stifle the innovation and produce an adverse effect on competition.⁴⁵⁸

Open Banking regulation aims at reducing the entry barriers by obliging banks to grant access to their transactional data and thus facilitates intra-platform entry. The regulation tackles a refusal to deal which in data markets often takes form of obstructing interoperability between a platform and intra-platform rival products.

Not only Open Banking regulation establishes the general obligation of banks to grant access to banks customer accounts for information aggregation or payment initiation services providers.

⁴⁵⁵ Kang (n 168).

⁴⁵⁶ Van Loo (n 4) 242.

⁴⁵⁷ For analysis of high entry barriers in the payment markets see, for example, Competition and Markets Authority (UK), 'Retail Banking Market Investigation' (2016) Final Report, paras 136, 147. The report finds, inter alia that "access to financial and transactional data is a barrier to entry and expansion to SME lending." (para 135).

⁴⁵⁸ *ibid.*

Importantly, Open Banking regulation articulates the importance of unified technical standards of such access. The national approaches differ, but the main premise is that third party providers should rely on the standards and technical specifications common for the whole industry and developed by industry and market participants, not imposed by governments.⁴⁵⁹ Thus, PSD2 entrusts the European Banking Authority (EBA) to develop regulatory technical standards specifying “the requirements for common and secure open standards of communication for the purpose of identification, authentication, notification, and information, as well as for the implementation of security measures, between account servicing payment service providers, payment initiation service providers, account information service providers, payers, payees and other payment service providers”.⁴⁶⁰ In a similar vein, the Competition and Market Authority in the UK established that the common standards based on APIs were the key in promoting competition in the payment services markets.⁴⁶¹ Both regulations advocate data interoperability based on the common technical standard as the primary remedy to the adverse effect on competition stemming from incumbents’ exclusive access to customer data.

Refusal to deal (in the form of denial of interoperability or denial of data access) is one of the most frequent anti-competitive practices affecting intra-platform competition in the digital economy. The platform business model uses data to monetise initial investments and increase profits. Hence, digital platforms might be unwilling to share data with actual or potential competitors to avoid competitive pressure. In selecting partners, a platform reasonably might prefer the entities with a compatible business model, than those that can become competitors by utilizing the data collected by the platform.⁴⁶²

The crucial importance of interoperability for intra-platform competition has been a pivotal point of a number of antitrust investigations, the most salient being *Microsoft Windows Media Player* case.⁴⁶³ In its decision the European Commission concluded that Microsoft had engaged in a conduct of withholding interoperability information from its competitors. It also identified that similar information had been previously provided to the industry at large and that with Windows 2000, Microsoft disrupted this previous level of supply.⁴⁶⁴ The General Court upheld the

⁴⁵⁹ See Colangelo and Borgogno (n 9) 25; Communication From the Commission to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions 'Fintech Action Plan: for a More Competitive and Innovative European Financial Sector' (Brussels, 8.3.2018 COM(2018) 109 final) 7.

⁴⁶⁰ PSD2, Article 98 1(d).

⁴⁶¹ See paras 168-169 of the 'Retail Banking Market Investigation' (2016) Final Report.

⁴⁶² 'Digital Era Competition: A BRICS View' (n 72) 567.

⁴⁶³ See Case T-201/04 *Microsoft Corp v European Commission* [2007] ECR II-03601.

⁴⁶⁴ European Commission Decision, Case COMP/C-3/37.792 – *Microsoft* (24 March 2004).

Commission's decision that Microsoft was engaged in the anticompetitive practice by refusing to supply its competitors with the information necessary to ensure interoperability between their software products and Microsoft Windows. This refusal could lead to Microsoft competitors being excluded from the market.⁴⁶⁵ Though the legal test applied to refusal to supply in data/interoperability cases will be discussed in much more details in Section 4.2., the *Microsoft Windows Media Player* case conclusions are important to understanding the rationale of Open Banking regulation due to several reasons. To start with, in this case the General Court for the first time clearly established that refusal to grant access to data by a dominant undertaking can be anticompetitive (once the legal test for refusal to deal is satisfied). Hence, this debunked the idea that data is irrelevant for competition, because the General Court has applied the "essential facilities" doctrine to data equating data to "essential facility" in the situation at hand. Open Banking regulation *de facto* stands on the ground that data is an "essential facility" for front-end payment service providers and key to promoting technological development and breaking the stranglehold that incumbents hold over the payment services markets.

Second, the General Court established that such refusal poses concerns once it prevents competitors to compete "on equal footing"⁴⁶⁶ with the dominant undertaking's own products. Thus, the General Court lowered the previously high legal test requiring that refusal to grant access to assets protected by IPR should prevent the emergence of a new product for which there is a potential consumer demand. In this case, the General Court established that refusal to supply constitutes abuse of dominance if it leads more generally to limited technical development to the prejudice of consumers.⁴⁶⁷ Similarly, the rationale behind the Open Banking was to enable technological development of the industry and emergence of new products and services. These considerations trumped the rights that banks have over the customer data they have collected.

Finally, as a remedy, the General Court required Microsoft to disclose the interoperability information for its operating system not only to the claimant in this case, but to any undertaking that has an interest in developing products that constitute a competitive constraint to Microsoft's product. The conditions under which Microsoft makes these disclosures must be reasonable and non-discriminatory to remedy the adverse effect on competition from denial of interoperability.⁴⁶⁸ Again, Open Banking regulation premised that granting non-discriminatory access to the incumbents' data to any company interested in developing new products potentially competing with the incumbents' products is the adequate remedy for the competition concerns in the payment markets. Open Banking regulation mimics competition law remedies in refusal to supply cases that aim at lowering entry barriers in downstream (competitive) markets and, hence, promote intra-platform competition at the downstream level.

⁴⁶⁵ *Microsoft Corp v European Commission* (n 463)

⁴⁶⁶ *ibid*, paras 230, 374, 390.

⁴⁶⁷ *ibid*, paras 647-648.

⁴⁶⁸ *ibid* paras 808-809.

To summarise, Open Banking has had a significant impact on competition at the downstream level of payment value chains, leading to more active competition between providers of services associated with current accounts and to redistribution of profit from traditional financial institutions to new entrants through removal of costs associated with access to customer accounts. As Anna Argentati pointed out, 'it is an evolution that tends to lead to reallocation of revenues and added value, often to the advantage of operators and intermediaries which constitute the new protagonists of the digital chains able to exercise a significant market power'.⁴⁶⁹ This potential shift of the 'vertical' power⁴⁷⁰ from traditional financial institutions to user interface managers is the main consequence of Open Banking regulation for intra-platform competition. It thus nudges banks to revisit their traditional roles as vertically integrated service providers and to morph into technological platforms – either through collaboration or by competing directly with Fintech. The research shows that banks can benefit from this increased intra-platform competition if they choose the pro-active stance in response to Open Banking regulation. In this case banks will continue to provide core payment services and will retain control over their customer engagement, mostly by merging their role as core services providers with those of TPPs and entering into mutually beneficial partnerships with TPPs.⁴⁷¹ In essence, the banks will expand beyond their traditional vertical value chains to become single points of customer engagement, marking the 'early stage of platformisation'.⁴⁷² For example, out of nine big banks participating in Open Banking in the UK, the four biggest banks – NatWest, Lloyds, Barclays, and HSBC – rolled out aggregation services to enable their customers to extract all their information, including data from rivals' accounts, into one place.⁴⁷³ The banks thus started to merge their role as traditional financial institutions with those of TPPs with the aim to retain their controlling position in the value chains reshaped by Open Banking.

It is hard to predict however how the situation will develop following the full shift of the industry to the platform model. Intra-platform competition tends to change its dynamics as the industry matures. In the long term, the largest share of the profit might shift from traditional financial institutions to platform leaders controlling the user interface, as a result of the transformation

⁴⁶⁹ Argentati (n 12) 457.

⁴⁷⁰ See 'Digital Era Competition: A BRICS View' (n 72) 322-325.

⁴⁷¹ Euro Banking Association (n 344) 28; see also Argentati (n 12) 455.

⁴⁷² Euro Banking Association (n 344) 28.

⁴⁷³ See Oliver Smith, 'NatWest launches account aggregation as Open Banking takes hold', https://www.altfi.com/article/5100_natwest-account-aggregation-open-banking accessed 13 September 2020 and Rosie Bannister, 'New HSBC App Will Show All Your Accounts - Even if They're With Its Rivals' <https://www.moneysavingexpert.com/news/2017/09/new-hsbc-app-will-show-all-your-accounts---even-if-theyre-with-its-rivals> accessed 16 September 2020.

described. The distribution of profits and vertical power within the platform will depend first on who wins the battle to become a platform leader and second on the platform strategies used (open v closed or level playing field v discrimination of service providers).

One important conclusion should be made at this point: Open Banking regulation is steering Fintech entrants towards *intra-platform competition*. The new regulations enable Fintech providers to use the incumbent infrastructure to compete at the downstream level of the payment value chain and make this path easier and more attractive. The next Section will explore whether there is enough room for competition at the higher level – inter-platform competition.

3.3.2 Effects of Open Banking on Inter-Platform Competition

As discussed in Chapter 2, the concept of inter-platform competition refers to competition between digital platforms (horizontal competition) to dominate a market. Inter-platform competition is more vigorous at the initial stages when the emerging platforms compete for the market and significantly weakens as the market matures.

Traditionally, chartered banks were the only entities providing payment services and, therefore, the only competitors in the payment markets. They managed the whole payment process starting from opening bank accounts and accepting deposits to transferring money to payees.⁴⁷⁴ Payments were considered a natural extension of banking, because banks had special authority and the support of governments to handle and create money. Therefore, the only way to enter the payment market was to become a chartered bank. Later, end-to-end ('E2E') providers have emerged offering alternative payment solutions that are not part of the banking framework. E2E providers (also called payment processing companies or payment processors) undertake the whole payment chain including pre-transaction, authorisation, clearing, settlement and post-transaction.⁴⁷⁵ This is a closed tripartite system that manages payments directly from a payer to a payee which are both members of the end-to-end-payment platform.⁴⁷⁶ As such, they do not need to rely on banks as account providers. The payer and the payee can freely transfer money in exchange for goods and services within the platform, but will need to interact with banks to introduce money to the system or withdraw money from it.⁴⁷⁷

Innovation spurred a plethora of payment providers whose ambitions were to build end-to-end systems which broke away from incumbency of the big banks. One of the first non-bank E2E payment systems was PayPal, founded in 1998 in the US. Other successful E2E payment providers

⁴⁷⁴ Bank for International Settlement (n 246) 10.

⁴⁷⁵ See fn 246.

⁴⁷⁶ *ibid* 13; Colangelo and Borgogno (n 9) 9; Carmona and others (n 97) 59.

⁴⁷⁷ Klein (n 128).

include Stripe, GoCardless, Square etc.⁴⁷⁸ They mostly provide payment processing for online businesses with a retail payment market in the West dominated by front-end providers. However, for all of them the underlying payment network remains bank-based – they complement rather than replace banks. The picture is different, for example, in China. The Chinese digital payment systems have stemmed from e-commerce (Alipay) or social network (WeChat) and are independent from banking. Alipay and WeChat Pay are both closed, ‘do-it-all’ ecosystems that do not rely on banks to transfer funds between participants, only to initially introduce money into the system and potentially get the money out of it (if needed).⁴⁷⁹ The emergence of powerful, end-to-end payment systems in China was facilitated by an outdated, inadequate banking system, low penetration of card payment points and a vast proportion of unbanked population.⁴⁸⁰ Inter-platform entry and direct competition with banks was thus a more attractive option in China, compared with the relatively low level of inter-platform entry in Western economies.⁴⁸¹

E2E providers are the most important source of inter-platform competition in the payment industry.⁴⁸² Their entry increases inter-platform competition, because it does not rely on the incumbents’ infrastructure and directly challenges established players. The more customers use E2E systems (say, WeChat or PayPal), the less they use bank accounts to transfer money between each other. Banks can still benefit from the fees paid on money transfers to and from the system, but if the E2E system is large enough, most of transactions are executed within the system, bypassing the banks. If an E2E system has a global reach, it also dramatically reduces the costs of international transfers and exerts significant pressure on banks’ international fees. In addition, intra-platform money transfer is free in many E2E systems (PayPal, WeChat and Alipay).⁴⁸³ This is not the same for bank transfers or debit/credit cards which charge merchants fees for accepting payments from customers. Therefore, efficient E2E payment systems undermine the market power of banks, because more customers and merchants are attracted to alternative non-bank platforms and banks have to adjust by providing more innovative services and/or reducing fees.

⁴⁷⁸ Steve Olenski, ‘Top 10 Payment Processing Companies in the World’ (*Marketing Land*, 26 May 2016) <<https://marketingland.com/top-10-payment-processing-companies-world-175913>> accessed 20 May 2020; website of Stripe: <<https://stripe.com/gb/payments>> accessed 02 November 2019.

⁴⁷⁹ Klein (n 128) 10-11, 14.

⁴⁸⁰ Ian Fraser, ‘Chinese Payment Giants are Light Years Ahead’ (*Raconteur*, 25 September 2018) <<https://www.raconteur.net/finance/alipay-wechat-china-payments>> accessed 2 September 2019.

⁴⁸¹ See Milne (n 9); Carmona and others (n 97) 46.

⁴⁸² Colangelo and Borgogno (n 9) 9-10.

⁴⁸³ Klein (n 128) 14.

In addition, banks have less possibility to exclude E2E competitors. To do so, all banks would have to agree to block an E2E provider's access to their customer accounts. This means a collective boycott – a hard-core violation of competition law that can be easily detected and punished.⁴⁸⁴ E2E entrants are thus better protected from exclusionary practices of big banks. Neither do they need access regulation to compete with banks, as they collect the data directly from users. Therefore, their direct gains from Open Banking regulation are quite marginal. In fact, the most salient example of inter-platform entry into the payment market, China, has no official Open Banking regulation in place.⁴⁸⁵ Without a governmental mandate, open APIs have become the *de facto* standard there. They are adopted by all the main players, including the banks trying to catch up with the new competitors such as Alipay and WeChat, and the digital platforms trying to boost their ecosystems through open APIs. Therefore, Open Banking has been an outcome of the thriving inter-platform competition, not the cause of it.

However, becoming an E2E provider requires substantial sunk costs and efforts to attract a critical mass of customers on both sides of the platform (payers-customers and payees-merchants). Thus, a CMA report on retail banking concluded that 'the high cost of customer acquisition including product linkages and, in relation to SME lending, the informational advantages [of incumbents], make it difficult for new entrants and smaller banks to expand and are a barrier to entry and expansion'.⁴⁸⁶ The CMA came to the same conclusion in its assessment of the merger between *Experian and Credit Laser Holdings Limited* (2018).⁴⁸⁷ Economies of scale and scope also play a role. The lower level of consumer protection compared to bank accounts, security and privacy concerns is another issue preventing the large-scale roll-out of E2E payment systems in many countries.

All these challenges often serve as a rationale for introducing access regulations in industries where the platform business model and network effects prevail.⁴⁸⁸ However, the growing body of evidence, especially from implementing access regulations in traditional network industries (such as telecom), shows that there is a trade-off between intra-platform competition promoted via access regulations and inter-platform competition.⁴⁸⁹ The first reason of such negative correlation lies in the reduction of incumbent's incentives to innovate and to collect the data which fuel innovation.⁴⁹⁰ If the price of an access is set very low (or access is free of charge, as in the case of

⁴⁸⁴ See Colangelo and Borgogno (n 9) 10.

⁴⁸⁵ See EY, 'How China's Open Banking Experiment is Unfolding' EY (17 December 2018) <https://www.ey.com/en_gl/banking-capital-markets/how-chinas-open-banking-experiment-is-unfolding> accessed 10 November 2019; H Eroglu (n 406).

⁴⁸⁶ Summary of the Final Report (n 391) para 136.

⁴⁸⁷ Competition and Markets Authority, 'Anticipated acquisition by Experian plc of Credit Laser Holdings Limited - Provisional findings Report' (28 November 2018).

⁴⁸⁸ Milne (n 9), 8.

⁴⁸⁹ See, for example, Theon van Dijk, Frank Verboven, 'Access regulation, competition, and broadband penetration: An international study' (2010) *Telecommunication Policy* 34 661, 669.

⁴⁹⁰ See Derek Holt and Felix Hammeke, 'European Union - Two-Sided Markets, Platforms and Network Effects' (15 October 2019), *Global Competition Review*. See also legal cases like *Microsoft Corp v European Commission* (n 463) para 670.

Open Banking regulation), this will reduce incumbents' incentives to keep on developing and improving the infrastructure or the data, access to which is granted.⁴⁹¹ In addition, incumbents are not incentivised to innovate at the infrastructure level if they know that this innovation will not give them a competitive advantage compared to rivals who do not have access to the same innovation. The second reason is the impact that access regulations might have on new entrants' incentives to innovate, as they can free-ride on the incumbent's shared network and would not invest in developing their own infrastructure or data.⁴⁹² Thus, intra-platform competition results in static efficiencies (like an immediate increase in the number of downstream competitors and more products/services provided to customers), while inter-platform competition produces more dynamic efficiencies in terms of greater incentives to innovate both for incumbents and new entrants.

The negative correlation between intra-platform and inter-platform competition, static and dynamic efficiencies should be considered carefully in each case when access to data is granted. For example, in competition law cases related to refusal to deal, competition authorities and courts have to assess an argument that granting access to data reduces incentives to innovate for a dominant undertaking. Courts often accept or reject it based on specific evidence at hand, rather than on generic considerations.⁴⁹³ Proving the reduction in dynamic efficiencies is extremely difficult, as it requires creating a counterfactual model and observing the data supporting or debunking it for quite a long time. Taking the inter-platform competition perspective, however, is important, otherwise the efficiencies provided by Open Banking regulation in the short run might overshadow the growing dependency of small entrants on platform leaders emerging as a result of the innovative push provided by Open Banking. In the wake of Open Banking regulation enacted in the EU and UK, we witness an immediate increase in the number of Fintech companies that became accredited TTPs.⁴⁹⁴ This increase can be used as a proxy for intensified intra-platform competition following introduction of the Open Banking regulation. It is still unclear though how many of them will scale at the inter-platform level and will be able to become E2E providers, if they have such a plan at all. Currently, there is no clear evidence that Fintech companies put effective competitive

⁴⁹¹ *ibid.*

⁴⁹² Theon van Dijk, Frank Verboven (n 490) 664.

⁴⁹³ *Microsoft Corp v European Commission* (n 463) paras 709-710.

⁴⁹⁴ See 'OBIE Highlights November 2020' <<https://www.openbanking.org.uk/wp-content/uploads/OBIE-Highlights-November-2020.pdf>> accessed 26 December 2020. The latest available 'Open Banking Quarterly Trends Report Q2 2020: Fintech' (<https://platformable.com/blog/open-banking-quarterly-trends-report-q2-2020-fintech/> accessed 26 December 2020) describes 7.5% growth in the number of accredited Fintech startups in the UK and Europe in Q2 2020. Not clear is what proportion of these Fintech startups emerged because of Open Banking regulation and what proportion already existed and just took additional advantage of Open Banking regulation.

pressure on incumbents and that inter-platform competition will be improved or at least maintained following the introduction of Open Banking regulation.

Examples from other industries confirm that access regulation can get in the way of effective inter-platform competition. The telecoms industry has the network structure not dissimilar to payments.⁴⁹⁵ In telecoms, access regulation has been considered the best option to promote competition in the downstream markets while the upstream market (of access to telecom infrastructure) was defined as a natural oligopoly where competition is not economically viable.⁴⁹⁶ Consequently, policymakers considered access regulation as a 'key instrument of competition policy'.⁴⁹⁷ However, some of the latest studies indicate that intra-platform competition promoted through access regulation provides lower incentives to innovate and adopt new technologies than competition based on developing alternative facilities (i.e. inter-platform competition).⁴⁹⁸ It was found that 'the type of competition induced by infrastructure sharing is quite thin, with competitors being unable to innovate with respect to services and being limited to competing by squeezing their own margins'.⁴⁹⁹ As a result, the US has abandoned access regulation in the field of local loop unbundling and focused on facilities-based competition. Meanwhile, the EU policies have remained focused on regulating the access to shared network facilities. The relatively recent empirical study shows that the US approach focused on promoting inter-platform generated higher investment level and that the US is ahead of Europe in terms of the availability of Next Generation Access networks.⁵⁰⁰ This gives support to the idea that inter-platform competition is more beneficial for investments and adoption of technology in the long run than intra-platform competition.⁵⁰¹ Thus, it becomes a policy choice to ignore incentives to innovate at the inter-platform level and to focus attention on intra-platform competition and downstream market entry.

One might say that inter-platform entry is good in theory, but is inter-platform entry practical compared to access-based competition? Because network industries are considered as naturally oligopolistic, the proponents of access-based competition argue that introducing more competition at the inter-platform level is not practical and that regulators and competition authorities should focus on access-based intra-platform competition instead.⁵⁰² This is hardly true for the payment markets and cannot serve as a justification of negative effects that Open Banking regulation has on

⁴⁹⁵ Milne (n 9).

⁴⁹⁶ *ibid* 8.

⁴⁹⁷ *ibid*.

⁴⁹⁸ See Dmitrii Trubnikov, 'Regulation of Telecommunications: the Choice Between Market and Regulatory Failures' (2017) 3(1) *Journal of Law and Regulation* 28; Christofer S Yoo, 'US vs European Broadband Deployment: What Do the Data Say?' (2014) *The European and US Mapping Studies* <<https://www.law.upenn.edu/live/files/3352>> accessed 30 January 2020.

⁴⁹⁹ Yoo (n 498) 9.

⁵⁰⁰ Yoo (n 498) 51.

⁵⁰¹ *ibid*. Jan Bouckaert, Theon van Dijk, Frank Verboven, 'Access regulation, competition, and broadband penetration: An international study' (2010) *Telecommunication Policy* 34 661, 669.

⁵⁰² See, for example, Milne (n 9).

inter-platform competition. First, payment markets are not natural monopolies. It has been noted that users of financial services tend to multi-home and use a variety of providers when they can easily do so (e.g. due to easy switching, no fixed (subscription) fees and data portability).⁵⁰³ Even for the payment services that have a greater tendency towards single-home platforms because of the high intensity of use⁵⁰⁴ the existence of multiple E2E platforms is justified because users tend not to 'put all their eggs in a single basket'. Moreover, the ability of customers to switch between different payment networks and to multi-home has proven to make them better off, because network competition provides greater rewards for payers.⁵⁰⁵ Merchants that represent the payee side of a payment platform have even greater tendency to use multiple payment systems to attract more customers and increase sales.⁵⁰⁶ Hence, there is no natural restriction on the number of payment platforms in the payment markets. Second, there is an argument that inter-platform competition is not an economically optimal choice, as it leads to the higher costs due to the need for new entrants to replicate an incumbent's network infrastructure. Such costs are later passed on to consumers.⁵⁰⁷ In the payment industry, this argument does not stand because the main investment required is not a physical infrastructure, but building customer trust and attracting the critical mass of customers. Hence, there is no direct deadweight loss for the society, as from the replication of physical facilities. Moreover, if end-to-end providers enter the payment markets by offering their customers innovative products and services through the application of more efficient technologies, not mere replication of existing networks, this results in the increase of total customer welfare and technological advancement of the industry. Thus, smart policies should encourage the inter-platform competition in the long-run through incentivising the inter-platform entry of innovative E2E providers.

Open Banking regulation hardly fulfil this function in its current state. It does not promote inter-platform competition as such, because neither PSD2 nor the Open Banking regulation in the UK

⁵⁰³ Carmona and others (n 97), 14.

⁵⁰⁴ *ibid.*

⁵⁰⁵ See, for example, Fumiko Hayashi, 'Pricing and Welfare Implications of Payment Card Network Competition' (14 December 2006) Payments System Research, Federal Reserve Bank of Kansas City Working Paper 06-03, <https://www.kansascityfed.org/PUBLICAT/PSR/RWP/Hayashi_Pricing.pdf> accessed 26 December 2020.

⁵⁰⁶ See *Ohio v. American Express Co.* 138 S Ct 2274 (2018) ('Amex'), Box 1.

⁵⁰⁷ Roger Ware, 'Competition Issues in Facilities Based Versus Service Based Competition and Disaggregated Wholesale HSA Transport' (August 2018) 13-14 <[https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/CB_Broadband_Market_Study__Ware_Report_for_CNOC_20180831_Final.pdf/\\$file/CB_Broadband_Market_Study__Ware_Report_for_CNOC_20180831_Final.pdf](https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/CB_Broadband_Market_Study__Ware_Report_for_CNOC_20180831_Final.pdf/$file/CB_Broadband_Market_Study__Ware_Report_for_CNOC_20180831_Final.pdf)> accessed 08 February 2020. For example, the recent Report on the competition issues in telecom demonstrates that the prices for broadband services are higher in the countries that focused on promoting facilities-based (inter-platform) competition at the expense of service-based (intra-platform) competition (like US and Canada) (*ibid.*, 16-17). This might reflect the higher fixed costs that entrants had to bear to build their own network facilities.

helps small competitors overcome the hurdles described above and become E2E providers. As demonstrated in this Section, Open Banking regulation focuses exclusively on providing front-end providers with access to bank accounts. We can even conclude that access regulation discourages Fintech providers from building their own customer base and developing alternative payment systems which would make them less dependent on the banks' infrastructure and allow them to engage directly in inter-platform competition. Essentially, Open Banking regulation locks Fintech companies within the banks' platforms, though on better conditions than in the absence of such regulation. This is despite the fact that the main competitive pressure on banks comes not from intra-platform, but from inter-platform competition, i.e. from competitors which managed to harness technological advantage and network effects to build an E2E payment system or a financial platform.

Regulators often do not consider the lack of inter-platform competition in the financial industry as a problem. Instead they point to the efficiencies achieved with the advent of the platform business model and to static entrenchment of market power in the banking sector which needs to be broken.⁵⁰⁸ Many countries consider that the primary mandate of Open Banking is not to increase competition, but to enable new technology to emerge.⁵⁰⁹ Anyone (big, small, bank or non-bank) should be able to deploy this technology to deliver new services and the competition will take care of itself in the long run. This explicit focus on the economic efficiencies of Open Banking⁵¹⁰ does not consider the question: who will benefit from this boost in the payment markets. Will it likely be Fintech startups, whose promotion is the primary focus of Open Banking and PSD2? The answer is that we do not know. However, there is a high probability that the obstacles described above will prevent Fintech companies from engaging in inter-platform competition at any significant scale, despite the Open Banking mandate.

Fintech companies are not the only ones who can benefit from the access to customer data enabled through Open Banking regulation. Large digital platforms, so called Big Tech companies,⁵¹¹ can also benefit from the access to these data. Because in Section 2.3. we have distinguished Big Tech as a separate group of competitors within the "competition triad", the next subsection will explore in more details whether Open Banking facilitates the entry of Big Tech companies in the payment markets and what effect this might have on inter-platform competition.

⁵⁰⁸ ODI and Fingleton Report (n 342).

⁵⁰⁹ *ibid* 18-21.

⁵¹⁰ For example, the OBIE (Open Banking Implementation Entity) indicates that the Open Banking sector in the UK will quadruple to generate £7.2bn of revenues by 2022 (Open Banking, 'Open Banking: Facts and Statistics' <https://www.openbanking.org.uk/wp-content/uploads/OB_MediaPDF_FINAL.pdf> accessed 21 October 2019).

⁵¹¹ See Section 2.3. of this paper.

3.3.3 Big Tech and Access Regulation – Hidden Asymmetries

Recently, quite a few papers have argued that, following the PSD2, the Big Tech companies will get access to banks customer data and enter the payment markets to become dominant platforms. Miguel de la Mano and Jorge Padilla thus assert that the PSD2 favours the Big Tech companies because it enables the flow of crucial data only from banks to Big Tech companies, but not the other way around.⁵¹² Anna Argentati points to ‘the paradox of PSD2’: ‘incepted to increase the competition in the payment services and to favour the Fintech innovation, it opens the door of finance to the Big Tech companies’.⁵¹³ Some industry experts make similar claims in mass media.⁵¹⁴ The overall idea is that access regulation could shift the balance of power in the industry from the Big Banks to Big Tech and potentially stifle inter-platform competition. This Section will further explore whether this picture of doom and gloom has sufficient grounds.

In Chapter 2, we established that the Big Tech companies have a number of strategic advantages if they decide to enter the payment markets.⁵¹⁵ These advantages include their rich data on customers, advanced use of technology, customer trust, strong brand recognition, and looser regulation than the one that applies traditional banks. In fact, many Big Tech companies have ventured in the area of finance (including Amazon, Google, Tencent, Alibaba). For example, Tencent and Alibaba have launched extremely successful E2E payment providers (WeChat Pay and Alipay respectively). This thesis also asserts that the financial industry is likely moving from being vertically organised to the platform business model and that Open Banking is an instrumental part of this transformation. Therefore, if the Big Tech companies wanted to enter the payment markets, they would have a good chance to scale up and challenge existing incumbents, in a similar way that they have done in other industries, including social media, e-commerce and online search. In this case, the crux of competition in the financial markets will probably move from competition between banks and Fintech or between banks and Big Tech to competition between Big Tech companies. The question is, first, whether the entry of Big Tech companies in the payment markets involves anticompetitive conduct. If yes, the second question is to what extent Open Banking regulation contributes to this potentially anticompetitive entry and what should be done about it.

⁵¹² de la Mano and Padilla (n 1).

⁵¹³ Argentati (n 12) 456.

⁵¹⁴ Manthorpe (n 340).

⁵¹⁵ See Section 2.3.1: ‘Big Tech Business Models’.

The most often used strategy of the Big Tech companies to enter other sectors is envelopment. Big Tech has applied this strategy to expand into the markets where an entry requires harnessing network effects. According to Eisenmann et al. these strategies succeed ‘if the two competing platforms have **overlapping user bases** and **employ similar components**’,⁵¹⁶ so that the attacking platform can add the target’s functionality to its own, and offer them as a bundle to the same user base. To become part of the envelopment strategy the two functionalities (e.g. smartphone OS and mobile search) need to be complementary and offer customers *prima facie* benefits when offered together. In this sense it would be difficult for someone dominant in the market for toothpaste to enter the market for, say, apples, even if their customer base is largely the same. The reason for this is that two products do not have added value as a bundle.

The bundling of two functionalities results in extending the dominance of the platform in the original market to the target market, or the creation of ‘cascading monopolies’.⁵¹⁷ Envelopers often use assets that are valuable across many markets, such as user data and customer loyalty. This strategy, for example, enabled Microsoft to leverage its dominant position in the market for operating systems (OS) to enter the media players market and exclude its competitors.⁵¹⁸ It has also enabled Google to leverage its unique position in the smartphone OS market to enter the markets for various smartphone apps (e.g. mobile search, maps etc.),⁵¹⁹ or for Amazon to enter the audiobooks market by leveraging its strong position in e-commerce.⁵²⁰ In each case, a platform has successfully used loyalty of the customers in the market of origin to offer them a bundle of its core product and the target’s product.

There are currently fierce debates in academic literature about whether the entry of digital platforms in adjacent markets via leveraging is anticompetitive.⁵²¹ The opponents to this view state that such entry effectively amounts to competition on merit and, as such, should not be prohibited, but rather promoted. They refer to the Chicago school of economics and the “single monopoly profit theorem”.⁵²² The single monopoly profit theorem states that if the monopolist is tying the product A (in the monopolized market) and the product B (in a competitive market) he is already charging a profit-maximizing price for the product A. Therefore, if he charges for the product B in the bundle a price above the competitive level, customers will consider this as an increase in price

⁵¹⁶ Eisenmann, Parker, and Van Alstyne (n 153) 1270.

⁵¹⁷ Johnny Ryan and Orla Linskey ‘Online Platforms and Digital Advertising Market Study’ Submission to Online platforms and digital advertising market study by CMA (July 2019) paras 11-13 <<https://www.gov.uk/cma-cases/online-platforms-and-digital-advertising-market-study>> accessed 23 February 2020.

⁵¹⁸ *Microsoft Corp v European Commission* (n 463).

⁵¹⁹ Case Case AT.40099 *Google Android* [2018] OJ C 402, 28.11.2019.

⁵²⁰ See Franklin Paul, ‘Amazon to buy Audible for \$300 million’ (*Reuters*, 31 January 2008) <<https://www.reuters.com/article/us-audible-amazon/amazon-to-buy-audible-for-300-million-idUSN3129158120080131>> accessed 02 November 2019.

⁵²¹ See, for example, Patrick Todd, ‘Digital Platforms and the Leverage Problem’ (2019) 98:2 *Nebraska Law Review* 486.

⁵²² See, for instance, Posner, R.A. 1976. *Antitrust Law: An Economic Perspective*. Chicago, United States: University of Chicago Press; Louis Kaplow, Extension of Monopoly Power Through Leverage, 85 *COLUM. L. REV.* 515, 516 (1985).

of the entire bundle (including the product A which is already charged the maximum price) and the demand will drop. Hence, none of the monopolists is interested in entering the adjacent competitive markets for the sake of dominance and their entry is driven by purely benign reasons, such as efficiencies and consumer benefits (e.g. increased convenience and lower transaction costs).⁵²³

Since its inception in 1970s, the “single monopoly profit theorem” experienced rise and fall with many studies demonstrating that monopolists have incentives to leverage their market power in adjacent markets in the absence of consumer benefits, particularly when markets are characterised by economy of scale and network effects.⁵²⁴ However, the central argument of the Chicago school – that leveraging and envelopment is a pro-competitive, efficiency-driven practice – is so important that this study needs to address it in order to understand whether the entry of Big Tech companies in the payment markets poses a threat for inter-platform competition.

Big Tech companies, such as GAFA, have become monopolists in their original markets through innovation and through providing better products to their customers. In line with the Schumpeter’s “creative destruction”, they have displaced previous incumbents (like Google surpassed Myspace in Social Media or Microsoft - IBM and Sun Microsystems in PC operating systems). Since then, the network effects and economies of scales, which characterise platform economy, made the Big Tech position in original markets almost insurmountable. After establishing a moated position in original markets, digital platforms constantly seek to expand into other product markets, notably, where they have the overlapping consumer base and complementarity of functionalities that allow them to include these products into their ecosystems. *Prima facie*, the entry of Big Tech companies in adjacent markets provided a number of benefits for consumers stemming from lower prices, economies of scope or distribution that often render a platform owner the most efficient producer of the product, far beyond its rivals in the target market.⁵²⁵ In addition, consumers often prefer to have products delivered as a bundle (“one-stop shop” approach).⁵²⁶

⁵²³ Todd (n 521) 506-507.

⁵²⁴ Daniele Condorelli and Jorge Padilla, ‘Harnessing Platform Envelopment in the Digital World’ *Journal of Competition Law & Economics*, 16(2), 143, 158, Todd (n 521) 512, E Elhauge, ‘Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory’ (2009) 123 *Harvard Law Review* 397; N Economides, ‘Tying, Bundling, and Loyalty/Requirement Rebates’ in E Elhauge (ed.), *Research Handbook on the Economics of Antitrust Law* (Edward Elgar, 2012) 121.

⁵²⁵ Todd (n 521) 515-516; Feng Zhu, ‘Friends or Foes? Examining Platform Owners’ Entry into Complementors’ (2018) *Spaces’ Journal of Economics and Management Strategy*, <<https://doi.org/10.1111/jems.12303>> accessed 22 November 2020.

⁵²⁶ *ibid.*

Few things, however, distinguish the digital platform envelopment from the leveraging theory of harm that was criticized by the Chicago school in 70-80s. These things make the Big Tech expansion in other markets more problematic for competition than it was considered by the proponents of the “single monopoly profit” view.

First, the leveraging theory of harm criticised by the Chicago school referred to vertical integration through leveraging of the market power into downstream markets where the “single monopoly profit” and efficiencies achieved through the integration hold true in many cases.⁵²⁷ However, in the digital markets, platforms often use their market power to envelope incumbents not in downstream, but other, often not even closely related markets. This results in expansion of the ecosystem led by a digital platform and marginalisation of the previous incumbents. Efficiencies provided by such consolidation of various markets might be real, but they should be analysed carefully, particularly whether they are genuinely benefitting consumers or are driven by the desire to consolidate more economic power across various markets and to maximize the profit.⁵²⁸

Second, digital platforms use the “secret sauce” that was unknown to the Chicago school in 70s: the high importance of consumer data in digital economy. Leveraging user data does not amount to Schumpeterian innovation, but often represents a form of exploiting consumer biases, particularly, when users have to give the broad consent to use their data across various product markets due to their dependence on the core product of the platform (e.g. Facebook social media). The topic of the data as a competitive advantage has been explored in the Section 3.1. Just to emphasise, access to data on a large population of data subjects along with detailed insights into each subject’s behavioural patterns (a user’s “super-profile”) gives the Big Tech companies more ability to sell their services to users and steer users to their ecosystem than even the most efficient incumbents have within the target markets. These allows the Big Tech companies to exclude and marginalise their competitors in the target markets even in the absence of a genuinely better value proposition. As summarised by Padilla, “[t]he enveloper’s advantage does not lie in its deep pockets, but rather in its unique position to combine and monetize data from the origin and target markets, which is the result of its market power in the origin market, and its policy of linking its privacy policies in both markets”.⁵²⁹

Third, due to the specific characteristics of platform markets discussed in Section 2.1., the Big Tech companies have dynamic incentives to exclude competitors and increase their dominance in the long run. In the digital economy, the motivation behind monopoly leveraging into adjacent markets may be reduction in competition over time, rather than achieving an immediate or medium-term

⁵²⁷ The typical example would be Kodak that used its market power in the market of the copier spare part to extend the power in the market of repair services (*Berkey Photo, Inc. v. Eastman Kodak Co.* 603 F.2d 263 (2d Cir. 1979), cert. denied, 444 U.S. 1.093 (1980).

⁵²⁸ For more detailed analysis of efficiencies in financial markets see Sections 2.2.3 and 3.2.5.

⁵²⁹ Condorelli and Padilla (n 524) 173.

profit. This is called a dynamic theory of market foreclosure.⁵³⁰ It is true that on many cases the entry of the Big Tech companies into new markets demonstrates benefits (or at least no documented harmful effects on platform users).⁵³¹ However, once these digital platforms establish their presence in a target market, competition tends to decrease which results in a ‘winner-takes-all’ or ‘winner-takes-most’ outcome.⁵³² This is the direct consequence of network effects, economies of scale and scope and the data supremacy of the Big Tech companies.

To summarise, the main theory of harm behind the leveraging of market power of digital platforms hinges upon the following. When entering the adjacent markets and bundling their core product or functionality with that of the target market, digital platforms do not compete on par with existing incumbents, let alone the smaller competitors, due to their ability to leverage the existing customer relationships and the massive amount of data. Once they establish their presence firmly, competition tends to wither, and we witness the “winner-takes-all” situation with the ability of new competitors to contest the position of digital platforms significantly weakened. This harms consumers in the long run due to less incentives to innovate, decrease in consumer choice and increased prices.⁵³³ To reiterate, it is not the entry into adjacent markets that presents the concern. A new entry immediately increases inter-platform competition and puts the competitive pressure on incumbents, hence, is beneficial for consumers. It is the ability of the Big Tech companies to combine user data from various sources through such entry and to increase their market power not only within the target market (which, again, can experience immediate beneficial effects of such entry), but also in their market of origin and through the whole ecosystem. This is an important conclusion, primarily for the policy choices discussed in Chapter 4 of this paper. If the entry is not harmful, but rather the consolidation of economic power and exclusion of competitors even equally efficient that follows the combination of customer data, the policies should focus not on blocking the entry, but on preventing the anticompetitive effects of leveraging the market power across various markets (more on this in Section 4.4).

Apart from gaining dominance in the target markets, envelopment by the Big Tech companies can pursue also defensive strategy, when they envelope competitors in the target markets to preserve and strengthen their position in the origin market. This is not an exception, as bundling several

⁵³⁰ ‘Digital Era Competition: A BRICS View’ (n 72). For the specific example of such dynamic effects in the digital markets see e.g. Google/DoubleClick merger analysis in Section 4.3.1.

⁵³¹ Zhu (n 525).

⁵³² ‘Digital Era Competition: A BRICS View’ (n 72).

⁵³³ Zhu (n 525) 26. That said, we still lack evidence on the long-term effects of the platform envelopment in the digital markets, because this is a relatively new phenomenon (ibid, 27).

products or services with the core product for which the platform holds monopoly means that potential competitors will need to enter not one but many markets to match the bundle and displace the platform.⁵³⁴ Thus, adding new products to the platform's ecosystem increases the customer engagement and protects the leading position of the platform within the ecosystem. There is a lot of anecdotal evidence that the main target for offering financial services to the Big Tech's customer base is increasing participation in their ecosystems,⁵³⁵ rather than an entry into financial services markets to displace banks. For example, Ant Financial executives explicitly stated that by entering into the payment market in China they do not intend to disrupt banks and 'largely serve as a platform that makes it easier for banks and others to extend loans' [to Ant Financial's customers].⁵³⁶ Increasing customer engagement across many product markets means that it will be much more difficult for their competitors to enter and compete with the Big Tech companies in any of these markets – the result of a successful defensive leveraging.⁵³⁷ On top of that, increasing customer engagement indirectly increases the monetization of a platform through increasing the number of transactions intermediated by a platform or ad clicks in case of media platforms (more on this in Section 2.3.1).

Open Banking regulation gives access to banks customer data to everyone, regardless of status, size or dominance in other markets. It is business model agnostic,⁵³⁸ as long as public authorities has granted the TPP an authorised provider status. An authorised Big Tech provider can also get access to bank data through open APIs. We have established in the previous subsections that when it comes to smaller competitors, Open Banking regulation focuses on enabling intra-platform competition, with the idea similar to the "ladder of investments" in the telecom industry (that the Fintech competitors will eventually grow and challenge incumbent banks by building up their own infrastructure and customer data base). Thus, Open Banking welcomes (or is at least neutral about) the entry of Big Tech companies, because the latter can scale up and compete with Big Banks straightaway, without the need to climb a "ladder of investment".⁵³⁹ If we look at the payment markets in isolation, increasing entry, regardless of who the entrants are, is a reasonable choice. Moreover, favouring competitors which are more likely to scale and compete on a par with incumbent banks is also a reasonable choice, if the aim is to break the historical entrenchment of the banks' market power. At the initial stage, large digital platforms are best placed to challenge the long-standing incumbency of banks in the payment industry. Hence, allowing the entry of Big

⁵³⁴ Condorelli and Padilla (n 524) 160-161, 182.

⁵³⁵ 'Everything You Need to Know About What Amazon Is Doing in Financial Services' (n 270).

⁵³⁶ Yifan (n 345).

⁵³⁷ Condorelli and Padilla (n 524) 157, 159-160; Todd (605).

⁵³⁸ PSD2, Preamble, para 33: "This Directive should aim to ensure continuity in the market, enabling existing and new service providers, **regardless of the business model applied by them**, to offer their services with a clear and harmonised regulatory framework".

⁵³⁹ This stance has been confirmed in private interviews with officials in OBIE (Open Banking Implementation Entity) and CMA (Competition and Markets Authority) that I conducted in November 2019.

Tech companies seems an effective way to promote inter-platform competition, contrary to the doomsayers, like Miguel de la Mano, Jorge Padilla and Anna Argentati. The importance of inter-platform competition in the payment markets makes prohibiting the entry of Big Tech companies in the payment markets or carving them out from the group of potential beneficiaries of Open Banking regulation unjustified. A rule that prohibits or significantly impedes adjacent market entry by the Big Tech will prevent any potential harm arising from inter-platform envelopment, but it will also impede the initial increase in inter-platform competition following such entry which is beneficial to consumers.⁵⁴⁰

However, if we look across the markets at the whole digital ecosystem and put it in the dynamic perspective, the picture changes dramatically. The main concern around the entry of Big Tech companies lies in the theories of harm related to misuse of customer data and, particularly, in combining the data sets from various resources (in this case, the data collected by the Big Tech companies in their original markets (e.g. online search) and the Open Banking data). Such combination can serve to exclude competitors as efficient as the Big Tech companies, but which do not have access to the same rich data troves and, importantly, who cannot leverage the dependence of customers on the digital platform's ecosystem. The European Commission has already expressed concerns that access to data imposed by a legal mandate (such as PSD2) 'may also benefit the large data conglomerates; in some settings, it may even allow them, based on the economies of scope they can realize when *combining their own data troves with that of another firm that is dominant in a separate market, to expand their own dominant position*'.⁵⁴¹ The combination of different datasets becomes problematic if this combination allows the dominant firm to extract information that provides for a significant competitive advantage, but is hard for competitors to replicate or if the combination may be the basis of leveraging the market power.⁵⁴² The European Commission's report also suggests that when it comes to personal data, the combination of different datasets may need a separate act of permission, whether consent or interest balancing,⁵⁴³ suggesting that giving access should be a case-by-case exercise rather than an across-the-board obligation. Academic studies also point to the ability of digital platforms to exclude efficient competitors through leveraging the user data from various sources (e.g. using so-called "privacy policy tying", which means "the strategy of linking the enveloper's privacy policies in the origin and target markets to extract the user's consent to the combination of data generated

⁵⁴⁰ See Todd (n 605) 524-525.

⁵⁴¹ *ibid* 108 (emphasis added).

⁵⁴² *ibid*.

⁵⁴³ *ibid*.

in both markets for commercial purposes”).⁵⁴⁴ This deeper understanding of how user data is instrumental to anti-competitive envelopment along with the dynamic approach to competition law analysis cast doubt on the statement that the Big Tech’s entry into adjacent markets is always for the customer benefits and leads to increase in inter-platform competition.

Obviously, the problem does not lie exclusively in Open Banking regulation. Neither it is limited to the narrow domain of the payment markets. Open Banking regulation obliges banks which are often not in a dominant position to open access to their customer data to companies which have a dominant position and possess a vast amount of data about the same customers in other markets.⁵⁴⁵ This controversy reveals problems with the Big Tech companies in a broader context of digital economy. Open Banking regulation has a very specific goal of enabling new entry in the industry where the customer data and access to customer accounts is locked within large legacy institutions. It leaves out the considerations about the entire ecosystem which the payment markets become part of as a result of the ongoing industry platformisation.

This highlights the fact that the core of the problem lies not in the payment markets and Open Banking regulation, but in the Big Tech’s strategies of leveraging customer data and customer loyalty obtained in their original markets, gradual accumulation of their market power and exclusion of as-efficient competitors in adjacent markets over the time. Because the problem spans across various markets, often as different as payment and social media or payment and electronic marketplace, the solution is bound to be complex, going beyond the narrow scope of sector-specific regulations, as will be discussed in the next Chapter. The coordinated approach between sector-specific regulations in the payment markets, competition law, data protection law and regulations concerning digital platforms will be the key to resolving the concern about opening the “Pandora’s box” of anticompetitive envelopment via Open Banking regulation.⁵⁴⁶

To conclude, the entry of the Big Tech companies in the payment markets is imminent and Open Banking regulation favours (or at least is neutral about) such entry as a way to immediately increase inter-platform competition and to put pressure on incumbents. However, this paper takes a dynamic approach and looks across the entire ecosystem, which makes the Big Tech companies’ entry more problematic, due to their ability to extract and combine customer data from various sources and their potential to exclude as-efficient competitors by leveraging their market power from the markets of origin. Left alone, banks and Fintech are unlikely to respond adequately to this challenge and are under the threat of becoming mere suppliers of unbundled financial services to

⁵⁴⁴ Condorelli and Padilla (n 524) 161; Nick Economides and Ioannis Lianos, ‘Restrictions on Privacy and Exploitation in the Digital Economy: A Competition Law Perspective’ (August 2019) Centre for Law, Economics and Society (CLES) Faculty of Laws, < <https://ssrn.com/abstract=3474099> > accessed 24 January 2021.

⁵⁴⁵ Argentati (n 12) 459.

⁵⁴⁶ See Section 4.2 for the discussion of a coordinated “toolkit approach” to resolving competition concerns stemming from the platformisation of economy.

one or few dominant platforms, as none of them could match the bundled offering of the Big Tech companies. The “winner-takes-all” dynamics leads to inter-platform competition withering and customers facing harm in the form of less innovation, decrease in consumer choice and increased prices. Hence, the narrow focus of Open Banking regulation on the payment markets only and on the immediate increase in entry (and the resulting short-term increase in competition) could fail to promote inter-platform competition and prevent the dominance of a few big platforms in the long run. The complex approach going beyond the sector-specific regulations and involving competition law, data protection law and regulations concerning digital platforms might be needed, as will be discussed in Chapter 4.

3.3.4 Open Banking and Data Protection

The last question to cover in Chapter 3 is how Open Banking regulation interplays with data protection regulation. This question is important, because, as discussed above, the envelopment strategies of the Big Tech companies hinge upon the cross-use of customer data collected in different markets. Hence this paper will assess whether data protection regulation offers any instruments to prevent such cross-use of customer data without the need to change Open Banking regulation.

Data protection has become a major concern for many jurisdictions, as customers failed to protect their data in the past.⁵⁴⁷ Big players in the digital markets have exploited consumer data in various ways including by sharing the data with third parties, combining the data from different sources and consumer profiling,⁵⁴⁸ excessive collection of data (‘data hoarding’), etc.⁵⁴⁹ Many countries responded to these abusive practices by introducing data protection regulations⁵⁵⁰ or by reviewing their existing privacy legislation.⁵⁵¹

⁵⁴⁷ See for example ‘Digital Era Competition: A BRICS View’ (n 72) 845; Stigler Committee Final Report (n 2) 53; Bundeskartellamt Press Release, ‘Bundeskartellamt Prohibits Facebook From Combining User Data From Different Sources’ (07 February 2019) <https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/07_02_2019_Facebook.html> accessed 18 August 2019.

⁵⁴⁸ Stigler Committee Final Report (n 2) 53.

⁵⁴⁹ Yan Carrière-Swallow and Vikram Haksar, ‘The Economics and Implications of Data: An Integrated Perspective’ International Monetary Fund (September 2019) 32, 42.

⁵⁵⁰ For instance, the European Data Protection Regulations; the UK Data Protection Act 2018; the California Consumer Privacy Act (CCPA) 2018; Brazilian General Data Protection Law (Law n. 13.709/2018).

⁵⁵¹ For example, Canadian Privacy Act (1983) is currently under review (<<https://www.justice.gc.ca/eng/csj-sjc/pa-lprp/modern.html>> accessed 25 March 2020).

The European General Data Protection Regulation (GDPR) came into force on 25 May 2018,⁵⁵² with a view to modernising laws which protect the personal information of individuals. The main principle of the GDPR is the requirement to have a ‘legal basis’ for all processing of individualised personal data.⁵⁵³ The GDPR significantly strengthens the protection of personal data by granting individuals many rights over their data, such as the right to access their personal data,⁵⁵⁴ the right to rectification of inaccurate personal data,⁵⁵⁵ the right to have personal data erased (‘right to be forgotten’),⁵⁵⁶ and, importantly, the right to data portability.⁵⁵⁷ The latter allows individuals to obtain and reuse their personal data across different services providers. Portability should encourage switching between different platforms and neutralise the network effects that benefit incumbents.⁵⁵⁸

In addition to enacting the data protection regulations, competition authorities started to incorporate privacy considerations in their analysis. The most salient example is the Facebook case resolved by the German competition authority (*Bundeskartellamt*), where the latter condemned the abuse of dominance in the form of illegal harvesting of user data.⁵⁵⁹ The decision concerned Facebook collecting user data from third-party websites (tracking user behaviour on other websites or applications) and using this data for Facebook’s own business purposes. This practice exploited end users and gave Facebook a head start in the competitive game, because ‘by combining extensive third-party data sets with the data it gathers through its own website and applications, Facebook is able to turn multi-source data into comprehensive user profiles’.⁵⁶⁰ The *Bundeskartellamt* found that this cross-use of data amounted to exploitative abuse. This decision follows the amendment of Section 18(3a) of the German Competition Act, according to which access to data is relevant for establishing a company’s dominant position in multi-sided markets. The decision of the *Bundeskartellamt* established that Facebook held market power in the social networks market and abused this power by gaining access to a large number of data sources not available to its competitors. Importantly, two conditions are necessary to find such a combination of data resources abusive. First, it should be achieved through violation of the law (in the case of Facebook, through violation of data protection laws). Second, Facebook used its superior bargaining position in relation to users, making access to the platform *de facto* conditional on the user’s broad

⁵⁵² Regulation (EU) 2016/679 (n 429).

⁵⁵³ *ibid* Article 6.

⁵⁵⁴ *ibid* Article 15.

⁵⁵⁵ *ibid* Article 16.

⁵⁵⁶ *ibid* Article 17.

⁵⁵⁷ *ibid* Article 20.

⁵⁵⁸ See Crémer, de Montjoye, and Schweitzer (n 288) 8-9, 58.

⁵⁵⁹ *Bundeskartellamt* Press Release (n 547).

⁵⁶⁰ Thibault Schrepel, Sam Sadden and Jan Roth, ‘CPI EU News: FCO Facebook Quadriptych’ (7 March 2019) CPI <<https://www.competitionpolicyinternational.com/cpi-eu-news-fco-facebook-quadriptych/>> accessed 10 March 2020.

consent to data harvesting by Facebook. In addition, collecting such a vast amount of data was not necessary for delivering services to users.⁵⁶¹

The decision has been welcomed as the first to pose the question of how privacy standards, especially in zero-price markets, can be incorporated into competition law analysis.⁵⁶² It has also been the first case where competition law has undertaken a serious analysis of the cross-use of data by a dominant platform and how access to data might reinforce its market dominance. The *Bundeskartellamt's* decision is important in understanding how competition law approaches the cross-use of data by digital platforms and what kind of remedies could be imposed, *inter alia*, to prevent the cross-use of data through Open Banking regulation (see Section 4.3).

Because Open Banking regulation deals with personal data (precisely, personal financial data), it should consider carefully the implications that the access to such data granted to TTPs can have on consumers rights. Open Banking does not act in isolation, but is a part of the whole block of regulations concerning customers rights to their data circulating within the digital economy, the most important of which is the GDPR.

Open Banking regulation (such as the PSD2) and data protection regulation (such as the GDPR) have much in common.⁵⁶³ First, both the GDPR and PSD2 deal with personal data, e.g. information that relates to an identified or identifiable natural person.⁵⁶⁴ The GDPR deals with any type of personal data, while the PSD2 deals with personal data related to the provision of payment services.⁵⁶⁵ The GDPR is thus a more general framework. The PSD2 should respect the requirements laid out in the data protection regulation, when the personal information of a customer is concerned.⁵⁶⁶ Second,

⁵⁶¹ Facebook Case Summary, 10, <https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Fallberichte/Missbrauchsaufsicht/2019/B6-22-16.html;jsessionid=6C169BC7DF32BFD7B34E6F2984D28238.1_cid371?nn=3600108> accessed 18 August 2019.

⁵⁶² See 'Digital Era Competition: A BRICS View' (n 72) 870-871; Marco Botta and Klaus Wiedemann, 'The Interaction of EU Competition, Consumer, and Data Protection Law in the Digital Economy: The Regulatory Dilemma in the Facebook Odyssey' (2019) 64:3 *The Antitrust Bulletin* 428, 445; Jörg Hladjk, Philipp Werner and Lucia Stoican, *The German Facebook Case – Towards an Increasing Symbiosis Between Competition and Data Protection Laws?* (2019) *Competition Policy International*, <<https://www.competitionpolicyinternational.com/the-german-facebook-case-towards-an-increasing-symbiosis-between-competition-and-data-protection-laws/#>> accessed 02 September 2019.

⁵⁶³ Though the further analysis applies to the European regulations, like the GDPR and PSD2, it is valid also for the UK Open Banking directive and the UK data protection regime which is based on the GDPR and the Data Protection Act 2018. As for other countries, Open Banking regulation and data protection regulation regimes vary greatly. Thus, the Australian government has made an attempt to integrate Open Banking and consumer data protection regulations in the single economy-wide document - the Consumer Data Right act (CDR). Unlike the GDPR, the CDR focuses more on enabling consumers to move their data around in the secure manner and to unlock the economic value of such data sharing for both consumers and the broader economy (see US Treasury, 'Consumer Data Right - Fact Sheet' <<http://static.treasury.gov.au/uploads/sites/1/2018/02/180208-CDR-Fact-Sheet-1.pdf>> accessed 25 March 2020).

⁵⁶⁴ GDPR, Article 4 (1).

⁵⁶⁵ PSD2, Article 94.

⁵⁶⁶ PSD2, recitals 89; see also Article 67 paragraph 2 (f).

both contain provisions giving customers some form of control over their data, such as the right to port the data in the GDPR and the right to allow selected TPPs to access and collate the financial data from financial institutions in PSD2.⁵⁶⁷ Finally, both avoid spelling out the specific legal status of customer data. Neither the general GDPR, nor the sector-specific PSD2 sets out who owns the data being shared. The GDPR does not establish property rights over the personal data,⁵⁶⁸ and neither does the PSD2 go that far, though it implicitly applies the premise of *de facto* possession of the customer account data by the payment account providers.⁵⁶⁹

On the other hand, the PSD2 has a quite different focus than the GDPR. The GDPR is inspired by a fundamental rights approach, as it considers data protection as a part of the human right to privacy.⁵⁷⁰ Some GDPR provisions (such as the rule on data portability in Article 20) also have very explicit focus on protecting consumers.⁵⁷¹ On the contrary, the goal of Open Banking regulation is to provide a level playing field and promoting more efficient European payments markets, along with the consumer protection as a secondary objective.⁵⁷² Therefore, Open Banking is a sectorial regulation in the field of industrial policy and competition, while the GDPR has an individual-centric, rather than industry-centric stance.

This conceptual difference translates into a difference in content. The PSD2 takes a proactive stance towards personal data, while the GDPR takes a protective stance. The PSD2 goes further than the GDPR in imposing data sharing obligations on data controllers, as it requires them to ensure not just one-off data portability, but data interoperability, meaning continuous access to customer data.⁵⁷³ Such access should be implemented via technical means, for example, APIs, without consumers being required to perform specific actions to port their data. This allows seamless data transfer from one provider to another for delivering services to customers.

Because the Open Banking regulation facilitates ‘further-reaching data access’⁵⁷⁴ than the GDPR, we could expect that the Open Banking regulation sets higher data protection standards. However, because the PSD2 is industry-centric, it is cautious about imposing more stringent data protection rules on industry actors compared to the GDPR. Article 66 (payment initiation services) and Article 67 (account information services) of the PSD2 impose restrictions on the use of the data transmitted from account providers (banks) to the third party providers (PISPs and AISPs). PISPs shall not ‘use, access or store any data for *purposes other than for the provision of the payment initiation service as explicitly requested by the payer*’.⁵⁷⁵ AISPs shall not ‘use, access or store any data for *purposes*

⁵⁶⁷ Crémer, de Montjoye, and Schweitzer (n 288) 81; GDPR, Recital 68.

⁵⁶⁸ See ‘Digital Era Competition: A BRICS View’ (n 72) 844.

⁵⁶⁹ See European Commission Fact Sheet (n 368) para 23.

⁵⁷⁰ See ‘Digital Era Competition: A BRICS View’ (n 72) 844.

⁵⁷¹ Drexler (n 353) 286.

⁵⁷² European Commission Fact Sheet (n 368) para 3.

⁵⁷³ Crémer, de Montjoye, and Schweitzer (n 288) 83-84.

⁵⁷⁴ *ibid* 82.

⁵⁷⁵ PSD2, point (g) of Article 66 (3).

other than for performing the account information service explicitly requested by the payment service user, in accordance with data protection rules'.⁵⁷⁶ The wording of these provisions does not make very clear whether this prohibition is absolute (information can be used only for PIS and AIS explicitly requested by the user) or conditional (i.e. it is possible to use the transactional information for other purposes, e.g. for the provision of other services for the same user, with the user's consent). Because Article 67 of the PSD2 refers to the GDPR ('in accordance with data protection rules') and consent is the legal basis for processing personal data under GDPR,⁵⁷⁷ it is likely that the information obtained under Article 67 of the PSD2 can be cross-used for other purposes with the user consent, according to the user's 'right to informational determination'.⁵⁷⁸ Based on this we can conclude that the cross-use of the data obtained via Open Banking is not prohibited as such. As a confirmation of this, some Open Banking regimes consider using the customer data held by banks to create a universal digital identity for users.⁵⁷⁹ Obviously, pumping the banks' customer data through open APIs to verify the users' identity for other, unrelated purposes⁵⁸⁰ is not quite consistent with the spirit of data protection. However, it could unlock massive efficiencies, first for TPPs and providers of digital, non-bank services.⁵⁸¹ This could have very long-term consequences not only for the payment industry, because marrying raw payment data with the sophisticated insights collected by digital platforms has potential to completely re-invent a 'digital customer journey'⁵⁸² and allocation of the market power.

To conclude, both the Open Banking regulation and data protection regulation deal with access to customer personal data, but from the different perspectives. Open Banking regulation generally follows the GDPR approach, based on the 'right to informational determination' allowing users to decide what to do with their information. Later, this Section concluded that payment services

⁵⁷⁶ PSD2, point (f) of Article 67 (2).

⁵⁷⁷ Article 6, para 1 (a) of the GDPR.

⁵⁷⁸ This position is generally confirmed by the decision of Bundeskartellamt (the German Competition Authority) in the *Facebook* case (see above).

⁵⁷⁹ ODI and Fingleton Report (n 342) 21, 39-41.

⁵⁸⁰ The Fingleton Report uses an example of "a user wishing to prove their age anonymously to a merchant, for example a gaming or adult website". In this case Open Banking APIs can be used to verify the age of the user. There are opinions that in the future banks could become digital identity providers not only to their customers, but to any person requesting this (see the Finextra report, 'The Role of Digital Identity in the Future of Banking' <<https://www.finextra.com/surveys/survey.aspx?surveyguid=def0bbff-4a9c-4cf8-bb9e-e805ab71ecd9>> accessed 08 May 2020).

⁵⁸¹ Peter Walker, 'Open Banking 'Could Drive Digital ID Standards' (29 November 2019) <https://www.fstech.co.uk/fst/Open_Banking_Digital_ID_Scheme.php> accessed 08 May 2020; Rohan Pinto, 'The Role Of Verified Digital Identities In The Open Banking Ecosystem' *Forbes* (11 December 2018) <<https://www.forbes.com/sites/forbestechcouncil/2018/12/11/the-role-of-verified-digital-identities-in-the-open-banking-ecosystem/#46e3d8bf42ba>> accessed 08 May 2020.

⁵⁸² 'Digital Era Competition: A BRICS View' (n 72) 841.

providers with access to account information under Open Banking regulation can combine this information with other customer data or gain insight from this information for other business purposes based on the user consent. The PSD2 avoids placing too high a burden on the new competitors, third party providers, which are assumed to be small Fintech start-ups, so it generally sticks to the GDPR standards. This approach, however, might benefit cross-market platforms who could use the payment services as an avenue to increase customer engagement in their ecosystems and to deploy inter-platform envelopment strategy.

Conclusion

This Chapter provided a detailed analysis of Open Banking regulation from the competition perspective. It started by identifying the role of data in the digital economy and questioning whether data can be a source of market power. It then explored the emergence of Open Banking, which is an innovative business model enabling the sharing of banking data between various market players to deliver enhanced capabilities to the marketplace. Open Banking was conceived as a way to give customers more control over their data and to provide a level playing field for the new competitors, Fintech.

Several countries (for example, the EU, UK and Australia) have opted to regulate the emerging Open Banking ecosystem by mandating banks to open access to their transactional data. Section 3.3 analysed how these access regulations affected various aspects of platform competition, namely inter-platform and intra-platform competition.

This Chapter found that access regulation, taken alone, is not unequivocally pro-competitive. Though beneficial for intra-platform competition, it facilitates a faster shift to the platform model and can benefit certain market players (mostly Big Tech companies, but also traditional banks which deploy the platform-building strategies). Open Banking regulation discourages Fintech companies to develop alternative payment systems and become E2E providers in their own right. Instead, it locks Fintech companies within the banks' platforms, though on better conditions than in the absence of such regulation. In this way, Open Banking discourages inter-platform competition in the long term.

This Chapter also discussed whether Open Banking regulation provided disproportionate benefits to the Big Tech companies. It concluded that the Big Tech companies' main competitive advantage stemmed from their ability to leverage the customer data they collected in their markets of origin and to combine these data with the banking data collected through Open Banking. The Big Tech companies leverage the complementarity of their core offerings with their payment services (the two products are complementary if they provide customers *prima facie* benefits when offered together) to steer their customers to use the Big Tech's own financial services. Big banks and Fintech companies are unlikely to match this bundle and gain equivalent value from Open Banking access. Open Banking regulation, taken alone, does not address this concern about the cross-use of data

across different markets. Neither do the data protection provisions built into Open Banking regulation prevent the cross-use of customer data.

These conclusions make application of Open Banking regulation to other industries by way of 'copying and pasting' quite problematic. First, such application requires striking a delicate balance between inter-platform and intra-platform competition, to prevent the emergence of dominance by big and powerful platforms and keep the markets open for competition and innovation. Second, it should be complemented by some safeguards against the cross-use of customer data by the companies dominant in other markets and combining the data collected through Open Banking with other customer data for profiling purposes. Finally, each industry has its own specific features and dynamics that should be taken into account when considering whether to enact access regulations – in particular, the presence of network effects, the stage of platformisation, entry barriers, the value of data for competition and potential business cases for granting competitors access to incumbents' data. Implications of these conclusions for the public policy will be further discussed in Chapter 4.

Chapter 4 Alternatives. Open Banking regulation – Remedial Blueprint for the Digital Era?

Having arrived at a diagnosis, the next logical question is ‘What is the cure?’. Should we even create one or just allow events to run their course?

The topic of regulation is one of the most contentious. The lack of regulation can have disastrous effects, as the financial crisis of 2008 demonstrated, when many people lost their homes and companies went bust.⁵⁸³ However, badly designed regulations can cause not less but more harm, which is often harder to assess because of the hidden nature of regulatory costs, such as lost opportunities, chilled innovation, suppressed competition. Therefore, the decision when and how to regulate is a very difficult one. Competition law is often presented as a less intrusive alternative, but potentially harder to monitor effectively.

This Chapter will tackle few questions raised in previous parts of the paper. First, it will assess what should be done to re-balance the current narrow focus of Open Banking regulation on intra-platform competition and overcome the short-termism in the assessment of the payment industry that downplays the fact that it is undergoing dramatic transformation from the product to platform business model. It will also assess how to deal with concerns about Big Tech companies entering the payment markets using the Open Banking mandate in order to combine various data set and leverage their position in other markets. In particular, this Chapter will critically assess the proposal to extend the perimeter of Open Banking regulation to Big Tech platforms.

This paper acknowledges that the approach to Open Banking is bound to be complex. It will inevitably involve both regulations and competition law, considering that the ultimate goal is to ensure that competition in the payment markets runs smoothly and none of the players can take unfair advantage to the detriment of consumers. The policy-makers in the network industries, like the payment markets, always have two options. The first option is mandating access to data in the form of regulation based on typified conflicts of interest as they have existed in the past. The second option is mandating access to data based on a case-by-case real time assessment by a competent authority. The state leaves it to the market to develop and adopt data-sharing frameworks intervening only when the market fails and the competition is effectively foreclosed due to refusal

⁵⁸³ See Joseph Stiglitz, ‘Government Failure vs Market Failure: Principles of Regulation’ in E Balleisen and D Moss (eds), *Government and Markets: Toward a New Theory of Regulation* (Cambridge University Press 2009).

of dominant undertakings to grant access to data. Access to data is the area where sector-specific regulations and competition law can be both complementary and substitutable and should work together closely as ever.

This Chapter will proceed as follows. The first Section will discuss the interplay between competition law and sector-specific regulation and draw the line between the scope of their application. The second Section will outline the debate around statutory access to data as a remedy to competition concerns. It will discuss how regulations can be re-balanced to promote both inter-platform and intra-platform competition and prevent the 'data dominance' of big platforms. It will also question whether extending the perimeter of the PSD2 requirements to digital platforms would be beneficial for competition. The third Section will discuss mandatory data sharing pursuant to the decisions of competent authorities (e.g. in abuse of dominance cases). Unlike statutory data sharing, such access is based on a case-by-case assessment of a specific situation and the balancing of the positive effects of such data sharing against its regulatory and social costs. Therefore, it can fill the gaps left by Open Banking regulation and can be an alternative solution in the industries where introduction of regulations is not justified. Finally, the fourth Section will discuss whether special obligations or conditions should be applied to digital platforms that receive access to banking or other industry-specific data to prevent them from restricting competition by cross-use of the strategic datasets. Among such special obligations this Section will explore the ring-fencing or information firewalls requirement that should be incorporated in the Open Banking mandate. Such requirement will prevent Big Tech companies from using banking data to gain competitive advantage in other markets and from using the data collected in their original markets to enter the payment sector. Then the Chapter 4 will conclude.

4.1 Regulation and Competition Law Interaction: Introduction to the Debate

The PSD2, the Open Banking initiative in the UK, the Australian Consumer Data Rights Act have effectively introduced sector-specific regulations in the payment markets with the view to open them up for more competition from innovative entrants. This raises a pertinent question of the interaction between Open Banking regulation and competition law. In other words, the question is whether sector-specific regulation is a good choice for preserving inter-platform and intra-platform platform competition in the payment markets, or competition law should play a greater role in this agenda. Therefore, before this paper proceeds with policy recommendations on how to remedy the various concerns discussed in Section 3, it is useful to give a quick overview of the interaction and distinction between sector-specific regulations and competition law in terms of their objectives, instruments and the nature of intervention.

The need to draw the line between sector-specific regulations and competition law has arisen in the context of so-called regulated markets that demonstrate strong tendency to natural or network monopoly and where the competition has been historically impaired (telecom, energy, and, lately, emerging technological sectors).⁵⁸⁴ Both competition law and sector-specific regulations have similarity of objectives focusing on competition in the markets where it is suppressed if left “as is”. Regulations take a more forward-looking stance focusing on actively shaping the conditions of competition in the market by breaking the entrenched market power of incumbents, lowering entry barriers and making sure that new entrants can challenge incumbents. Very often it is framed in the terms of “creating” or “improving a level playing field”.⁵⁸⁵ On the other hand, competition law is tasked with preserving competition, rather than actively shaping competitive conditions. Hence, it does not aim at undermining the existing position of dominance as such. It rather strives to preserve the conditions of competition that existed before the anticompetitive behaviour happened and to make sure that an incumbent behaves as if there is effective competition in the

⁵⁸⁴ For the discussion, see for example, Javier Tapia and Despoina Mantzari, ‘The Regulation/Competition Interaction’ in Handbook on European Competition Law (2013, Edward Elgar Publishing), 588-628; Pablo Ibáñez Colomo, ‘On the Application of Competition Law as Regulation: Elements for a Theory’ (2010) 29:1 Yearbook of European Law, 261–306; Giorgio Monti, ‘Managing the Intersection of Utilities Regulation and EC Competition Law’ (2008) 4 C.L.R. 123-145.

⁵⁸⁵ See European Commission Fact Sheet, ‘Payment Services Directive: frequently asked questions’ (n 368); OBIE, ‘Open Banking Highlights – June 2020’, <<https://www.openbanking.org.uk/about-us/latest-news/open-banking-highlights-june-2020>> accessed 10 January 2021, where the Trustee of the OBIE, Imran Gulamhuseinwala, commented that “[p]romoting competition and innovation to create a level playing field... are the core drivers of Open Banking”.

market.⁵⁸⁶ In this sense, the traditional competition law is not concerned about creating a level playing field for all rivals – it is widely acknowledged that competition law aims at preserving the competitive process and not competitors.⁵⁸⁷ Hence, competition law is more re-active in its approach to the market conditions and does not intervene even if the competition is less than perfect unless certain triggers happen (in the form of anticompetitive collusion, abuse of the market power or merger).⁵⁸⁸

Stemming from these differences in objectives, the timing of intervention is also different. Competition law has been long considered as exclusively *ex post* intervention, while sector-specific regulations – *ex ante*. This means that competition law deals with the conduct that happened in the past while regulations set the rules that define the future conduct of firms in the market before any harm to competition happens.⁵⁸⁹ Competition law requires establishing adverse effects of such conduct on competition (either actual or likely), while regulations act regardless of the effects that the specified conduct has on competition, as long as it falls within the scope of regulations. Inevitably, competition law is based on the analysis of evidence and facts, while regulations are based on assumptions and hypothetical analysis, as they seek to predict the long-term effects of opening the markets for rivalry. Clearly, another important distinction between competition law and sectorial regulations is that competition law is applied on a case-by-case basis, while regulation applies “across the board”, setting blanket rules for groups of undefined subjects.⁵⁹⁰

Final distinction is that regulation is prescriptive (i.e. it prescribes how subjects should behave), while competition law is proscriptive (i.e. it prohibits specific conduct).⁵⁹¹ The typical competition law remedy is a cease-and-desist order and a fine. Prohibition, or negative obligation, can apply not only to the past behavior, but can set forth the obligation not to engage in the condemned conduct in the future (e.g. not to include an anti-competitive clause in future agreements). However, any behavioural remedies that set forth positive obligations, i.e. obligations to undertake a specific course of conduct, require ongoing monitoring and are deemed to be ill-suited for competition law.⁵⁹²

⁵⁸⁶ P Ibáñez Colomo (n 584) 263, 292; see also ‘Abuse of dominant position: Main elements’ in Ioannis Lianos, 117; Dd Gerber (n 45).

⁵⁸⁷ 2009/C 45/02, ‘Communication from the Commission — Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings’, OJ C45/7: ‘the Commission is mindful that what really matters is protecting an effective competitive process and not simply protecting competitors.’ See also Eleanor Fox, ‘We Protect Competition, You Protect Competitors’ (2003) *World Competition* 26:2.

⁵⁸⁸ See P Ibáñez Colomo, ‘EU Competition Law in the Regulated Network Industries’, (2016) *LSE Law, Society and Economy Working Papers* 08/2016, 12.

⁵⁸⁹ Crémer, de Montjoye, and Schweitzer (n 288) 107; ‘Unlocking Digital Competition: Report of the Digital Competition Expert Panel’ (**Furman Report**), paras 2.45-2.46 <<https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>> accessed 30 September 2019.

⁵⁹⁰ Stigler Committee Final Report (n 2)78.

⁵⁹¹ P Ibáñez Colomo (n 584) 263.

⁵⁹² Drexler (n 353) 280; Crémer, de Montjoye, and Schweitzer (n 288) 107; Furman Report (n 589) paras 2.45-2.46. This assumption will be further discussed and challenged in Section 4.3.

Sector-specific regulations were often considered as opposite or excluding competition law, meaning that the more the state intervenes (even with the view to increase competition), the less room is left for competition law. Lately, however, this clear-cut distinction between sector-specific regulations and competition law started to blur. As noted by Javier Tapia and Despoina Mantzari, even upon liberalisation of regulated industries, markets remain regulated to different degrees with “competition [being] merely the mildest form [of regulation]”.⁵⁹³ Competition law is also increasingly applied *ex ante*. The overview of the EU competition law shows that it is applied before the competition law violation has been formally established through merger control; precedents, principles and “bright-lines”; commitment decisions; market inquiries and other “soft law” instruments.⁵⁹⁴ Moreover, in some aspects competition law starts to resemble sector-specific regulations, when it goes beyond the mere mandate of preserving competition and imposing on dominant undertakings the obligation to stop anti-competitive behaviour. This phenomenon has been labelled “regulatory antitrust”.⁵⁹⁵ “Regulatory antitrust” takes place when competition law aims to improve the market conditions and even change the market structures rather than to merely revert to the situation that had existed before the anticompetitive behaviour happened.⁵⁹⁶ For example, in a classic “refusal to deal” case *IMS Health*, the EU Commission, supported by the European Court of Justice, took a pro-active stance in opening up the downstream market depending on the input of the dominant undertaking protected by the intellectual property rights.⁵⁹⁷ The remedy applied by the EU Commission was compulsory licencing that effectively resulted in opening the bottleneck segment of the market and limiting the incumbent’s market power only to the upstream market (the information system on sales and the prescription of pharmaceutical products).⁵⁹⁸ Other examples of quasi-regulatory competition law enforcement involves enforcement actions following market inquiries (that do not establish the breach of law)⁵⁹⁹;

⁵⁹³ J Tapia and D Mantzari (n 584) 2.

⁵⁹⁴ P Ibáñez Colomo (n 584) 264-265.

⁵⁹⁵ See J Tapia and D Mantzari (n 584) 21-22.

⁵⁹⁶ J Tapia and D Mantzari (n 584) 21-22.

⁵⁹⁷ Case C-418/01 *IMS Health* [2004] ECR I-5039.

⁵⁹⁸ P Ibáñez Colomo (n 584) 273.

⁵⁹⁹ E.g. Communication from the Commission – Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), Brussels, 10 January 2007, that opened the avenue for formal investigations in the energy sector.

various refusal to deal and margin squeeze cases in the telecom sector;⁶⁰⁰ commitment decisions that change the conditions of competition in the market rather than just restore them.⁶⁰¹

The extension of traditional competition law in order to change market conditions in a more proactive way has been subject to fierce debates. Some scholars perceive it negatively as “an attempt to regulate the market through competition law enforcement”, which is against the goals of competition law.⁶⁰² On the other hand, previously quoted academics and government-supported reports advocate closer collaboration and even convergence between sector-specific regulations and competition law.⁶⁰³ For example, there is a proposal to deploy a “toolkit approach” that would combine different tools of competition law and regulation, with competition law playing foundational role, very much like constitutional law for the public governance, by defining the principles and broader directions of regulation and making sure that the value of competition is respected.⁶⁰⁴ In this case, many market problems, even of structural nature, can be addressed by competition law authorities where current regulations have gaps or do not exist. The downside of this approach, as noted by the critics, is that this may lead to gradual erosion of substantive standards of competition law, its instrumentalization,⁶⁰⁵ where competition law is perceived as just another tool to pursue the regulatory agenda. In this case competition law will not be in a position to detect and correct the blind spots of sector-specific regulations and might fall short of its own objectives. This is the danger inherent in sector-specific regulations especially when they have an objective of “promoting competition” or creating level playing field. In this case, competition law should be particularly vigilant and act effectively as a ‘background regime’ to support legislation in combatting competition-distorting practices.⁶⁰⁶

The PSD2 is an example of such sector-specific regulations with the particular focus on promoting competition and opening up payment markets to technologically savvy competitors. As we have discussed in the previous Chapter, it has a clear focus on intra-platform competition through increasing a number of new entrants. In this scenario, the question is what kind of role should be played by competition law, especially in promoting inter-platform competition and, hence, rebalancing the dynamic and static efficiencies, short-term and long-term objectives. This thesis shares the view that competition law plays a role of the “background regime” and should act as a complementor, filling the gaps and informing the sector-specific regulations where they act against

⁶⁰⁰ E.g. Case T- 271/03 *Deutsche Telekom v Commission* [2008] ECR II- 477 and Case C-52/09 *Konkurrensverket v TeliaSonera Sverige AB*, EU:C:2011:83.

⁶⁰¹ See, for example, Case COMP/30.388- German electricity wholesale market and case COMP/39.389 German electricity balancing market, 2009 O.J. (C 36) 8.

⁶⁰² P Ibáñez Colomo, ‘EU Competition Law in the Regulated Network Industries’ (n 588) 16.

⁶⁰³ ‘Digital Era Competition: A BRICS View’ (n 72); Stigler Committee Final Report (n 2).

⁶⁰⁴ ‘Digital Era Competition: A BRICS View’ (n 72) 360, 453.

⁶⁰⁵ P Ibáñez Colomo, ‘On the Application of Competition Law as Regulation...’ (n 584) 282.

⁶⁰⁶ See Crémer, de Montjoye, and Schweitzer (n 288) 53; Letter of the Committee on the Internal Market and Consumer Protection ‘On Competition Policy – Annual Report 2019’ , <https://www.europarl.europa.eu/doceo/document/A-9-2020-0022_EN.html> accessed 16 January 2021.

preserving the competition in favour of other objectives, e.g. economic efficiencies or promoting technological advances. The following sections will assess the interplay of Open Banking regulation and competition law in more details and will analyse the options available to policy makers. Section 4.2. will start with the question what kind of regulations are best suited for payments markets and whether new regulatory proposals aiming to correct the potential downsides of the current Open Banking regime are justified.

4.2 Statutory Data Sharing in the Open Banking context

Open Banking regulation have emerged as a regulatory response to some challenges faced by the payment industry in view of the new developments, such as digitisation, emergence of new technological competitors and the change of paradigm of customer service delivery. When newly emerged Fintech companies faced potential exclusion by incumbent financial institutions, introduction of access regulations to open up the segments of the payment markets seemed a natural choice. It generally followed the path adopted by regulators in other network industries, e.g. utilities and telecommunications sectors.⁶⁰⁷ However, unlike utilities and telecommunications, payment industry does not have the features of natural monopolies. It is not access to a physical infrastructure that is indispensable for competition in the market and is hard to reproduce for competitors. The true novelty of Open Banking regulation is that they mandate the access to banks intangible assets – their customer data and their customer accounts – in the form of data interoperability. It is valid to say that Open Banking regulation has been a bold and unprecedented move in an attempt to put the transformation of the payment industry on a fast track.

That said, mandatory data sharing has been the subject of long-standing debate. Currently, there are many voices insisting that the data collected by platforms in the digital environment should be shared with competitors, actual or potential, when such data is instrumental to competing and fostering further innovation in the relevant markets.⁶⁰⁸ There is, however, very little agreement on what data should be shared and how. Open Banking regulation seems to circumvent this debate and move swiftly to solution on the premise that the data belong to customers. However, in the previous section we have established first that Open Banking regulation falls short to address the concern about promoting inter-platform competition in the long term, focusing on intra-platform competition, immediate market entry and enabling small competitors to “plug into” banks payment infra-structure as front-end providers. Second, Open Banking regulation does not address the concern about potential dominance of Big Tech companies entering the payment markets. They view Big Tech companies as “normal” competitors that can potentially scale up and compete with traditional banks, hence meeting the expectations of Open Banking to have more non-bank competitors in more fragmented customer-facing markets.

⁶⁰⁷ See Milne (n 9).

⁶⁰⁸ See Crémer, de Montjoye, and Schweitzer (n 288) 8-10, 76, 105; Schweitzer and others (n 60); Viktor Mayer-Schonberger and Thomas Ramge, ‘A Big Choice for Big Tech: Share Data or Suffer the Consequences’ (2018) 97(5) *Foreign Affairs* 48, 52.

This Section will deal with the first concern by focusing on how access regulations can strike the right balance between inter-platform and intra-platform competition based on some basic principles of smart regulations and closer interaction with other areas of law, such as competition law. Secondly, it will discuss the proposal to impose the reciprocal statutory obligation on the Big Tech companies to share their data with banks and why this proposal fails to address the concerns explored in Chapter 3. Ultimately, both the first and the second questions are about how Open Banking regulation can ensure that the short-term increase in market entry will not lead to market structures being changed in such a way that inter-platform competition will wither and stall following the completion of the platformisation stage of the market development. It will conclude with some policy recommendations.

4.2.1 A Path towards Inter-Platform Competition

Mandating access to data, as any other regulations, should be based on certain principles. First, the case for introducing regulation should be identified. According to economic theory, the need for government intervention arises when there is a market failure, i.e. the situation where the market itself cannot arrive at a welfare-maximising equilibrium.⁶⁰⁹ In other words, this is ‘the failure of the market to bring about results that are in the best interests of society’.⁶¹⁰ The market failure may refer to negative externalities, lack of competition (e.g. in case of natural monopolies, where competition is not viable), the free-riding problem in the provision of public goods or information asymmetries.⁶¹¹ Regulations generally take three forms:⁶¹²

- Information requirements aimed at reducing information asymmetries (e.g. disclosures);
- Proscriptions (things firms may not do);
- Mandates (things firms must do).

Lately, several studies and reports have supported the idea of ‘smart’ or ‘minimum viable’ regulations which facilitate the desired outcome rather than prescribe the course of behaviour.⁶¹³ The idea of smart regulations is particularly relevant to dealing with large platforms in digital markets. Smart regulations acknowledge that platforms are market designers and play the role of

⁶⁰⁹ See J Stiglitz, ‘Government Failure vs Market Failure...’ (n 675) 18.

⁶¹⁰ Alain Marciano and Steven G Medema, ‘Market Failure in Context: An Introduction’ (2015) 47(5) *History of Political Economy* 1.

⁶¹¹ *ibid* 19.

⁶¹² *ibid* 25.

⁶¹³ Henry Piffaut, ‘Platforms, a call for data-based regulation’ (May 2018) *CPI Antitrust Chronicle* 10-17; see also Janos Barberis, ‘BigTech vs BigBang: Competition in Financial Services’ (*OECD Blog Series*, January 2020) <<https://oecdonthellevel.com/2020/01/20/bigtech-vs-bigbang-competition-in-financial-services/>> accessed 31 January 2020: stating that ‘regulation needs to become “smart” and regulates the networks themselves, not just their (negative) effects’; European Commission, ‘Digitising European Industry’ (2015) <http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=12387> accessed 20 November 2019.

regulators or ‘rule-setters’ within their ecosystems.⁶¹⁴ Therefore, regulatory intervention in the functioning of ecosystems is justified at the platform design level, leaving the implementation to the platform itself, subject to regulatory supervision.⁶¹⁵ Smart regulations in the area of access to data should encourage contractual frameworks that will secure controlled conditions for storage, flow and processing of data, rather than regulating these data flows directly.⁶¹⁶ Otherwise, if access to data is regulated in minute detail, this will result in (a) much higher implementation and monitoring costs, and (b) potentially unexpected, negative effects somewhere else. As noted by Piffaut, ‘[a] regulatory shock can generate negative dynamics either in favour of alternative platforms or of other forms of organization such as vertical integration or reselling’.⁶¹⁷

Hence, regulations that promote inter-platform competition are bound to be “light touch” and principle-based. They are often woven into other types of regulations that deal with various aspects of industrial policy and consumer protection (the data portability provision in GDPR is an example of regulations aiming, *inter alia*, at facilitating competition between digital platforms, i.e. inter-platform competition). They are concerned about removing the unnecessary barriers to competition for the market and making sure that more efficient entrants can challenge the position of incumbents, as opposed to rigidly prescribing specific types of behaviour. The ultimate goal is to create market conditions so that every successful platform emerging in the payment markets in the course of digital transformation remains a ‘fragile monopolist’ and does not cement its position of dominance to the extent that will require drastic measures (such as structural break-ups or introducing more regulations) at the later stage. The regulations that do not specifically deal with inter-platform competition but lead to or facilitate the cementing of platform’s market dominance can be considered as regulatory failures with anti-competitive ramifications. Very often the regulations that focus on intra-platform competition through compelling access to incumbents’ infrastructure produce such undesired effects through reducing incumbent’s incentives to innovate while locking new entrants in their role of front-end providers instead of innovating and challenging incumbents.⁶¹⁸ Counterintuitively, regulations aiming at promoting competition can lead to the further entrenchment of the market power of incumbents.

⁶¹⁴ Crémer, de Montjoye, and Schweitzer (n 288) 60-63; ‘Digital Era Competition: A BRICS View’ (n 72) 183-186.

⁶¹⁵ See Piffaut (n 695) 6.

⁶¹⁶ See, for example, European Commission, ‘Digitising European Industry: External Stakeholders Contribution’ (November 2015) <<https://ec.europa.eu/digital-single-market/en/news/digitising-european-industry-external-stakeholders-group-meeting>> accessed 20 November 2019.

⁶¹⁷ Piffaut (n 695) 6.

⁶¹⁸ See notes 618-620 and Section 3.3.2 “Effects of Open Banking on Inter-Platform Competition”.

The telecommunications industry demonstrates quite a few examples of such regulatory failures. For instance, the emergence of telecoms companies with significant market power in Western Europe was the direct result of how they were privatised. Telecom companies are not natural monopolies, as demonstrated by example of some Central and Eastern European countries that not only show high levels of competition through small and medium enterprises, but have also significantly leapfrogged the more advanced European economies in terms of technology.⁶¹⁹ The emergence of private telecoms giants is directly linked to the prioritisation of ‘economies of scale’ in telecommunications by policymakers. The economies of scale argument means fewer and bigger players in the market. In addition, Western European countries promoted service-based, rather than facilities-based competition in the telecoms industry through access regulations, while preserving the incumbents’ hold over essential facilities. This resulted in the creation of the ‘monopolistic bottlenecks’ (and the need for further regulation of these bottlenecks) and discouraged the development of new technologies and business models.⁶²⁰ This approach is not dissimilar to Open Banking regulation in the payment industry.⁶²¹ In this way, regulatory failure often leads to a call for even more regulation creating a spiral effect. This internal inconsistency has been highlighted, for example, by Ryan and Linskey who stated that turning blind eye to data-driven mergers resulted in the creation of super-platforms and entailed the further need to remedy the situation through mandating access to data collected by these super-platforms.⁶²² An important lesson from telecoms is that neglecting inter-platform competition at the first stage creates a ‘vicious circle’ of regulation – the need for ever more regulation to unlock the bottleneck segments – later on.

An alternative is regulations which are (a) oriented to promotion of inter-platform competition, and (b) platform design-level, rather than implementation-level. Due to the ongoing process of platformisation of the payment industry Open Banking regulation should not only be concerned about breaking the power of existing incumbents (traditional financial institutions). It also needs to make sure that access to incumbents’ data and infrastructure will not give rise to new powerful platforms that will lead to distortions of the market structures difficult to address at the later stage. As discussed in the Section 4.1., regulations are better placed to address the market structure concerns as well as to deal with long-term dynamic efficiencies than competition law which in its traditional form applies *ex post* analysis to the past behaviour that has measurable effect on competition.⁶²³ Hence, *such regulations should not limit the ability of new entrants to enter the market and challenge the entrenched power of existing incumbents, but should prevent the consolidation of market power in the hands of newly emerged platforms through anti-competitive*

⁶¹⁹ See Trubnikov (n 554) 33, 41-42.

⁶²⁰ *ibid* 38-39.

⁶²¹ See Section 3.2.

⁶²² Ryan and Linskey (n 517) para 47.

⁶²³ P Ibáñez Colomo (n 584) 303-304.

strategies which have been discussed in Section 3.3.3 (e.g. leveraging of market power from adjacent markets, bundling, “privacy policy tying”, etc.).

Chapter 3 concluded that Open Banking regulation did not encourage inter-platform competition, as it steered the new entrants towards intra-platform competition through ‘plugging’ into the banks’ core systems as front-end providers. This raises the question how exactly regulation can encourage inter-platform competition in the payment markets.

It is not an easy question to answer. The classic remedy promoting inter-platform competition is the support of multi-homing, i.e. using different platforms by customers, or easy switching between the platforms if multi-homing is not practical.⁶²⁴ The ability of users to multi-home or switch between the platforms is an important condition for inter-platform competition, and competition authorities should by all means prohibit the practices that prevent users’ access to competing platforms.⁶²⁵ However, the multi-homing is effective when there are already options available to users. In other words, before users are able to multi-home or switch, they need to have other viable options in the market, which might be blocked by the high sunk costs and network effects (see Section 2.1.1).

Once again, telecom industry provides a useful example of facilitating the scaling-up of new entrants through the so-called “ladder of investment” approach. For many years, the telecom regulations rested on the premises that owners of network facilities would use their ownership to ‘foreclose access to competitors for the services supplied on that network or cross-subsidize its own provision of those services’.⁶²⁶ This is very similar to the concerns underlying the adoption of Open Banking regulation in the UK and PSD2. This resulted in many jurisdictions (US, EU and Canada) adopting regulations that mandated access to shared network facilities to competitors of incumbent telecom companies.⁶²⁷ These regulations strived to apply the mixed measures to promote both intra-platform and inter-platform competition.⁶²⁸ The idea was that downstream suppliers would start by buying access to incumbent facilities and ‘as they grew, would replace their leased facilities with their own equipment, so that at the end of the process customers could choose

⁶²⁴ See ‘Digital Era Competition: A BRICS View’ (n 72) 144; Crémer, de Montjoye, and Schweitzer (n 288) 57-58.

⁶²⁵ See, for instance, *Ohio v American Express* (n 295) or the commitment decision of Brazilian CADE in the *Booking/Expedia/Decolar* Case (2018).

⁶²⁶ See Jerry Hausman and William Taylor, ‘Telecommunication in the US: From Regulation to Competition (Almost)’ (2013) 42 *Review of Industrial Organization* 203, 205.

⁶²⁷ Telecommunications Act 1996 (US); EU Framework Directive 2002/21/EC and Access Directive 2002/19/EC; Radio-television and Telecommunications Commission (CRTC) Telecom Decision (Canada) 98-9.

⁶²⁸ See Martin Cave, Christos Genakos and Tommaso Valletti, ‘The European Framework for Regulating Telecommunications: A 25-Year Appraisal’ (2019) 55(1) *Review of Industrial Organization* 47, 52.

from multiple [...] facilities-based telephone companies' (the so-called 'ladder of investment' approach).⁶²⁹ In the course of time regulators in some countries, such as the US and Canada became disappointed in the 'ladder of investment' approach and shifted from access regulations to a regulatory approach that focused directly on facilities-based competition.⁶³⁰ Meanwhile, the European Union continued to emphasize intra-platform competition,⁶³¹ with the hope that the 'ladder of investment' approach will nudge new entrants to create their own infrastructure.⁶³² Yet most recent studies concur that this approach was not very successful in promoting inter-platform competition in Europe.⁶³³

Because entering the market as an 'end-to-end' provider is more difficult and requires significant sunk costs, one of the main goals of the policies promoting inter-platform competition in network industries is encouraging investments in new facilities.⁶³⁴ Granting access to the incumbent facilities to new entrants should not discourage them from investing in their own infrastructure in the long run. While for physical facilities the price of access plays a crucial role,⁶³⁵ this is less relevant for access to data which is characterised by non-rivalrous consumption and is often a by-product of the core activities of incumbents (e.g. of banks delivering financial services to their customers results in amassing the transactional data). Therefore, incentives other than price of access should come into play (e.g. the perspective of phasing out the access to data).

Apart from investment incentives, the policy promoting inter-platform competition should place significant emphasis on the effective competition law enforcement. The competition law enforcement aimed at inter-platform competition makes sure that 'competition for the market' is not stifled by the dominant platforms. This is predominantly done through prohibiting practices that restrict multi-homing or switching between platforms, such as impeding data portability or technical interoperability with other platforms,⁶³⁶ making switching process cumbersome, offering fidelity rebates, bundling⁶³⁷ etc., or even an outright ban on multi-homing.⁶³⁸ Competition law

⁶²⁹ Hausman and Taylor (n 722) 218.

⁶³⁰ Yoo (n 498) 9; Richard Feasey and Martin Cave, 'Policy Towards Competition in High Speed Broadband in Europe in an Age of Vertical and Horizontal Integration and Oligopolies' (2017) Centre of Regulation in Europe 17 <https://www.cerre.eu/sites/cerre/files/170220_CERRE_BroadbandReport_Final.pdf> accessed 10 April 2020; Ware (n 507) 3.

⁶³¹ Yoo (n 498) 9.

⁶³² *ibid.*

⁶³³ Feasey and Cave (n 727); Wolfgang Briglauer, Carlo Cambini and Michał Grajek, 'Why is Europe Lagging on Next Generation Access Networks?' (September 2015) Bruegel Policy Contribution <https://www.bruegel.org/wp-content/uploads/2015/10/pc_2015_14.pdf> accessed 10 April 2020.

⁶³⁴ *ibid.*; the Dutch Independent Post and Telecommunications Authority, 'Infrastructure and Serviced-Based Competition in the Broadband Access Market' (2004) N 2 Regulatory Policy Note 25.

⁶³⁵ *ibid.* 4; see also William Kovacic, 'Designing Antitrust Remedies for Dominant Firm Misconduct' (1998-1999) 31 Connecticut Law Review 1285, 1311.

⁶³⁶ Carmona and others (n 97) 86; Crémer, de Montjoye, and Schweitzer (n 288) 58.

⁶³⁷ Crémer, de Montjoye, and Schweitzer (n 288) 57.

⁶³⁸ For a few examples of competition law cases dealing with multi-homing, see *Ohio v American Express Co.* (Section 2.2.) where American Express practices aimed at preventing merchants from multi-homing to use the credit cards with a lower transaction fee, or Japanese Fair Trade Commission (JFTC)'s Cease and Desist Order Against DeNA Co Ltd (June 9 2011), available at <<http://www.jftc.go.jp/en/pressreleases/yearly-2011/jun/individual-000427.files/110609DeNA.pdf>>

monitoring and enforcement of multi-homing in the payment markets is crucially important, because '[i]n services characterised by a more intensive use, such as payments, there is a greater tendency towards single-home platforms'.⁶³⁹

Finally, the examples of other network industries suggest that policymakers should take a dynamic approach to regulations, because the landscape of the industry changes quickly as it goes through the technological transformation. Regulations should take into account that competition concerns at the early stages (when the new technology or business models, like Fintech, emerge) differ from the concerns posed by the mature industry. The dynamic model suggests that access regulations might be beneficial at the early stage, but should be phased out or modified once the industry structure has been established (through the so-called 'sunset provisions'). This was the idea behind the 'ladder of investment' in the telecom.⁶⁴⁰ This approach means that after a certain period of time, the downstream access to incumbents' infrastructure would be deregulated. Then, the new entrants would be obligated to build their own infrastructure to a certain level in order to stay in the market.⁶⁴¹

The above analysis suggests that mandatory data sharing should be limited in time by the sunset provisions. Data often has diminishing marginal returns and sharing it creates the stimuli for free-riding. In this case, incumbents should be freed from the data sharing burden once the industry has achieved an acceptable level of competition or once new entrants have gained a certain share of the market.⁶⁴² This works particularly well for data sharing of aggregated datasets (like in the context of training search algorithms to compete with Google). Once the algorithm has reached an acceptable level of accuracy, data sharing obligations could be lifted.⁶⁴³

In case of data interoperability, withdrawing the mandatory access is more complicated, because it might disrupt the delivery of services to consumers. Instead of complete lifting of open access, the dynamic approach might include regular monitoring and amending the scope of data sharing, e.g. which services or products should be included in the scope of sharing and with whom the data should be shared. These amendments will depend on the identified competition concerns. In

whereby JFTC condemned DeNA, the dominant gaming platform, for prohibiting its most influential social game providers from multi-homing at other gaming platforms.

⁶³⁹ Carmona and others (n 97) 85.

⁶⁴⁰ Ware (n 507) 20; the Dutch Independent Post and Telecommunications Authority (n 737) 11, 25.

⁶⁴¹ *ibid.*

⁶⁴² Jesse Krompiew, 'Safety First: The Case for Mandatory Data Sharing as a Federal Safety Standard for Self-Driving Cars' (2017) *University of Illinois Journal of Law, Technology & Policy* 439, 466-467.

⁶⁴³ *ibid.*

addition, the dynamic approach would stimulate the parties to engage into market-based mechanisms to further develop data interoperability framework (for example, creating premium APIs that sit on top of the regulatory APIs).⁶⁴⁴ When the parties know that the data access mandate is limited in time, they have incentives to develop the replacing market-based framework for data sharing to ensure continuity of the products and services delivery.

It should be noted that the detailed economic study of each specific sector is necessary, before designing a dynamic approach. Regulators should also monitor the industry landscape to provide the necessary level of flexibility. To conclude, the dynamic approach is more suitable for the fast-paced, evolving nature of the digital markets than the static, 'once and for all' regulations. This is true also for the payment markets, where the Second Payment Services Directive runs the risk of becoming outdated in a few years following the fate of the first Payment Services Directive.

4.2.2 Quid Pro Quo – Reciprocity of Data-Sharing Obligations as a Remedy against Potential Dominance of Big Tech Companies

To address the second concern outlined in Chapter 3: namely, the risk of the Big Tech companies leveraging their market power into the payment markets using Open Banking regulation, some studies insist on introducing reciprocity of data sharing obligations, in contrast to the current 'one-way' PSD2 approach. This would effectively extend the perimeter of the PSD2 requirements to digital platforms and introduce mutuality of data sharing obligations between banks and the Big Tech companies.⁶⁴⁵ Miguel de la Mano and Jorge Padilla argue that the best way to address the competition concerns raised by the current PSD2 framework is to oblige the digital platforms above a certain size to grant other companies (including banks) access to a subset of their data about customers (with the customer's consent).⁶⁴⁶ The Institute of International Finance and the Financial Stability Board also advocate the increased mobility of the customer data going beyond the current PSD2 framework.⁶⁴⁷ The Institute of International Finance suggests a broader reciprocal data sharing mechanism, where 'the raw data held by companies in all industries would be accessible by any firm on similar terms (i.e. in real time), when requested by the customer'.⁶⁴⁸ Many recent competition reports (including a European Commission's report, the UK Furman Report and the US Stigler Report)⁶⁴⁹ suggest that there is a case for greater personal data mobility to increase competition and consumer choice in many markets. Regulators are also looking in this direction. In

⁶⁴⁴ See ODI and Fingleton Report (n 342) 5, 38.

⁶⁴⁵ See, for example, de la Mano and Padilla (n 1) 21, 28; Financial Stability Board (n 380); Institute of International Finance (n 13).

⁶⁴⁶ de la Mano and Padilla (n 1) 21.

⁶⁴⁷ Financial Stability Board (n 380) 27; Institute of International Finance (n 13).

⁶⁴⁸ *ibid* 3.

⁶⁴⁹ Gunnar Niels, 'Digital Platform Regulation: What Are the Proposals Across Europe?' (December 2019) <<https://www.oxera.com/agenda/digital-platform-regulation-what-are-the-proposals-across-europe/>> accessed 18 January 2020.

particular, the Australian Government in its Open Banking Review noted that the one-way flow of data from authorised banks to non-banks recipients was not fair.⁶⁵⁰ A system in which all eligible entities exchange data based on reciprocity would be ‘more vibrant and dynamic’ and would promote greater competition.⁶⁵¹ The principle of reciprocity implies that an accredited data recipient in a designated sector should be obliged to provide *equivalent data*, and in an equivalent format, to the data holder at the customer’s request. The particular challenge refers to determining what constitutes equivalent data, especially when a data holder and a data recipient operate in different sectors.⁶⁵² The volume and value of the data exchanged are also important. If a data recipient holds much less data and of lower value than the data holder, the equivalence of such exchange could be questioned.

Introducing the reciprocity of data-sharing obligations between banks and Big Tech companies will effectively expand the scope of Open Banking regulation from the sector-specific to general regulation concerning digital platforms. This brings the discussion on a shaky ground of the debate between proponents of a serious cracking down on the data dominance of digital platforms and their more liberal opponents emphasizing the importance of innovation incentives and positive efficiencies stemming from the platform business model. Inevitably, this proposal leaves open a lot of questions, the main one being: what “reciprocity” really means in this context. How and who decides whether the data exchange is reciprocal? Finally, is imposing the data sharing obligations on digital platform the optimal way to promote inter-platform competition in the payment markets in the long run?

Let’s deal with the concept of reciprocity first. In the legal context, ‘reciprocity’ means that one party has an obligation or duty towards another party which is conditioned on or given in exchange for the performance of the second party’s respective obligation. We speak about reciprocity when ‘the entitlements which party A has in relation to party B’s performance are conditional upon A’s own performance’.⁶⁵³

This is hardly the sense in which the above proposals to extend Open Banking regulation to digital platforms understand ‘reciprocity’. A banks’ obligation to open access to the customer data is not strictly conditioned upon the data recipient’s obligation to provide similar or equivalent data.⁶⁵⁴ A

⁶⁵⁰ Australian Government (n 534).

⁶⁵¹ *ibid.*

⁶⁵² *ibid.* 44.

⁶⁵³ Martin Hogg, *Obligations: Law and Language* (Cambridge University Press 2017) ch 5, 228-229.

⁶⁵⁴ See PSD2, Articles 66 and 67; Summary of the Final Report’ (n 391) para 168.

customer may decide not to share her data held on the platform with the bank. In this case, the bank still has an obligation to share access to the customer account with the platform at the customer's request. Reciprocity would work if the parties (e.g. a bank and a digital platform) owned the data they were exchanging. This is not the case, because such an exchange is conditioned upon the consent of a third party, the customer. This makes it very difficult to transpose the contractual principle of reciprocity to access to customer data.

Moreover, the customer data of digital platforms hold very little value for banks or Fintech companies who most likely do not intend to bundle their offers with those of the Big Tech companies and enter the markets where Big Tech companies are already dominant. The reciprocity of data sharing obligations makes sense when banks and Fintech want to become rivals of digital platforms and challenge them across the entire ecosystem.

Imagine that, based on the above proposals, a bank wants access to all online searches performed by the customer in Google. What sort of customer utility or a new product would a bank propose that requires real-time access to the specific customer's searches? One can suggest that a bank could monitor the customer's creditworthiness using his search queries or words contained in emails, thus reducing the risk of giving a loan to a customer who is likely to default and improving the bank's profitability. But this is something already done by Fintech companies like Lenddo or ZestFinance, without mandated access to Google's data.⁶⁵⁵ Importantly, such practice does not improve competition in the market where Google holds dominance – online searches. There is a rationale for granting access to Google's data when it is necessary to undermine Google's dominant position and to enable new companies to enter the online searches market. If a new search engine wants to enter Google's domain, there might be a reason to give it access to a slice of Google's searches, so it can improve its own search algorithms to the level where it can compete with Google.⁶⁵⁶ Thus, Google's initial advantage would be mitigated and new, more innovative competitors can enter the market to improve competition and provide better services to customers (e.g. by granting them more privacy protection). If banks had aspirations to enter online search market, there would be a specific case for granting them access to Google's data. However, this seems like a very imaginary scenario. It is also unlikely that banks can make use of Google's unstructured data to improve delivery of their own services, as, first, they lack analytical and

⁶⁵⁵ See Casey Hynes, 'How Social Media Could Help The Unbanked Land A Loan' *Forbes* (25 April 2017) <<https://www.forbes.com/sites/chynes/2017/04/25/how-data-will-help-drive-universal-financial-access/#73e6610057e6>> accessed 02 February 2020; Filippo Cestaro, 'Your Credit Score Will Soon Be Partially Determined by AI Monitoring Your Social Media Accounts' (14 June 2019) <<https://reclaimthenet.org/credit-score-social-media/>> accessed 02 February 2020.

⁶⁵⁶ Thus, some governmental studies contemplate this sort of remedy. For example, the Furman Report and CMA Interim Report 'Online Platforms and Digital Advertising' suggested that regulations opening up some data held by the dominant digital platforms to their rivals should be enacted to improve competition in such markets as online search. See the Furman's Report (n 589) 9; CMA Interim Report 'Online Platforms and Digital Advertising' (2019), paras 6.65-6.68 <https://assets.publishing.service.gov.uk/media/5dfa0580ed915d0933009761/Interim_report.pdf> accessed 20 February 2020.

technological capabilities of the digital platforms to digest and rationalise all these data (e.g. Google's algorithms) and, second, there are simply easier ways to achieve similar results. Apart from little practical utility and potential degradation of consumers privacy, any such remedy aiming at granting banks access to the Big Tech companies' data should be considered very carefully to prevent the negative impact on platforms' dynamic incentives to innovate and improve their products.⁶⁵⁷

A more realistic scenario is when Google or Amazon steers its vast customer base to use their own payment system, for example, by giving the button to pay via Google Pay or Amazon Pay a prominent position or making it a default payment option on their platform, hence, foreclosing the access of alternative payment providers to their customer base. This might be a valid reason for intervention (either by competition law or regulation), but it is a different use case from granting access to Google's or Amazon's customer data. In fact, competition authorities condemned such cases in the past and required the digital platforms to grant their business partners a fair access to the platform customer interface.⁶⁵⁸ It can be solved, for example, by placing links to alternative payment providers along with the Google Pay or Amazon Pay button on the platform. However, this has nothing to do with the reciprocal sharing of customer data between payment providers and the platform. The data of Google and Amazon still stays within the platform.

Therefore, rather than having a reciprocity of data sharing obligations, banks and Fintech companies would benefit more from "competition on merit" with digital platforms in the payment markets. This happens when digital platforms are limited in their ability to leverage the market power from adjacent markets and utilise "super-profiles" of their customers to exclude all or most competition in the payment markets. The proposal how to achieve this sort of "competition on

⁶⁵⁷ CMA Interim Report (n 816) para 6.68: 'There is a risk, if an extensive range of data is required to be shared with third parties in a way that reveals aspects of Google's algorithm, that this will reduce Google's incentives to innovate and improve its algorithm'. Also this report considers sharing of Google's click and query data only in the context of rival search engines.

⁶⁵⁸ There are already a number of cases where competition authorities condemned the practices of digital platform to give preferential treatment to their own services and products. As a result, digital platforms were obliged to give access to the platform to their downstream competitors on fair and equal terms. See *Google Search (Shopping)* (n 260); Amazon Marketplace investigation launched by the European Commission (Press-release, 'Antitrust: Commission Opens Investigation Into Possible Anti-competitive Conduct of Amazon' (n 174), see also investigations by the German and Italian Competition Authorities into self-preferencing practices of Amazon (Bundeskartellamt Press Release, 'Bundeskartellamt Obtains Far-reaching Improvements in the Terms of Business for Sellers on Amazon's Online Marketplaces' <https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/17_07_2019_Amazon.html> accessed 13 March 2020; AGCM, 'A528 - Amazon: Avviata Istruttoria Su Possibile Abuso Di Posizione Dominante in Marketplace E-commerce E Servizi Di Logistica' <<https://www.agcm.it/media/comunicati-stampa/2019/4/Amazon-avviata-istruttoria-su-possibile-abuso-di-posizione-dominante-in-marketplace-e-commerce-e-servizi-di-logistica>> accessed 13 March 2020).

merit”, for example, through introduction of ring-fencing requirements, will be addressed further in Section 4.4. of this paper.

Another, quite prominent argument for extending access regulation to the Big Tech is that the data belongs to customers, not to the companies which have collected it. The customers should decide with whom to share their data and should have instruments to transfer their data from one provider to another.⁶⁵⁹ Strengthening consumer rights to port the data is the key idea behind many government efforts in the digital age.⁶⁶⁰ It should be pointed that data protection laws do not aim at granting ownership rights over the data to customers. Companies which have collected data should have legitimate rights to use it in the interests of further innovation and functioning of the data driven economy.⁶⁶¹ This is always a balancing exercise. Strengthening consumer rights goes with assessment of its impact on long-term innovation. The ultimate question is once the consumer rights over the data have been formally acknowledged, is there a need for regulating how these rights would be implemented? Is the voluntary framework, whereby consumers and the companies holding their data arrange among themselves how to move this data around, not enough?

This situation presents a typical problem of transaction costs, which often serves as a justification for regulation.⁶⁶² The transaction costs for customers to bargain against the powerful platforms are very high. For example, to impose data interoperability (i.e. real-time exchange of individual data with other providers) customers would need to convince a platform (e.g. Google) to put in place a mechanism for such data sharing, including APIs, the relevant authorisation mechanism and security controls etc. Platform customers could also get together and enter into collective negotiations with the platform, but in light of the past experience this seems highly unlikely. Consumers previously failed to protect their right to data in the digital environment.⁶⁶³ The transaction costs of such interactions and the inability of customers to self-organise caused governments to adopt regulatory mechanisms to protect customer data and ensuring that their rights are exercised properly (such as the GDPR).

However, government intervention is not the only solution to the high transaction costs problem. In his seminal article ‘The Problem of Social Cost’ (1960), Ronald Coase suggested that the market could potentially solve the problem of market failures by itself if property rights are complete and

⁶⁵⁹ See Omarini (n 143) 28; Vezzoso (n 9) 34; Institute of International Finance (n 13).

⁶⁶⁰ See German Federal Ministry for Economics and Energy, ‘A New Competition Framework for the Digital Economy, Report by the Commission ‘Competition Law 4.0’ (2019) 1 <<https://www.bmwi.de/Redaktion/DE/Publikationen/Wirtschaft/bericht-der-kommission-wettbewerbsrecht-4-0.html>> accessed 20 January 2020; Cr mer, de Montjoye, and Schweitzer (n 288) 76-77.

⁶⁶¹ See, for example, Drexl (n 353) 267, 278.

⁶⁶² See Stiglitz (n 675) 17; Ryan Bourne, ‘How “Market Failure” Arguments Lead to Misguided Policy’ (22 January 2019) 863 Policy Analysis CATO Institute 3.

⁶⁶³ See, for example, Communication from the European Commission to the European Parliament and the Council, ‘Data Protection Rules as a Trust-enabler in the EU and Beyond – Taking Stock’ (24 July 2019) <https://ec.europa.eu/info/sites/info/files/aid_development_cooperation_fundamental_rights/aid_and_development_by_topic/documents/communication_2019374_final.pdf> accessed 13 March 2020.

parties can negotiate without cost.⁶⁶⁴ Therefore, clearly delineating the customer rights to data and putting in place a mechanism for parties to effectively negotiate how the data can be used and moved is the first-choice solution compared with the data access regulation.

In line with Coase theorem, some public authorities suggest facilitating market-based frameworks, rather than regulating the digital markets directly. A German report thus proposes establishing 'data trustees which can grant data access to companies on behalf of and in line with the preferences of the consumers'.⁶⁶⁵ Many other government-commissioned studies highlight the need to combat the stronger bargaining power of digital platforms vis-a-vis users to enable fair negotiations between them, in line with the principle 'facilitation where possible and regulation where necessary'.⁶⁶⁶ In this case, regulations assist the parties' negotiations and create counterbalances against abuse of power by the digital platforms, rather than directly mandate data access. In the spirit of empowering customers against large data holders, the main focus should be less on granting access to data to the Big Tech's competitors and more on preventing the abusive use of customer data by the Big Tech. The policies against the cross-use of the data collected from different markets if there is no genuine benefits for consumers from such cross-use⁶⁶⁷ lead to more equal distribution of bargaining power between digital platforms and customers, because a platform needs to use customer data collected in the specific market for the clearly defined purpose and has less possibilities to lock in customers across multiple markets. To summarise, the argument that data belongs to customers does not justify the introduction of reciprocity of data sharing obligations between banks and Big Tech companies.

Another option to limit the data advantage of the Big tech companies might be carving out the Big Tech companies from the scope of Open Banking regulation and not allowing them to have access to banks customer accounts data. However, this suggestion is also problematic for several reasons. First, blanket application of different rules to firms based on their business model is discriminatory and against the spirit of Open Banking. Importantly, this rule will immediately limit or hamper the

⁶⁶⁴ See Ronald Coase, 'The Problem of Social Cost' (1960) 3 *The Journal of Law and Economics* 837-877. This is not directly stipulated in the Coase's paper. Coase underlined that the market transaction costs and the total product yielded by alternative social arrangements should be taken into account. So, rather than presuming that government regulations are needed every time when the market system generates externalities, he advocated considering alternative, market-based solutions with different allocations of right and liabilities and reduction of transaction costs.

⁶⁶⁵ 'A New Competition Framework for the Digital Economy...' (n 688) 1.

⁶⁶⁶ See Dutch Digital Strategy, 'Dutch vision on data sharing between businesses' 17 <<https://www.government.nl/binaries/government/documents/reports/2019/02/01/dutch-vision-on-data-sharing-between-businesses/Dutch+vision+on+data+sharing+between+businesses.pdf>> accessed 26 December 2019; Furman Report (n 589), paras 1.118-1.140; Stigler Committee Final Report (n 2) 62, 73; Crémer, de Montjoye, and Schweitzer (n 288) 60.

⁶⁶⁷

entry into the payment market for a subset of competitors, which directly contradicts the main objective of Open Banking regulation, namely: increasing entry in the payment markets to break the entrenched power of legacy financial institutions. As discussed in the previous Chapter, Open Banking regulation welcomes (or is at least neutral about) the entry of Big Tech companies, because the latter can scale up and compete with Big Banks leading to an immediate increase in competition, at least from the structural viewpoint (reflected in the increased number of competitors). From this point of view, hampering the entry of the Big Tech companies into the payment markets will further contribute to enduring incumbency of legacy financial institutions. Therefore, the option of excluding the Big Tech companies from the scope of Open Banking regulation also does not seem viable.

The solution of this problem is bound to be complex and all the options should be considered and weighted carefully before implementing the ‘two-way’ access regulations in place of the current ‘one-way’ Open Banking regulation. Extending the data sharing obligations to the Big Tech companies will push Open Banking regulation beyond the scope of sector-specific regulations, which involves a number of implementational difficulties and threatens to result in “rupture from overexpansion”. If broadened too much, the Open Banking regulation risks failing to achieve its objectives both in opening up the bottleneck segments of the payment markets and preventing the dominance of new powerful entrants. Hence, the alternatives to the blanket “two-way” access regulations should be considered.

4.2.3 The Product-Driven Approach in Open Banking regulation

As examined above, the proposals to extend Open Banking regulation to the Big Tech companies misname the principle of reciprocity (which essentially means restitution of customers’ control over *all their data*, not just the data held by banks). These proposals are also too focused on obligations of data holders (banks, Big Tech, Fintech) against each other (*obligation-driven* approach). But they pay very little attention to what the main stakeholders (consumers) gain from these proposals. In the end, the increase in consumer welfare defines how effective competition, both inter-platform and intra-platform, is. If consumers are able and, most importantly, have interest in sharing their data across multiple platforms, this will help break the power of a single platform that holds the vast majority of the data. This will further promote inter-platform competition by enabling new entrants to quickly enter the market and get advantage of these shared data through offering better products and services.

In many cases, consumers are not interested in sharing their data with the platform’s competitors, because they get what they need from a single platform. Sharing more data often seems redundant, because consumers do not see any added value in return for their data. They also fear misuse of their data by unscrupulous digital actors and might prefer sticking to the ‘known evil’. The platforms

leverage their position in the core market to add more and more complementary services and to retain customers within the platform, so they are more likely to share the *data with the same platform*, rather than the *data from the platform* with outside providers.⁶⁶⁸ This creates a vicious circle of the data sharing (more data shared, more complementary services, more usage of the platform, more data shared etc.).

To break this vicious circle, it is not enough for the government regulations to oblige the Big Tech companies to share their data with competitors. They should enable *product-driven data sharing*. Digital platforms should share their data with competitors when there are products and services which customers want, but which are underproduced, or overpriced, or lack quality, because competition is 'permanently impaired due to exclusive control over user accounts'.⁶⁶⁹ Customers value products and services, not the data sharing in itself. Dmitrii Trubnikov has correctly pointed out that the discussion about regulatory change 'could be quite futile without robust economic models that could drive innovations in this field providing numerous benefits for various strata of society'.⁶⁷⁰ Identifying these economic models and how regulations can help 'unlock' their value is the first necessary step in discussing how Open Banking can be extended to other industries or market players (like the Big Tech).

Open Banking regulation in the UK and EU follows this approach by identifying two specific use cases for accessing the customer account data. These are provision of Payment Initiation Service and Account Information Service.⁶⁷¹ You cannot access the customer data unless you are an authorised third party provider of any of these two types of services. For example, account information service includes the service to 'provide consolidated information on one or more payment accounts held by a payment service user'.⁶⁷² This means that TPP cannot access the customer account data, for example, for using these data to better predict what a customer might be buying next month and share this information with advertisers. This use case is not legitimate, because it is not specified in the PSD2. Moreover, such a use case will go against the PSD2 goal of creating a level playing field for innovative payment services providers, as it might benefit

⁶⁶⁸ See, for example, Stigler Committee Final Report (n 2) 58-60.

⁶⁶⁹ 'A New Competition Framework for the Digital Economy...' (n 688) 43.

⁶⁷⁰ See Trubnikov (n 554) 414.

⁶⁷¹ See Article 66, Article 67 and Annex I of the PSD2; Articles 10.1.2 and 14 of the 'Retail Banking Market Investigation Order' (n 396).

⁶⁷² Article 4 (16) of PSD2.

incumbents in other markets (e.g. online advertising).⁶⁷³ Therefore, delineating the pro-competitive use cases is important before granting access to data, especially in the form of data interoperability.

This conclusion is supported by examples in other industries. In *Microsoft* case, the European Commission required Microsoft to provide interoperability between its operating system and the competing networking software in order to restore competition among media players.⁶⁷⁴ Another example is sharing the data that allows vehicle-to-vehicle or vehicle-to-everything communications for autonomous vehicles. The mandate for V2V and V2X communications was proposed by the US National Highway Traffic Safety Administration (NHTSA) with the view to increase safety on the roads and ensure trust in the new technology.⁶⁷⁵ In both cases, there was a specific need for an emerging product or technology (autonomous vehicle or media player solution) that underpins the decision to grant data interoperability.

Unfortunately, the proposals to extend the Open Banking regulation to Big Tech companies do not come up with the clear understanding of use cases for such mandatory access to data. The Australian regulator substitutes a product-based business case by the concept of 'equivalent data'. Appreciating the extreme difficulty of defining equivalent data for different industries, it leaves to a competition authority to determine what constitutes equivalent data for the purposes of participating in Open Banking.⁶⁷⁶ The Institute of International Finance leaves customers to decide what they will share, with whom and for what purpose.⁶⁷⁷ This should be done by putting all customer raw data from various sources (bank account data, mobile phone records, online search queries, social media content etc.) in the same 'amalgamated data pool' that should be accessible on the customer consent by any firm.⁶⁷⁸ This is in line with the idea of customer's freedom to contract and share the data with whomever they want. However, this seems to be of little help for solving the problem of inter-platform competition in the long term. In fact, this might create the situation when customers relinquished all control over their data to the digital platforms in exchange for 'free' services. There are three problems with this approach. First problem is customer biases and their potential inability to determine whether sharing their data is beneficial for them. In this case, the personal freedom to contract will go against the long-term interest of this very individual and the public interest. Second problem is creating the situation in which incumbent data holders benefit disproportionately from the access to the 'amalgamated data pools' compared to smaller competitors. The small competitors might be still obliged to share their customer data if they hold an essential amount of data in their niche market. But they will be unable to make the

⁶⁷³ Though, as Section 3.3.5 has shown, this limitation can be circumvented by obtaining the explicit customer's consent, based on the GDPR provisions.

⁶⁷⁴ *Microsoft Corp v European Commission* (n 463).

⁶⁷⁵ See Krompfer (n 642) 439.

⁶⁷⁶ Australian Government, 'Open Banking...' (n 459) 44.

⁶⁷⁷ Institute of International Finance (n 13) 4.

⁶⁷⁸ *ibid.*

same use of the amalgamated data pools as large incumbents, because they lack resources, technological skills, scale and scope etc. Finally, such access regulations serve to create a marketplace of customer data. However, because the original product markets where the data is collected (payment services, online search, social media etc.) are not perfectly competitive, the market power from these original markets can spill over into the secondary data markets. This will enable even greater cross-use of the data by dominant platforms to leverage their market power across various markets. Further regulation will be needed to remedy the failures of original markets, in line with the spiral effect discussed above.

To conclude, regulations opening users accounts to competitors should not set forth generic obligations to grant access to data, but should be based on specific use cases, where incumbents' exclusive control over customer data precludes emergence of the new or improved products and services. In case the need for such products emerges, this access could be granted either based on case-by-case analysis if there is a legal case for refusal to deal (see Section 4.3.) or through the introduction of sector-specific regulations acting in parallel to Open Banking regulation and having their own specific purpose and scope. Granting blanket access to data, not supported by clear economic models and utility that customers are getting out of such access, undermines the idea of promoting inter-platform competition and innovation in the long term.

4.2.4 Conclusions

Based on the above analysis, this section applied the conclusions drawn in Chapter 3 regarding the effects of Open Banking regulation on inter-platform and intra-platform competition to regulatory policies. It analysed what improvements can be introduced in order to re-balance the current narrow focus of Open Banking regulation on intra-platform competition. This section rests on the premise that there is no need for a radical overhaul or abandonment of the existing Open Banking regimes, introduced in Europe, the UK and other countries. Instead it recommends the piecemeal adjustments that will help alleviate specific concerns discussed in the previous Chapter. Particularly, it underlines the complementarity between sector-specific regulations and competition law in the areas where both aims at promoting and preserving competition in the affected markets. While competition law aims at preserving the existing competition and making sure that incumbents behave as if they were subject to competitive pressure, sector-specific regulations aims at proactively shaping market conditions, particularly by breaking down the entrenched market power of incumbents and reducing entry barriers. As such, sector-specific regulations should aim not only at creating a level playing field where the initial conditions are far from being perfectly competitive

(e.g. in the payment markets, where incumbents keep control over customer account data and there are high costs in acquiring new customers). They should also aim at preserving a level playing field in the long run, in the situation where the industry is moving fast to the platform business model prone to a 'winner-takes-all' or 'winner-takes-most' situation and new entrants dominant in other markets deploy leveraging strategies to win over the payment markets.

This Section has outlined the arguments against carving out the Big Tech companies from the scope of Open Banking regulation (refusing them access to banks customer accounts) as not meeting the standards of fairness and consumer welfare. This decision will fall short of the goals of promoting intra-platform competition advocated by Open Banking regulation. This Section has also debunked the proposal to introduce 'two-way' Open Banking regulation in the form of reciprocity of data sharing between financial institutions and the Big Tech companies. It has been shown that not only this proposal will not alleviate the main concerns regarding inter-platform competition, lacks legal certainty and is hard to implement in practice, but it will undermine the effectiveness of existing Open Banking regulation. Keeping the new entry in the payment markets open, while reducing the ability of new entrants to leverage customer data accumulated in other markets to foreclose 'as efficient' competitors in the payment markets is the preferable approach and will be discussed in Section 4.4. of this paper.

This Section has also analysed the regulatory approaches to promoting inter-platform competition in the situation where regulators mandate access to incumbents' infrastructure and/or data to open up the bottleneck segments of the market. Because this reduces incentives of both incumbents to innovate and new entrants to scale up and compete for the whole surplus captured by the value chain, access regulations should be complemented by policies encouraging investments in alternative payment infrastructures, for example, through the perspective of phasing out the access to incumbents' data. This paper also advocates the more dynamic approach to Open Banking regulation which includes amending or lifting the regulation once the market matures and (or) new entrants gain certain market share - introducing the 'sunset provisions'. The exact mechanism of such dynamic regulation should be based on further research of the industry. Finally, competition law monitoring and enforcement should be applied more actively to practices that restrict multi-homing or switching between platforms. Competition law can also fill the gaps in the Open Banking regulation where, for example, dominant undertakings not falling within the scope of Open Banking (e.g. the Big Tech companies) refuse access to data that is indispensable to competition in the payment markets. This scenario will be discussed in details in the next Section. Competition law also plays a crucial role as the "background regime" and informs the sector-specific regulations where they act against preserving the competition in favour of other objectives, e.g. economic efficiencies or promoting technological advances.

4.3 Enforcing Open Banking through Competition Law: Case-by-case approach

Another option to force data holders to grant competitors access to their datasets is by applying competition law instruments. Thus, Article 102 of the Treaty on the Functioning of the European Union (TFEU), as interpreted by European courts, prohibits the conduct amounting to abuse of dominance, including refusal by a dominant undertaken to grant access to what constitutes ‘essential facilities’.⁶⁷⁹ The similar doctrine has been developed in the US case law, though the US courts apply much more stringent standard than European.⁶⁸⁰

There is a heated debate whether the data can constitute an ‘essential facility’ with most scholars answer ‘it depends’.⁶⁸¹ Data is very heterogeneous and the circumstances in which the access to such data might be needed vary greatly. Collecting data to compete in the market of complementary services⁶⁸² is a different case from the need of a large dataset for training algorithms which are used to compete in the market unrelated to the market where the data has been initially collected. Therefore, the answer to the question ‘Does refusal to grant access to data constitute abuse of dominance?’ cannot be a simple ‘yes’ or ‘no’. It is rather a call to develop the specific test that could be applied to resolve the competition concerns in the data-rich markets. This subsection does not aim to give all the details on this academic debate. It strives to assess whether competition law is the right choice to substitute or complement access regulations in order to achieve the right balance between inter-platform and intra-platform competition.

4.3.1 Essential Facility Doctrine = Essential Data Doctrine?

Essential facility doctrine is the legal test applied to find a competition law violation in refusal to deal cases. In a nutshell, it states that if an incumbent possesses the input (be it a physical facility

⁶⁷⁹ Article 102 TFEU; see also Case C-7/97 *Oscar Bronner GmbH & Co. KG v Mediaprint Zeitungs* [1998] ECR I-7791; Cases C-421/91P and C-242/91P *RTE and ITV v Commission* (‘Magill’) [1995] ECR I-743; Case C-418/01 *IMS Health* [2004] ECR I-5039.

⁶⁸⁰ See Inge Graef, Sih Yuliana Wahyuningtyas, and Peggy Valcke, ‘Assessing Data Access Issues in Online Platforms’ (2015) 39(5) *Telecommunications Policy* 375, 379-380. The main difference between the US and EU approach is that the termination of supply is required to find abuse in refusal to deal cases in the US (“absolute refusals to deal, where no prior course of dealing for the requested input exists, cannot give rise to a violation of Section 2 of the Sherman Act while the disruption of previous levels of supply is not a necessary requirement of the essential facilities doctrine in the European Union”). See Inge Graef, ‘Data as Essential Facility: Competition and Innovation on Online Platforms’ (PhD Thesis, KU Leven 2016) 159-160.

⁶⁸¹ Crémer, de Montjoye, and Schweitzer (n 288) 98-100; Colangelo and Maggolino (n 3).

⁶⁸² For example, a company might need access to the users’ social media profiles to provide users with aggregated information about all their social networking activities.

or intellectual property rights over the technology) which is essential in order to compete in the downstream market and cannot be duplicated, then this input should be shared with other actual or potential competitors to preserve competition in the downstream market.⁶⁸³

According to the European Court of Justice (CJEU), the following three conditions should be met in order to consider refusal to deal an abuse:⁶⁸⁴

- (1) The refusal relates to a product or service that is indispensable to the exercise of a particular business in a related (secondary) market;
- (2) The refusal excludes effective competition in that related market;
- (3) The refusal is not objectively justified.

For refusals to license essential intellectual property rights, the CJEU requires an additional condition: the refusal should prevent emergence of a new product for which there is consumer demand.⁶⁸⁵

The underlying condition is that the data holder refusing access to data should pass a dominance test accepted in the EU. All these conditions set quite a high threshold for applying competition law to refusal of access to data. Specifically, the indispensability condition is extremely difficult to establish in data-related cases. Indispensability condition is met when it is not economically viable for competitors to duplicate the facility held by the dominant undertaking.⁶⁸⁶ In *Bronner* the Court's reasoning implies that indispensability is an objective standard that 'does not depend on the size of the petitioner's business and that imposes on the petitioner the burden to make the same investment as the one made by the dominant undertaking'.⁶⁸⁷ This is hardly practicable for digital markets with powerful network effects, where new competitors might be required to bear exorbitant sunk costs to match the data set amassed by the incumbent. In view of these challenges, in *Microsoft* the General Court (GC) lowered the standard of indispensability compared to *Bronner*. Though there were alternative methods to provide a minimum level of interoperability sufficient for effective competition, the GC required Microsoft to give competitors full access to its interoperability information to ensure that competitors are on 'an equal footing' with Windows operating systems.⁶⁸⁸ This reasoning might have been justified by the network nature of the market

⁶⁸³ Case C-7/97 *Oscar Bronner GmbH & Co KG v Mediaprint Zeitungs* [1998] ECR I-7791; *Magill* (n 748); *IMS Health* (n 748).

⁶⁸⁴ *Magill* (n 679); *IMS Health* (n 679); *Microsoft Corp v European Commission* (n 463).

⁶⁸⁵ This standard was subsequently lessened in *Microsoft* case, where the General Court stated that new product requirement applied only to cases involving the refusal to license an intellectual property right, but not to general refusal-to-deal cases. In the latter cases, the refusal to deal is anticompetitive when there is a "limitation not only of production or markets, but also of technical development". (see *Microsoft Corp v European Commission* (n 463) para 647). Therefore, refusal to grant access to data can be found anti-competitive when it impedes technical development (also in the form of sustained, incremental improvements), not just emergence of the new product.

⁶⁸⁶ *Oscar Bronner GmbH* (n 679) paras 43–46.

⁶⁸⁷ *Drexel* (n 353) 282.

⁶⁸⁸ *Microsoft Corp v European Commission* (n 463) paras 345-347, 421.

and the fact that Microsoft was holding a quasi-monopoly position in the relevant market.⁶⁸⁹ Up to date, no other cases reversed or rebutted this new standard for access to data cases.

However, even the lower standard poses the challenge of determining the indispensability of a dataset, particularly when it consists of raw customer data. Under the above-mentioned *Bronner* standard, the datasets can be considered indispensable when they have no substitutes and are difficult to replicate, even for competitors of the same scale.⁶⁹⁰ The European Commission Report 'Competition Policy for the Digital Era' considers as indispensable datasets comprised of 'observed data, which often cannot be replicated, and volunteered data that would take a significant amount of effort to volunteer again'.^{691 692} An example of observed data, which cannot be replicated, would be online searches or email content collected by Google, or transactional data accumulated by payment providers in the course of payments. An example of volunteered data that requires a significant amount to collect again would be health data volunteered by a user to a provider of healthcare wearable. However, it is not clear whether substitutability should be considered in a narrow sense (which means that any relatively large dataset is unique and cannot be fully substituted) or in a broad sense (considering that various datasets can serve to achieve the same purpose). As a hypothetical example, a Fintech firm cannot replicate the dataset amassed by Google over the years to predict how creditworthy the lender is or what financial product he might need in the next month. However, it could achieve the same goal by looking into the user's social media activity (which is public) and buying datasets from the third party providers to develop algorithms predicting the credit risks.⁶⁹³ In this case, Google's data though not substitutable in the strict sense is not indispensable in a broader context, because the business goal could be achieved by access to alternative data. In view of *Microsoft* analysis, the indispensability is to be decided on a case-by-case basis taking into account *inter alia* the relative positions of the parties and availability of different alternatives. It seems that when data sets serving the same purpose are available to competitors and availability of these data sets puts the competitors on 'equal footing' with the incumbent, the indispensability criterion is not met.

Because applying strict standards of the essential facility doctrine to data access cases is challenging, there is a call for revisiting it. Thus, the European Commission Report 'Competition

⁶⁸⁹ See Graef and others (n 680) 382.

⁶⁹⁰ *Oscar Bronner GmbH* (n 679) paras 45-46.

⁶⁹¹ Cr mer, de Montjoye, and Schweitzer (n 288) 101.

⁶⁹² For definitions of volunteered and observed data see Section 3.1 'Data as a Competitive Advantage'.

⁶⁹³ See Hynes (n 655); Cestaro (n 655).

Policy for the Digital Era’ proposes to ‘go back to the interest balancing criterion underlying the [essential facilities doctrine]’, instead of sticking rigidly to the test previously developed for the traditional industries.⁶⁹⁴ This implies that the ‘threshold for granting access to data should be lowered as compared to access to infrastructure or access to IPR cases’, especially when it comes to markets characterised by network effects, high entry barriers and data driven feedback loops that ‘tend to further entrench dominance’.⁶⁹⁵ Following the analysis of *Microsoft*, Inge Graef comes to a similar conclusion. She reasons that ‘when the market is locked-in due to switching costs and network effects, and the incumbent has had a stable dominant position for some time, it seems justified for a competition authority to intervene on the basis of looser conditions in order to open up the process of competition in the market through the imposition of a duty to deal’.⁶⁹⁶ The adjustment of the legal standard in *Microsoft* indicates that the European court takes a flexible approach to the essential facility doctrine and might be open to apply it to refusal to give access to data by dominant platforms.⁶⁹⁷ This approach seems justified because it steers competition authorities to assessment of actual effects of each refusal to deal rather than applying formalistic criteria. In each case competition authorities should assess whether the data set owned by the incumbent can be replicated by actual competitors (rather than a hypothetical competitor of the same size and scale) and whether competitors have access to alternative data that serve the same business purpose.

To conclude, competition law has at its disposal the tools to address cases of refusal of access to data, which are provisions prohibiting abuse of dominance (Article 102 TFEU and Section 2 of the Sherman Act). In the past, the application of these tools has been limited to physical facilities and later has been expanded (in the European Union) to intellectual property rights. Amendment of the legal test is necessary to enable application of abuse of dominance provisions to data cases, in particular, lowering the indispensability requirements with regard to datasets.

⁶⁹⁴ Crémer, de Montjoye, and Schweitzer (n 288) 98.

⁶⁹⁵ *ibid* 105, 106.

⁶⁹⁶ Graef, ‘Data as Essential Facility’ (n 680) 192.

⁶⁹⁷ Said that there is a clear move of the European Union towards a more interventionist approach to digital economy. This implies the preference of regulations over classical competition law tools. Thus, the European Commission Report ‘Shaping Europe’s Digital Future’ (19 February 2020) indicates that competition rules, albeit revised, do not suffice and “additional rules may be needed to ensure contestability, fairness and innovation and the possibility of market entry” (p. 5). These rules will set forth, among others, data access, pooling and sharing, and will implicitly target large digital platforms originating outside the EU. The next steps include a legislative framework for data governance (Q4 2020) and a possible Data Act (2021), as well as *ex ante* rules to ensure that markets characterised by large platforms with significant network effects acting as gatekeepers, remain fair and contestable for innovators, businesses, and new market entrants. (Q4 2020) (p.5). This choice to regulate Big Tech is based not only on competition and industrial policy considerations It aims at making the EU a player of the global digital economy in its own right and reducing over-reliance on digital solutions created elsewhere (mainly in the US and China). This plan is already drawing a streak of criticism due to its clearly protectionist tendency - as potentially leading to “virtual defenestration of the ownership of personal data... of the big-data companies” (Jim Woods, ‘The EU’s Doublespeak On Big Tech’ (19 February 2020) <<https://www.stockinvestor.com/46683/the-eus-doublespeak-on-big-tech/>> accessed 21 February 2021). Without jumping to such conclusions, it will be interesting to see the scope of the future regulations and how the EU will strike the balance between *ex ante* access regulations and promoting long-term innovation and investment attractiveness of the EU digital economy.

4.3.2 Data Interoperability under Competition Law

The next question is whether competition law can impose on undertakings not only the obligation to grant one-off access, but also to share the data continuously ('data interoperability').⁶⁹⁸ This is to understand whether competition law can be a practicable alternative to PSD2 and its likes and whether it is a better way to remedy access to data concerns and, therefore, should be used as a remedial blueprint in the digital economy.

Generally, competition authorities are not limited in respect of sanctions that they can impose on the undertaking found to abuse its dominant position. Article 7 of the Regulations No. 1/2003⁶⁹⁹ specifies the powers of the European Commission with respect to competition law infringements in the following way:

Where the Commission, acting on a complaint or on its own initiative, finds that there is an infringement of [Article 101 or of Article 102] of the Treaty [on the Functioning of the European Union], it may by decision require the undertakings and associations of undertakings concerned to bring such infringement to an end. For this purpose, it may impose on them **any behavioural or structural remedies** which are proportionate to the infringement committed and necessary to bring the infringement effectively to an end.

It is worth mentioning that competition authorities can also impose access requirements in merger cases, where the merged entity is allowed to retain the assets (including datasets) acquired in the merger, but can be required to provide access to necessary infrastructure or key technology.⁷⁰⁰ Once again, there is no restriction on the choice of remedy as long as it allows to remove the anti-competitive elements from the merger, retaining its pro-competitive elements.⁷⁰¹

In *Microsoft* decision, later confirmed by the GC, the European Commission imposed on Microsoft an obligation to grant providers of complementary services access to information necessary to ensure interoperability with its operating systems.⁷⁰² This obligation was imposed prospectively, as Microsoft shall disclose the relevant information about future releases of Microsoft products.⁷⁰³

⁶⁹⁸ Data interoperability refers to 'a continuous, potentially real-time, access to personal or machine user data'; See Cr mer, de Montjoye, and Schweitzer (n 288) 58.

⁶⁹⁹ Council Regulation (EC) No 1/2003 of 16 December 2002 'On the Implementation of the Rules on Competition Laid Down in Articles 81 and 82 of the Treaty, OJ L 1, 04.01.2003 1-25 (*emphasis added*).

⁷⁰⁰ See OECD, 'Remedies in Merger Cases, Policy Roundtable' (2011) 54, 99, 102-103 <<http://www.oecd.org/daf/competition/RemediesinMergerCases2011.pdf>> accessed 27 February 2020.

⁷⁰¹ *ibid* 105.

⁷⁰² See *Microsoft Corp v European Commission* (n 463) para 1231.

⁷⁰³ Case COMP/C-3/37.792 *Microsoft* (n 464), para 1002.

However, the interoperability in *Microsoft* differs from the ongoing sharing of a specific customer data. This case refers to protocol interoperability, whose goal is to ensure that two systems are fully compatible and can seamlessly work together.⁷⁰⁴ In essence, Microsoft was obliged to disclose technical information about characteristics of its own operating system (OS), on a stand-alone basis every time the OS is updated. Under protocol interoperability regime, no individual consumer data is passed from a data holder to data recipients. When personal data is subject to interoperability regime, the EU data protection regulations complicate application of competition rules. Article 6 of the GDPR allows access to data based on the balancing exercise for the purposes of the legitimate interests pursued by the controller or by a third party according to subparagraph (f) or for the performance of a task carried out in the public interest according to subparagraph (e). In practice, the competition authorities have ordered continuous data access on an opt-out basis after taking advice from their respective data protection authorities.⁷⁰⁵ In my view, the GDPR does not prevent competition authorities from mandating the data interoperability with regard to personal data, when doing so is necessary to reinstate the suppressed competition based on the broader public interest.

To clarify, competition law can mandate access to data based on the abuse of dominance or merger control provisions, even when a business case requires continuous access to personal data. The next subsection will explore whether it is effective from the practical point of view, as compared with access regulations.

4.3.3 Competition Law Assessment versus Access Regulations: Pros and Cons

The choice between competition law and regulations is always based on specific goals of the intervention. As discussed in Section 4.1., regulations are forward-looking and aim at shaping conditions of competition in the market, while competition law is backward-looking and strives to restore the position that existed before the violation or preserve the pre-merger market conditions. That said, emergence of “regulatory antitrust” makes *ex ante* application of competition law more common. For any intervention it is also important to strike the right balance between short-term static intra-platform competition and long-term dynamic inter-platform competition. Thus, granting access to data of a dominant undertaking will stimulate competition in the market of complementary services dependant on access to such data. This will help introduce complementary products or follow-on innovation, and thus stimulate intra-platform competition.⁷⁰⁶ On the other hand, granting access to data might inhibit competitors’ incentives to build up their own datasets

⁷⁰⁴ Crémer, de Montjoye, and Schweitzer (n 288) 83.

⁷⁰⁵ See the French competition authority's interim measures decision no 14-MC-02, of 9 September 2014, concerning Engie, at paras. 289 and 293-294; and the UK CMA's Final Report on its Energy Market Investigation, (24 June 2016) at para 233 of the summary, and in more detail in paras. 11.64-11.66.

⁷⁰⁶ Graef, 'Data as Essential Facility' (n 680) 180.

and to compete for the whole market, thus affecting disruptive innovation and inter-platform competition.⁷⁰⁷

Making these decisions on a case-by-case basis allows more nuanced assessment of what value the particular dataset bears for competition in the relevant sector. Since *ex ante* regulations apply to indeterminate data holders in a range of situations, policymakers should hypothecate what the most common scenarios might be. In this case, there is a danger of missing out important details and over-regulating where less intrusive instruments might suffice. Moreover, policymakers need to make a choice between intra-platform and inter-platform competition in general, because enacting access regulations will inevitably favour the former as opposed to the latter. In addition, because regulations aim at actively shaping the market and undermining the market power of incumbents, they might be imposed under lower substantive standards compared to the essential facilities doctrine⁷⁰⁸ discussed in Section 4.3.1. Therefore, regulations always pose a risk to produce negative spill-over effects on the innovation in the affected markets, due to their generic character, less stringent standards of intervention and the lack of flexibility.

To the contrary, competition law remedies are personalised and applied to stop a specific infringement.⁷⁰⁹ The ultimate goal of a competition law remedy is to 'to restore the market conditions absent the infringement'.⁷¹⁰ For example, where the infringement led to increasing entry barriers (e.g. by refusing access to data), the remedy must ensure that such barriers are effectively removed.⁷¹¹ The nature of competition law remedies is very case-specific, 'taking into account the characteristics of the structure and functioning of the market and of the infringing undertakings'.⁷¹² They should specify clearly whom the remedy is applied to (who is a data holder), what dataset(s) should be shared, with whom (who are data recipients), when and what are the conditions attached to it. The competition law remedy, which is not one-off, but continuous, should be abandoned once there is no need in it. Access granted to a specific dataset by a competition authority could thus be revoked upon re-assessment of the competitive situation. On the other hand, the regulations could not be abandoned so easily. In case no sunset provisions are in place, they will continue to mandate access to data, possibly beyond the time that it is needed. In other words, once the regulations are

⁷⁰⁷ *ibid* 180-181.

⁷⁰⁸ P Ibanez Colomo (n 38) 13.

⁷⁰⁹ Article 7 of the Regulations No 1/2003.

⁷¹⁰ OECD, 'Roundtable on Remedies and Sanctions in Abuse of Dominance Cases' (2006) Note by the European Commission para 24 <<https://www.oecd.org/competition/abuse/38623413.pdf>> accessed 10 February 2020.

⁷¹¹ *ibid* para 25.

⁷¹² *ibid* para 25, 43.

enacted there are little incentives for regulators to change them. On the contrary, competition law authorities have incentives to abandon the remedy, which is no more efficient, because applying it involves ongoing costs of monitoring compliance.

Competition law remedies have some downsides, as well. First, the speed of intervention is quite low, as any case-by-case assessment is applied *ex post* and takes time to implement.⁷¹³ For example, *Microsoft* case took nine years from filing the complaint to the final judgement.⁷¹⁴ Such a timeline is hardly acceptable in the digital markets where competitors not having access to indispensable data will be out of the game in a matter of a few months or even days.⁷¹⁵ Second, there are certain limitations of the current ‘refusal to deal’ doctrine under competition law that we discussed in the previous subsection.⁷¹⁶ These limitations should either be overcome by amending the ‘essential facilities’ test for abuse of dominance cases or by enacting the regulations circumventing the ‘essential facilities’ test.

Finally, competition law remedies are claimed to be ill-suited when the goal is not to punish for the past behaviour, but to impose the ‘positive rules of conduct’ that require ongoing monitoring.⁷¹⁷ Because behavioural remedies in competition law do not change the incentives of the wrong-doer that brought him to anti-competitive behaviour, compliance with behavioural remedies is not taken for granted and has to be enforced on the continuous basis.⁷¹⁸ However, it is hard to agree that only because monitoring is technically complex or time-consuming, we should prefer regulations over competition law remedies. This has been a long-standing view in the US antitrust. For example, Bill Kovacic in his influential article in 1999 stated that ‘[i]mplementing some forms of conduct remedies, such as mandatory access requirements [...] can require extensive continuing oversight,’ which ‘can entail regulatory tasks that historically have been vested in regulatory commissions’ rather than in antitrust tribunal and competition authorities.⁷¹⁹ This approach seems to have been adopted by the European competition authorities that clearly separate the competition law mandate from the regulatory oversight. It is largely premised on the idea that competition authorities are too under-resourced and time-pressured to provide monitoring of compliance with their behavioural remedies. In addition, in the US, the courts have the ultimate authority to devise antitrust remedies, and as such they are ill-suited for extensive monitoring of implementation of their decisions (e.g. oversight of the day to day administration of businesses).⁷²⁰

⁷¹³ Crémer, de Montjoye, and Schweitzer (n 288) 107; Furman Report (n 589), 5.

⁷¹⁴ The complaint was filed by Sun Microsystems in 1998 and the court of appeal passed the final judgment on the case *Microsoft Corp v European Commission* (n 463).

⁷¹⁵ Crémer, de Montjoye, and Schweitzer (n 288) 107.

⁷¹⁶ See subsection ‘Essential Facility Doctrine – Essential Data Doctrine?’ (a); See also Drexl (n 353) 280-284.

⁷¹⁷ Drexl (n 353) 280; Crémer, de Montjoye, and Schweitzer (n 288) 107; Furman Report (n 589) paras 2.45-2.46.

⁷¹⁸ OECD (n 806) 187.

⁷¹⁹ Kovacic (n 635) 1317.

⁷²⁰ *ibid*; OECD (n 806).

However, this argument against behavioural competition law remedies seems over-stated. Regulations also require oversight of how market actors implement them, often not less time- and resource-intensive. The difference is that the cost of enforcement and monitoring is factored into the budget for regulations while for competition authorities it often comes over-the-top. Yet this has nothing to do with the argument whether competition law remedies are less efficient than the regulation. It refers to the way competition law enforcement is currently structured, and this could be changed. William Kovacic in the same article thus suggested that giving a competition law mandate to a permanent administrative body which possessed the required technical expertise and sufficient staff would alleviate the concern about ongoing monitoring in antitrust cases.⁷²¹ This underlines the idea that very often the choice is not between competition law enforcement and regulation, but between deficient competition law enforcement and the better one.

Policymakers around the globe appreciate the need for a different model of competition law enforcement and importance of keeping flexible, case-by-case approach to fast-changing, serendipitous technological markets. Therefore, all the latest reports on the digital economy recognize the importance of competition law in data access cases, as a default option of intervention. Some of them also recognise the need for an expert public body that would be capable of monitoring compliance with competition law remedies in digital markets. Thus, the Chicago report on Digital Platforms suggests creating a digital authority that will have powers to mandate access to data and monitor the use of data for the benefit of competition.⁷²² In a similar vein, the UK Furman Report suggests that the digital authority should mandate access to a 'shortlist of potential datasets where the benefits of openness would be greatest', in the interest of promotion of competition.⁷²³ The EU Report on 'Competition Policy for the Digital Era' states that the access to data could be mandated either by competition authorities under Article 102 TFEU (based on the revisited essential facilities doctrine) or based on the sector specific regulation (such as PSD2).⁷²⁴ However, the EU Report is more reticent about redesigning the traditional model of competition law enforcement and opts for regulatory regime where there is 'the concomitant necessity to monitor.'⁷²⁵ This is in line with the views expressed in the OECD paper fourteen years ago, that if

⁷²¹ Kovacic (n 635) 1317.

⁷²² Stigler Committee Final Report (n 2) 18, 117.

⁷²³ Furman Report (n 589) paras 2.79-2.92.

⁷²⁴ Crémer, de Montjoye, and Schweitzer (n 288) 82, 98.

⁷²⁵ *ibid* 107.

the competition law remedy requires ‘a great deal of management’, it should be abandoned and the regulators should be given a leeway instead.⁷²⁶

There might be another argument against applying competition law to mandate continuous access to data, which this study brings up, but does not deal in details. The argument hinges on the concern about giving competition authorities ‘too much power’ by *de facto* ‘extending’ their mandate to data interoperability cases. In fact, competition authorities can intervene in virtually any market, where anticompetitive conduct takes place, and can apply a broad range of remedies to restore the situation back to competitive. Giving them quasi-regulatory powers might go against the political principle of having the system of checks and balances, because it creates a sort of ‘super-regulator’. The European Commission might therefore be reluctant to promote the idea of a ‘digital authority’ with broad competition enforcement powers and gives preference to regulations rather than competition authority’s oversight where the data interoperability is required.⁷²⁷ Though this argument is completely valid, it is beyond the scope of the present study, because it is more political rather than legal in nature.

Having said that, we do not necessarily need to consider competition law and regulation as mutually excluding. They do not exist in two isolated circles, so that competition law is applicable only where the government regulation stops. The European Commission Report considers competition law enforcement and regulation as ‘not necessarily substitutes, but most often complements’ that reinforce each other.⁷²⁸ This suggests that mandating access to data works best as a combination of competition law assessment at the initial stage and regulatory oversight of compliance at the stage of enforcement. In fact, the BRICS Report on Digital Era Competition suggests the mixed ‘toolkit’ approach, especially in interoperability cases.⁷²⁹ It posits that competition law should play a ‘primordial role’ in such a toolkit: ‘as constitutional law provides broader directions for regulatory and administrative action, competition law could play a similar role in terms of promoting the principle of competitive markets among other principles and values that need to be catered for’.⁷³⁰ Once this toolkit approach is adopted, it is less material which public authority will implement the monitoring of competition law remedies (be it a competition authority with the extended mandate or a specialised sectorial regulator, or even a private implementation trustee (as in the case of Open Banking in the UK)).

In conclusion, granting access to data as a competition law remedy allows more nuanced assessment of how access to a particular dataset will affect competition in the long term. In addition, it gives more flexibility regarding the duration of such access, as it can be easily phased

⁷²⁶ OECD (n 806) 28.

⁷²⁷ See Crémer, de Montjoye, and Schweitzer (n 288) 107.

⁷²⁸ *ibid* 4, 7.

⁷²⁹ ‘Digital Era Competition: A BRICS View’ (n 72) 37, 360, 453.

⁷³⁰ *ibid* 360.

out if not needed anymore. The argument on the difficulty of ongoing monitoring refers not to substantial choice between competition law and regulation, but to the way competition law enforcement has been structured up to now. Competition law is clearly limited in its ability to apply behavioural remedies (e.g. in the form of data interoperability), because it requires quasi-regulatory powers to implement extensive monitoring of compliance with such remedies. However, a new model of competition law enforcement (e.g. a 'toolkit approach' and creation of an expert public body for monitoring compliance) can solve this problem.

4.4 Special Obligations for Digital Platforms to Complement Open Banking

The last subsection looks at the issue of the cross-use of data by digital platforms. It analyses whether any restrictions should be placed on firms active across different markets to prevent them from combining the data collected in the market where they are dominant with the data in other markets. This subsection aims to address the concern that Big Tech companies can collect the data from banks using the Open Banking mandate and leverage it to enter and quickly gain market power in the payment markets, thereby disproportionately benefitting from the data sharing obligations of incumbents in the payment markets.

4.4.1 Cross-use of the Data as a Powerful (and Overlooked) Leveraging Strategy

The issue of the cross-use of data has not received much attention in the competition law debate so far, though it has been mentioned by a number of reports and studies as a part of the broader leveraging strategies of digital platforms.⁷³¹ The joint French-German Report on Competition Law and Big Data provides the most detailed analysis of the issue. It defines the cross-use of data as a strategy of the dominant firm to use the ‘data collected on a given market to develop or to increase its market power on another market’.⁷³² The cross-use of data is considered instrumental to the envelopment strategy discussed in the previous Chapter, because it often comes together with another, more familiar anti-competitive conduct, such as self-preferencing or tying.

There were several cases where competition authorities dealt with cross-use of data both in merger control and abuse of dominance context. Regarding *abuse of dominance*, the French Competition Authority (*Autorité de la concurrence*) found on a number of cases that former public monopolies (mostly in the gas and energy sector) abused their dominant position by using historical data acquired as a result of their long-standing market power to lure customers to contract with them in related, competitive markets.⁷³³ The competitors did not have access to these highly valuable datasets. As a result, they suffered from the anti-competitive foreclosure. The French Competition

⁷³¹ See French-German Report (n 22); Lasserre and Mundt (n 22).

⁷³² French-German Report (n 22) 20.

⁷³³ See *Autorité de la concurrence*, The *Autorité de la concurrence* fines ENGIE 100 million euros for abusing its dominant position by using in particular its historical data file to convert its customers on regulated gas tariffs to market-based contracts for gas and electricity. *Autorité de la concurrence* Press Release, ‘French Competition Authority, Opinion 10-A-13; French Competition Authority, Decision 14-MC-02’ (2014) <http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=663&id_article=2963&lang=en>.

Authority elaborated on the criteria to determine whether the use of such datasets could result in a restriction of competition. These criteria include the conditions under which the dataset was constituted, whether the dataset could be replicated under reasonable conditions by competitors and whether the use of the dataset was likely to result in a significant competitive advantage.⁷³⁴

The French Competition Authority sets the threshold for competition law intervention quite high, because it requires the dataset at hand to be created as a result of the previous monopoly position and not through any particular innovation.⁷³⁵ This makes the test hardly applicable to the digital platforms, which initially started to amass their datasets through innovation and then engaged in the ambiguous practices of envelopment and leveraging. Therefore, digital platforms act as innovators and monopolists at the same time. In fact, there are very few antitrust cases referring to the cross-use of data in the digital markets.

The most prominent case is the investigation by Bundeskartellamt (the German Competition Authority) of Facebook which resulted in the abuse of dominance decision (see Section 3.3.4).⁷³⁶ In this decision the German competition authority condemned Facebook's practice of combining the data collected from the third party web sites (e.g. via 'Like' button embedded in the third party web sites) with the data on Facebook user account. Bundeskartellamt found that Facebook abused its dominant position by forcing users to grant consent for collecting their data from these web sites and combining it with Facebook accounts as a condition to access Facebook services.⁷³⁷ The remedies imposed by Bundeskartellamt include: 1) allowing Facebook to collect and combine the data from different sources only with the user voluntary consent (not conditioned upon access to the Facebook platform); 2) if this consent is not obtained, 'data processing must generally take place in an internally separated process',⁷³⁸ meaning implementation of the ring-fencing requirement. Respecting the 'right of informational self-determination' of users, *Bundeskartellamt* did not block the cross-use of data when users gave their explicit consent, even if such combination might pose the threat to competition.⁷³⁹ This decision reflects the consumer-centric position of the competition authority, which focuses on exploitation of customers rather than on potential exclusion of rivals who do not have access to the same amount of data.

⁷³⁴ French Competition Authority, Opinion n10-A-13 (14 June 2010) <<http://www.autoritedelaconurrence.fr/pdf/avis/10a13.pdf>>.

⁷³⁵ French-German Report (n 22) 31.

⁷³⁶ See the Bundeskartellamt Decision in case No B6-22/16 *Facebook v Bundeskartellamt* (2019) <https://www.bundeskartellamt.de/SharedDocs/Entscheidung/EN/Entscheidungen/Missbrauchsaufsicht/2019/B6-22-16.pdf?__blob=publicationFile&v=5> accessed 18 March 2019.

⁷³⁷ *ibid* paras 879, 883.

⁷³⁸ Bundeskartellamt Press Release (n 547).

⁷³⁹ *Facebook v Bundeskartellamt* (n 832) para 928.

On the EU level, the precedent might be set by the European Commission investigation of Amazon marketplace,⁷⁴⁰ which questions the extent to which Amazon's data collection from smaller businesses hosted on Amazon marketplace is then used by Amazon in direct competition with these businesses. The European Commission has voiced the concern regarding the following two practices, where Amazon acts as both a platform and a retailer selling its own products on the platform.⁷⁴¹ First practice is when Amazon collects the third party seller's competitively sensitive information on the Amazon marketplace. The second is the subsequent use of this information to promote its own products and services to customers to the detriment of third party sellers. In contrast to the German Facebook decision, the Amazon investigation is not focused on data protection and, therefore, assesses the cross-use of data from the purely competition angle. The investigation is fully underway as of February 2020 and it is early to make any conclusions yet.

From this scarce case law, it is clear that leveraging data to enter downstream markets as a part of 'intra-platform envelopment' bears a degree of competition concern. It is more difficult to capture the cross-use of data when it is instrumental to inter-platform envelopment, or entering adjacent, not downstream, markets, i.e. when players in these adjacent markets do not use the services of the dominant platform as a direct input. This would be the case if the Big Tech platforms wish to enter payment markets and replace the banks leveraging their customer base and detailed information about customers. There is utmost caution, almost reluctance on the part of competition authorities to admit that such practices could be anti-competitive. The main reason for this are efficiencies provided by the combination of various datasets. Access to various types of data can be beneficial for companies and help promote innovative efforts. Indeed, the social benefits of data increase when the data from different sources is put together, because it enables disruptive, most impactful innovation, not possible if the research and development is siloed within narrow areas.⁷⁴² Therefore, the combination of different datasets by the dominant undertaking might have both positive efficiencies and anticompetitive effects, that need to be balanced carefully. In addition, the digital platforms do not compete directly in the adjacent markets when

⁷⁴⁰ European Commission Press Release, 'Antitrust: Commission Opens Investigation Into Possible Anti-competitive Conduct of Amazon' (n 174).

⁷⁴¹ We discussed this phenomenon called "intra-platform envelopment" in section "Intra-Platform and Inter-Platform Competition" of Chapter 2 of this paper.

⁷⁴² See, for example, Wai Fong Boh, Roberto Evaristo and Andrew Ouderkirk, 'Balancing Breadth and Depth of Expertise for Innovation: a 3M Story' (2014) 43(2) Research Policy 349.

the envelopment starts.⁷⁴³ These situations go beyond the horizontal competition concerns about which competition authorities care the most.

For example, in *merger cases* involving combination of datasets by merging entities, competition authorities did not establish any competition concerns based on the cross-use of data. They relied *inter alia* on efficiencies created by the merger (in terms of better products, more accurate and relevant search results, information, recommendations or advertising).⁷⁴⁴ One of the most notorious examples is the *Google/DoubleClick* merger. Both the EU and US authorities approved the merger in 2008 without even a binding obligation on Google to keep the user-related datasets of Google and DoubleClick separated. The merger was cleared on the ground that (1) Google and DoubleClick were not direct competitors, and (2) the combination of information on search behaviour from Google and web-browsing behaviour from DoubleClick would not give the merged entity a competitive advantage that could not be matched by competitors.⁷⁴⁵ The competition authorities took at face value Google's promise not to combine datasets based on the existing contractual obligations with users and the assumption that even combined, the datasets would not give Google a decisive advantage over its rivals. Eight years later, in June 2016 Google combined web-browsing records from its DoubleClick business and personally identifiable information from all other Google businesses, thereby allowing web-browsing data to be linked back to individuals and providing the basis for ever more intrusive profiling and targeting.⁷⁴⁶ This was the exact concern that the data privacy advocates expressed back in the time of Google/DoubleClick merger. The outcome was ever increased market power of Google in both markets.⁷⁴⁷

This example demonstrates that the cross-use of data by the Big Tech companies should be treated seriously. The cross-use of data collected across different markets become truly problematic, when the assessment is not limited to a separate product market (e.g. the "target" market), but is performed across the markets where the Big Tech company is active and which form the part of its ecosystem. Application of the ecosystem as a unit of analysis allows to detect the potential

⁷⁴³ See French-German Report (n 22) 20; Lasserre and Mundt (n 22) 96-97.

⁷⁴⁴ Lasserre and Mundt (n 22) 96-97. See the European Commission Decisions, Case No COMP/M.4731 – *Google/DoubleClick* (2008), *Facebook/WhatsApp* (n 121) or Case M.8124 – Microsoft / LinkedIn (Commission Decision of 06 December 2016) <https://ec.europa.eu/competition/mergers/cases/decisions/m8124_1349_5.pdf> accessed 10 October 2019.

⁷⁴⁵ See the European Commission Decision *Google/DoubleClick*, paras 395-366; Statement of Federal Trade Commission Concerning Google/DoubleClick FTC File No. 071-0170 (2007) 12.

⁷⁴⁶ Julia Angwin, 'Google Has Quietly Dropped Ban on Personally Identifiable Web Tracking' (*ProPublica*, 21 October 2016) <<https://www.propublica.org/article/google-has-quietly-dropped-ban-on-personally-identifiable-web-tracking>> accessed 20 February 2020.

⁷⁴⁷ See, for example, CMA 'Online Platforms and Digital Advertising: Market Study Interim Report' (2019) 10, 18, 200 <https://assets.publishing.service.gov.uk/media/5dfa0580ed915d0933009761/Interim_report.pdf> accessed 28 February 2020. The Report shows that Google has consistently high market share in advertising intermediation, "controlling a share in excess of 90% of the ad server segment" (through Google Ad Manager that was created on the basis of DoubleClick) (para 53, Box 5.1 of the Report), with its market power stemming *inter alia* from the data it has collected on its users. We can conclude that upon the acquisition of DoubleClick and further combination of the user datasets belonging to two merged entities, Google managed to reach quasi-monopoly position in the market of ad servers.

anticompetitive effects of such cross-use in the payment markets, even though the enabler is not yet dominant in the payment markets, but only in its core market.

The next subsection explores what measures must be in place to offset the anticompetitive effects of this cross-use and how it links back to Open Banking regulation.

4.4.2 Ring-fencing Requirement as a Condition for Competition on Merit

One of the most effective tools to neutralise the cross-use of data and combat the Big Tech's creeping into adjacent markets is the requirement to keep datasets belonging to different markets and collected by different business arms separated. The theoretical premise of such a remedy can be found in application of "as if" standard that was discussed in Section 1.1. To remind, the "as if" standard was proposed by the ordoliberal school of competition originated in Germany and was loosely adopted by the EU Competition law. It prohibits dominant undertakings to engage in the conduct that they would not be able to perform in the absence of market power.⁷⁴⁸ Essentially, dominant undertakings should behave as if they are subject to competition. In the cross-use of data context, this means that undertaking, which is able to collect data across different markets through leveraging its dominant position in the core market and luring or forcing customers to share their data in adjacent markets, should be placed under behavioural constraint and refrain from using its special position vis-à-vis its users. It should behave "as if" it were several undertakings active in separate markets that interact with each other "at arm's length" and can combine such a data only with specific user's consent and only when it's required to provide specific benefits to end users.

This was the crux of Pamela Harbour's dissenting statement in the Google/DoubleClick investigation conducted by FTC.⁷⁴⁹ She noticed that 'the Google/DoubleClick combination is likely to "tip" both the search and display markets in Google's favour, and make it more difficult for any other company to challenge the combined firm'.⁷⁵⁰ To prevent this grim scenario from happening, she proposed to mandate Google to set up a firewall (or ring-fencing)⁷⁵¹ between Google and DoubleClick data for some period so that Google and DoubleClick behaved as if they were completely unaffiliated.⁷⁵² The history showed that having the firewall in place would have blocked creating 'super-profiles' of users in 2016 by combining all their web activities and linking them to the individual's identity. It

⁷⁴⁸ See Lianos, 'Goals of EU Competition Law' (n 44), 25.

⁷⁴⁹ Commissioner Pamela Harbour, Dissenting Statement in *Google/DoubleClick* (FTC File No 071-0170).

⁷⁵⁰ *ibid* 5.

⁷⁵¹ Across this subsection, the terms 'ring-fencing' and 'firewall' are used inter-changeably.

⁷⁵² Commissioner Harbour (n 846) 9.

would have potentially harnessed the further entrenchment of the market power of Google. Imposing a firewall on each Big Tech company engaged in collecting data in numerous markets would have prevented Facebook, Twitter and the likes from merging the data they collected from various sources into one 'super-profile' and tracking people's behaviour across the whole web,⁷⁵³ all with the view to increase their market power and profitability. Importantly, such combination of data in 'super-profiles' and linking users web-activity to their identity did not provide any tangible benefits to users and was not necessary to delivery a better services or product. Hence, it was purely a manifestation of Google's position of dominance that was further expanded to the market of advertising intermediation, inter alia through the acquisition of DoubleClick.

With regard to Open Banking regulation, the firewall or ring-fencing requirement means that Big Tech companies should not be allowed to combine customer transactional data collected via a data sharing obligation on banks with datasets collected in other markets in any possible shape or form. The same ring-fencing requirement should prevent the cross-use of data in both directions – either to enhance the provision of services in other markets or to increase penetration into payment markets. The firewall obligations should be imposed on any Big Tech company wishing to plug into the Open Banking ecosystem.

As discussed in Section 3.3, in line with the GDPR requirements, the PSD2 seeks to impose limitations on the use of data collected in the course of performance of payment initiation and account information services. The PSD2 requires third party providers not to use the collected data for the purposes other than provisions of PIS or AIS, as explicitly requested by the user (purpose limitations).⁷⁵⁴ However, this limitation does not amount to an effective ring-fencing requirement for a number of reasons. First, this can be circumvented by the user's explicit consent. Because the digital platforms have become an essential part of the user experience, they can easily obtain the user consent by promising better and faster services. Second, it is not clear if making inferences from the data amounts to its use. The digital platform does not need to transfer or copy the data to extract value from the combination of the datasets. In the example of Google/DoubleClick merger, the European Commission has emphasised that 'such a combination, using information about users' IP addresses, cookie IDs and connection times to correctly match records from both databases, could result in individual users' search histories being linked to the same users' past surfing behaviour on the internet'.⁷⁵⁵ In this way, just making a link between various slices of data about the same person can give Big Tech companies a competitive advantage over rivals who do

⁷⁵³ See, for example, Julia Angwin, 'It's Complicated: Facebook's History of Tracking You' *ProPublica* (17 June 2014) <<https://www.propublica.org/article/its-complicated-facebooks-history-of-tracking-you>> accessed 23 February 2020; Jason Kint, 'Facebook, Google and Now Verizon Are Accelerating Their Tracking Efforts Despite Consumers' Privacy Concerns' (*Vox*, 21 November 2016) <<https://www.vox.com/2016/11/21/13692250/verizon-competing-facebook-google-isp-tracking-consumers-personal-data>> accessed 20 February 2020.

⁷⁵⁴ PSD2, point (g) of Article 66 (3) and point (f) of Article 67 (2).

⁷⁵⁵ European Commission Decision *Google/DoubleClick* (n 841) para 360.

not have access to multiple datasets. Moreover, nothing in the PSD2 or other Open Banking regulation prevents Big Tech companies from using the customer data from other markets to penetrate into payment services. This is outside of the current scope of Open Banking, focused exclusively on increasing entry into the payment markets. The PSD2's one-way obligation not to use data collected in the course of PIS and AIS does not cover the use of the customer data from other markets to deliver payment services. Therefore, the ring-fencing requirement should be an essential addition to the PSD2 and to any access regulations involving cross-market platforms.

Besides data-sharing cases, more and more voices are raised in favour of ring-fencing as a long-term regulatory solution against the growing power of digital platforms.⁷⁵⁶ Different justifications have been put forward to introducing ring-fencing requirements, starting from the data-protection principles, such as purpose limitation (the data holder should use the data only for a separate legitimate purpose, for which the data was collected)⁷⁵⁷ to preventing creation of 'cascading monopolies'.⁷⁵⁸ In the latter case, ring-fencing serves as an alternative to breaking up the Big Tech, because it effectively amounts to an 'internal divestiture',⁷⁵⁹ when the different parts of the business function as independent undertakings. As Johnny Ryan and Orla Linskey suggested in their submission to CMA market study of online platforms and digital advertising, 'prohibiting the unlawful conflation of personal data would force incumbents to compete in each new line of business on the merits alone, rather than to allow their strategic market position to cascade across markets as currently occurs'.⁷⁶⁰ Imposing ring-fencing requirement on the digital platforms seems a viable solution to this end.

There are also compelling reasons to implement the ring-fencing obligations within the framework of the sector-specific regime that applies to the payment markets. The first reason is theoretical and the second one is practical. The theoretical reason refers to the close connection between data-sharing obligations and the cross-use of data. Sector-specific regulations impose access to data where data is instrumental in competing in the market and opening up the bottleneck segments of it. The very same factors (importance of data for competition, network effects, high costs of

⁷⁵⁶ See Pallavi Guniganti, 'Firewalls: Separation Short of a Breakup' (12 July 2019) *Global Competition Review* <<https://globalcompetitionreview.com/article/1195041/firewalls-separation-short-of-a-breakup>> accessed 23 February 2022.; see also Ryan and Linskey (n 517).

⁷⁵⁷ Ryan and Linskey (n 517) para 23.

⁷⁵⁸ *ibid* paras 11-13.

⁷⁵⁹ See Pallavi Guniganti, 'Mundt: Break Up the Market Power of Data' (*Global Competition Review*, 14 May 2019) <<https://globalcompetitionreview.com/article/1192866/mundt-break-up-the-market-power-of-data>> accessed 24 February 2020.

⁷⁶⁰ Ryan and Linskey (n 517) para 23.

acquiring of new customers) make the cross-use of data a very attractive strategy for entering the market. As the example of Open Banking in countries like China demonstrates, the cross-use of customer data is the freeway to acquiring sustained position of dominance in the payment markets. Hence, the ring-fencing obligation serves as an *ex ante* guarantee that access to data imposed by Open Banking regulation will be used to promote both intra-platform and inter-platform competition and not to insulate digital platforms from competition in the payment markets. The second, practical argument refers to a particular difficulty of enacting general regulations concerning digital platforms due to their controversial nature and the high level of economic impact. Such attempts have been undertaken in several jurisdictions,⁷⁶¹ the most ambitious one being the “Digital Markets Act” proposed by the EU Commission in an attempt to harness the power of digital intermediaries.⁷⁶² The Digital Market Act proposes a general ring-fencing obligation in the form of mandatory opt-out for data combination across core platform services.⁷⁶³ However, the timeline of its coming into effect is expected to be two-three years.⁷⁶⁴ Introducing the ring-fencing obligations within the limited scope of Open Banking regulation and applying it to the digital platforms that fall within the scope of such regulations could be a fast way to (1) implement the relevant safeguards for the payment markets by slightly amending the existing regulations, and (2) test the viability of such a model within the narrower area of regulations, before applying it in a broader context of digital markets.

Another question is whether this should be a competition law remedy or a statutory obligation. Competition law toolkit comprises *inter alia* obligation not to share certain information between several firms or between business units within a single firm (information firewalls).⁷⁶⁵ Yet many competition authorities (for example, the US DoJ Antitrust Division and the European Commission), as well as competition law experts take a critical stance towards this remedy. The criticism of information firewalls is two-folded. First argument is that information firewalls are particularly difficult to monitor and that competition authorities and tribunals simply have no resources to do this.⁷⁶⁶ However, the same criticism has been applied to behavioural remedies in general, including

⁷⁶¹ See, for example, ‘Digital Platform Regulation: What Are the Proposals Across Europe?’ (Oxera, December 2019) <<https://www.oxera.com/agenda/digital-platform-regulation-what-are-the-proposals-across-europe>> accessed 23 January 2021.

⁷⁶² See the ‘Proposal for a Regulation of the European Parliament and of the Council on Contestable and Fair Markets in the Digital Sector’ (Digital Markets Act) (COM/2020/842 final) <https://eur-lex.europa.eu/legal-content/en/TXT/?qid=1608116887159&uri=COM%3A2020%3A842%3AFIN> accessed 23 January 2021.

⁷⁶³ See Article 5 paragraph (a) of the Proposal: “a gatekeeper shall refrain from combining personal data sourced from these core platform services with personal data from any other services offered by the gatekeeper or with personal data from third-party services, and from signing in end users to other services of the gatekeeper in order to combine personal data, unless the end user has been presented with the specific choice and provided consent in the sense of Regulation (EU) 2016/679 [GDPR]”.

⁷⁶⁴ See Linklaters ‘The European Commission’s Digital Markets Act Proposal: Regulating Systemically Important Digital Platforms’ (18 December 2020) <<https://www.linklaters.com/en/insights/publications/2020/december/european-commissions-digital-markets-act-proposal-regulating-systemically-important-digital>> accessed 23 January 2021.

⁷⁶⁵ OECD (n 806) 187.

⁷⁶⁶ See the EU Submission to OECD ‘Remedies in Merger Cases’ (2011) 6 <https://ec.europa.eu/competition/international/multilateral/2011_jun_remedies.pdf> accessed 23 February 2020 (“We have also found that firewalls are virtually impossible to monitor”). See also John E Kwoka and Diana L Moss,

continuous access to data. As discussed in Subsection 4.3.3. '*Competition Law Assessment versus Access Regulations: Pros and Cons*', effective behavioural remedies require a change in the current structure of competition law enforcement. For example, they can be fully implemented, once there is a permanent administrative body responsible for their monitoring, that has enough resources to do it.⁷⁶⁷ On top of this, the information firewall in the digital environment can be easily monitored by an appropriate software installed on employee computers and email systems, rather than by competition law officials.⁷⁶⁸ Such software will detect suspicious sharing of data between different business arms (e.g. between Google online search and Google payment system), without the need for continuous human oversight. In any case, making such an exchange of information illegal will put on the scales the reputational and economic costs of breaking the law versus the benefits of doing so, while now the cross-use of data is practically a no-brainer for digital platforms.

A second argument against information firewalls is more theoretical. It posits that ring-fencing does not change the firms' incentives to abuse the market power and does not affect the structure of this power itself.⁷⁶⁹ Therefore, it simply does not get to the root of the problem. Though this might be true in principle, one should ask what the alternatives are. Lina Khan argues that much more effective way to solve the problem is to break up digital platforms separating their platform business from downstream activities.⁷⁷⁰ However, information firewalls and a structural break-up or prohibiting digital platform's expansion in the new markets are not comparable in terms of their disruptive effect on business and innovation incentives. Without going into a detailed debate, it seems correct that there is no point in deploying the hard remedy where the lighter measure can potentially suffice.⁷⁷¹ In fact, the competition case law shows that information firewalls, when properly crafted, could be an efficient remedy to prevent the flow of competitively sensitive data within a company while still allowing for some efficiencies.⁷⁷²

'Behavioral Merger Remedies: Evaluation and Implications for Antitrust Enforcement' (American Antitrust Institute) 9 <https://www.antitrustinstitute.org/wp-content/uploads/2011/11/AAI_wp_behavioral-remedies_final.pdf accessed 14 March 2020; Lina Khan, 'The Separation of Platforms and Commerce' (2019) 119 *Columbia Law Review*; Carrie C Mahan and Natalie M Hayes, 'Non-Structural Remedies' in *Merger Remedies Guide* (2nd edn, Global Competition Review 2019) <<https://globalcompetitionreview.com/edition/1001416/merger-remedies-guide-second-edition>> accessed 24 February 2020.

⁷⁶⁷ See fn 721.

⁷⁶⁸ See Guniganti, 'Firewalls: Separation Short of a Breakup' (n 854).

⁷⁶⁹ See Khan (n 863).

⁷⁷⁰ *ibid.*

⁷⁷¹ See Guniganti (n 853); see also the interview with Andreas Mundt: Guniganti (n 856).

⁷⁷² See the FTC Decisions, *The Coca-Cola Company Mergers* (Matter No 101 0107) and *PepsiCo Inc* (Matter No 091 0133) with a major independent bottler in 2010; See also the *Broadcom/Brocade* merger (<https://globalcompetitionreview.com/article/usa/1144025/ftc-conditionally-clears-broadcom-brocade>); *Northrop Grumman/Orbital ATK* (Matter No 181 0005); *United States v Comcast Corp* No 1:11-cv-00106, Competitive Impact

On the other hand, ring-fencing requirement can be implemented by regulatory instruments. For example, financial regulations contain a rule requiring financial institutions to manage conflicts of interests via establishing the information firewalls between the arms of business that have conflicting interests.⁷⁷³ The European Union seems to be heading this route. The proposed “Digital Markets Act” incorporates the ring-fencing requirements as a part of EU-wide regulations with the EU Commission having powers to oversee compliance with this rule and punish for its infringement.⁷⁷⁴

In view of the above, an answer to the question of who should impose a ring-fencing requirement is simple. If the access to data is mandated by regulations, the same regulations should mandate the ring-fencing requirements. If the access to data is mandated by a competent authority on a case-by-case basis, the same authority should consider putting in place a firewall between the shared data and the datasets originally owned data recipients. In any case, the ring-fencing requirement should go hand in hand with access to data to prevent the misuse of these data for anticompetitive purposes. The ring-fencing requirement in both cases has two underlying rationales: on the one hand, to comply with the purpose limitation, when it comes to getting access to personal data, and, on the other hand, to prevent the combination of datasets collected in different markets in order to leverage the market power across markets.

That said, competition authorities and regulators should pay due attention to potential efficiencies arising from the combination of datasets. These efficiencies should not be taken at face value, as the case of Google/DoubleClick demonstrated. They should be assessed on a case-by-case basis. Thus, in abuse of dominance cases the dominant undertaking can demonstrate that ‘the efficiency gains likely to result from the conduct under consideration counteract any likely negative effects on competition and consumer welfare in the affected markets, that those gains have been, or are likely to be, brought about as a result of that conduct, that such conduct is necessary for the achievement of those gains in efficiency and that it does not eliminate effective competition, by removing all or most existing sources of actual or potential competition’.⁷⁷⁵ Such efficiency gains should be substantiated so that they can be verified on the basis of qualitative and/or quantitative evidence (e.g. new or improved products).⁷⁷⁶ When such efficiencies are not proved, the information firewalls shall become a default condition for any access to data mandate.

Statement 20 (DDC, Jan 18 2011); Case M.7585 *NXP Semiconductors / Freescale Semiconductor* [2015] OJ C3575/2; Chinese Mofcom decision on merger between Western Digital and Hitachi’s hard disk drive etc. (for the overview see Guniganti (n 832)).

⁷⁷³ See, for example, Iain G MacNeil, *An Introduction to the Law on Financial Investment* (Bloomsbury Publishing 2012).

⁷⁷⁴ See Digital Markets Act (n 859) Article 5, 7.

⁷⁷⁵ See *Post Danmark* (n 213) para 42.

⁷⁷⁶ See OECD, ‘Roundtable on the Role of Efficiency Claims in Antitrust Proceedings, Note by the Delegation of the European Union’ (2012) para 19

<https://ec.europa.eu/competition/international/multilateral/2012_oct_efficiency_en.pdf> accessed on 28 February 2020.

Conclusion

This Chapter has critically assessed the proposal to extend the Open Banking framework to market players other than banks, and also to apply it to other industries. This assessment is grounded in the analysis of how Open Banking regulation impacts inter-platform and intra-platform competition in the payment markets, as outlined in Chapter 3.

Before extending Open Banking regulation to other markets, policymakers should find ways to alleviate the concerns identified in Chapter 3. Importantly, enacting data access regulations requires identifying a market failure that cannot be remedied in other, less intrusive ways (e.g. competition law). This Chapter offered several clear principles for dealing with access to data issues. First, it suggested that design-level regulations encouraging the most efficient implementation by the industry stakeholders were preferable to implementation-level regulations. Second, it proposed a product-driven rather than obligation-driven approach to regulation by identifying clear business cases for sharing the data. Finally, it insisted on the need for enhanced competition law monitoring of the industry.

Regulation should strike the right balance between promoting inter-platform competition in the long run and ensuring market entry and consumer benefits through intra-platform competition. To this end, this Chapter suggested some tools to promote inter-platform competition drawn from the examples of other industries, such as telecommunications.

The Chapter also analysed the effectiveness of competition law instruments, notably granting access to data in abuse of dominance cases based on the 'essential facilities doctrine'. It came to conclusion that, though competition law had the necessary legal instruments to ensure data interoperability in the form of continuous access to customer data, the effective application of such remedies requires a number of adjustments. These adjustments include loosening the test for applying 'essential facilities doctrine' to data access cases and revisiting the way competition law enforcement is structured to ensure that the relevant authorities have enough powers and resources to enforce and monitor compliance with data access requirements.

Finally, this Chapter stressed that without addressing the core problems of digital markets, such as leveraging and cross-use of data, it was hard to believe that access regulation or a competition law data access mandate could solve the problem individually. Imposing special obligations on the companies which exhibit data dominance in the markets of origin and which seek to benefit from

the access regulations in other sectors is a viable solution. This includes a ring-fencing (information firewall) requirement to prevent companies dominant in certain markets from combining datasets collected in different markets and using them to leverage their market power. Such requirements should come with access regulations as a condition of access to data or as a part of the competition law toolkit.

CONCLUSION

This dissertation applied a systematic analytical framework to examine Open Banking regulation and its effects on competition in the payment markets. This approach uses the (platform) ecosystem as a focal point for competition law analysis. It distinguishes between two types of competition: inter-platform competition (competition between platforms) and intra-platform competition (competition between participants in the same platform). It rests on the premise widely supported by the latest evidence (see Sections 1.2 and 2.1) that the financial industry is in a state of transition from product to platform competition, with financial platforms becoming the predominant business model in the future.

The application of this novel analytical framework served to achieve several objectives. First, it paved the way to the piecemeal adjustment of the current Open Banking regulation to strike the right balance between inter-platform and intra-platform competition. Second, it helped understand whether Open Banking regulation can be used as a remedial blueprint for other industries and sectors which exhibit similar tendencies (network effects, incumbents' exclusive hold of customer data, high entry barriers etc.). Finally, this thesis examined the interplay between Open Banking regulation and competition law in view of their interrelated goals of preserving and promoting competition in the payment markets. It posits that neither sector-specific regulation nor competition law alone can strike the right balance between inter-platform and intra-platform competition. Hence, complex "toolkit approach" involving both sector-specific regulation and competition law is necessary.

Intra-platform competition has been a predominant focus for policymakers when they enacted Open Banking regulation. This thesis looked through a different lens and examined how Open Banking regulation has affected inter-platform competition compared to intra-platform competition. The results suggest that the effect of Open Banking regulation is more beneficial for intra-platform competition than for inter-platform competition. On the one hand, such regulation enables Fintech start-ups to access banks' customer accounts and facilitates the provision of innovative products and services at a downstream level of the value chain, thus promoting intra-platform competition. On the other hand, the regulation accelerates the shift to a platform model and helps certain market players (mostly Big Tech companies, but also traditional banks) to solidify their position as leaders in the emerging platform. The thesis explained how Open Banking regulation discouraged Fintech companies from developing real alternatives to incumbents by making it easier and more profitable to 'plug' onto the existing banks' ecosystems. As a result, Open

Banking regulation locks Fintech companies into the banks' platforms, though on better conditions than in the absence of such regulation.

This thesis synthesised existing academic literature related to Open Banking and placed it within a clearly defined framework. As discussed in the introduction, the academic literature on Open Banking regulation comprises both proponents and harsh critics of Open Banking regulation (for example, Anna Argentati, Miguel de la Mano and Jorge Padilla).⁷⁷⁷ However, none of the critics have offered a systematic analytical framework to assess how Open Banking regulation affects competition in the payment markets. This thesis has filled this gap and explained how Open Banking potentially discouraged inter-platform competition and led to an increase in the market power of the 'winning' platform or platforms which managed to gain control over the customer interface. The thesis also dealt with the argument put forward by de la Mano and Padilla that Open Banking regulation asymmetrically favours Big Tech compared to banks and Fintech. Without completely debunking de la Mano and Padilla's argument, this thesis showed that the main competitive advantage for Big Tech came not from their access to the banks' customer data, but mainly from their ability to leverage the customer data collected in the Big Tech companies' markets of origin. This combination of the customer data previously amassed by Big Tech with the banks' customer data provides unprecedented economies of scope and allows Big Tech to enter more easily in network markets with the high barriers to entry. In the management and economic literature, this strategy is referred to as 'inter-platform envelopment' (see Section **Error! Reference source not found.**). This thesis puts de la Mano and Padilla's argument into a broader perspective, which the author believes to be more relevant.

From the policymaking perspective, the thesis has identified that Open Banking regulation should be complemented with the measures aiming at promoting inter-platform competition, some of them of regulatory and other – of competition law nature. Such measures help re-balance the static efficiencies of immediate increase in market entry following Open Banking regulation with the incentives to scale up and challenge the incumbents by creating alternative end-to-end payment systems. The thesis also suggested a solution that can prevent accumulation of the market power by the Big Tech companies entering the payment markets. It first debunked the need to introduce the "reciprocity" of data sharing in order to remove the 'asymmetry' in Open Banking regulation. The thesis demonstrated that even if digital platforms were legally obliged to share their data with banks and Fintech, the latter would not be able to extract the same value from this data, as digital platforms do. Some studies proposed creating 'amalgamated data pools'⁷⁷⁸ where both banks and Big Tech companies contribute the customer data at their disposal. This would likely result in a situation when the Big Tech benefit disproportionately from access to these pools (Section 4.1),

⁷⁷⁷ de la Mano and Padilla (n 1); Argentati (n 12).

⁷⁷⁸ Institute of International Finance (n 13) 4.

because they have the resources, skills, scale and scope and, importantly, unfettered access to multiple data resources collected in various markets. In this situation, introducing shared access to amalgamated data from different sources is not going to solve the problem of creating a level playing field in the payment industry and promoting inter-platform competition. From this broader, more holistic viewpoint, the answer to the legitimate concerns raised by de la Mano, Padilla and Argentati is to restrict the cross-use of the data by the Big Tech and placing information firewalls to prevent the combination of Open Banking data with customer data from other sources. This will force the Big Tech companies to compete “on merit” in each market where they are active and behave as if they did not possess the market power in the market of origin and could not leverage it in other markets through the combination of customer data.

To reach the objectives set, this thesis passed several milestones. Chapter 1 set the scene and analysed why competition is important and why the accumulation of the market power is a problem that needs to be dealt with. It also introduced the novel tools of competition law analysis (e.g. an “ecosystem” instead of “product” and “geographical market” as a unit of analysis) and explained how this can be applied to financial markets. Chapter 2 provided an overview of the current competitive landscape by analysing the business models and strategies of the ‘competition triad’ (big banks, Fintech and Big Tech). It specifically focused on Fintech and Big Tech companies, as potential game-changers in the financial industry. It then laid out the theoretical framework for the analysis of Open Banking based on the ideas initially developed by Michael Jacobides⁷⁷⁹ and David Teece,⁷⁸⁰ and further extended by Ioannis Lianos.⁷⁸¹ This framework focuses on ecosystems, analyses value capturing strategies of platforms, and draws the fundamental distinction between intra-platform and inter-platform.

The distinction between intra-platform and inter-platform competition is not simply a theoretical pursuit. It has a clear practical implication. Consider the statement that Open Banking regulation is good for competition because it facilitates new entry and provides more choices for consumers.⁷⁸² In effect, this statement conflates intra-platform competition at the lower level of the payment ecosystem (which it labels as ‘competition’ in general) with competition between payment platforms or end-to-end providers, which is more important for long-term innovation. This fuzziness in terminology leads to the simplistic picture of competition in the payment markets and

⁷⁷⁹ Jacobides, Cennano, and Gawer (n 15).

⁷⁸⁰ Teece, ‘Business Ecosystems’ (n 16); Teece, ‘Business Models, Value Capture, and the Digital Enterprise’ (n 16).

⁷⁸¹ Lianos (n 17) 103-104.

⁷⁸² See, for example, European Commission Fact Sheet (n 368).

to the misunderstanding of the industry dynamics in general. The misunderstanding of the industry might naturally lead to poorly informed choices both for the banking and for other industries if the current Open Banking framework is used as a remedial blueprint.

Based on the detailed deconstruction of Open Banking regulation, the last Chapter discussed the options available to policymakers. The main goal of such a policy should be to enable a data-sharing framework which promotes both inter-platform and intra-platform competition and prevents the data dominance of big platforms.

This thesis argues against a radical overhaul or abandonment of existing Open Banking regimes, in favour of piecemeal adjustments which could help alleviate the specific concerns discussed in this paper. The most important takeaway regarding the current Open Banking regulation is that, because Open Banking regulation favours intra-platform competition, it should be complemented by measures aimed at promoting inter-platform competition to strike the right balance. These measures typically include 1) introducing incentives to invest in alternative infrastructures or end-to-end systems; and 2) extensive competition law enforcement (e.g. enforcing multi-homing and easy switching between platforms).

The second takeaway is the need to elaborate a dynamic approach to Open Banking regulation. Access regulations might be beneficial at an early stage when active entry is needed but should be phased out or modified once the industry has matured. This should set forth the stimuli for market participants to develop the replacing market-based framework for data sharing to ensure continuity in service delivery.

Finally, Open Banking regulation should be complemented by substantial ring-fencing obligations for digital platforms active across several markets. Not only should bank customer data not be combined with data from other markets and used for purposes other than the delivery of payment services.⁷⁸³ Moreover, the data collected in other markets should not be combined with the bank customer data to enter the payment markets unless the platform has shown very clear efficiency gains from such combination that outweigh the possible harm to competition (see Section 4.3).

This thesis provides some crucial lessons to learn before applying the Open Banking framework to other sectors, such as energy and telecoms. First, it posits that each case of access to data should be assessed to understand whether there are grounds for regulation, or whether less intrusive measures (e.g. competition law or 'soft regulation') will do the job. Government intervention is justified when there is a market failure, while the mere high costs of implementing a market mechanism cannot justify government intervention. Specifically, rather than obliging data holders to open access to all their data to any actual or potential competitor, regulation should take a

⁷⁸³ These restrictions are already embedded in PSD2 – see Section 3.3.4.

product-driven approach. This means that policymakers should identify products and services whose delivery is impaired due to blocked access to customer accounts so that regulation will help 'unlock' their value. Open Banking in the UK serves as a good model for the product-driven approach, which could be extrapolated to other industries, as opposed to across-the-board access regulations. In a nutshell, this thesis advocates 'smart' or 'minimum viable' regulations as opposed to generic access regulations as suggested by the critics of Open Banking regulation.

This thesis also draws some crucial lessons for competition authorities. It concluded that competition law has the potential to mandate access to data even if this required technical access in the form of data interoperability. However, efficient application of competition law instead of regulation in such cases requires a number of 'adjustments'. First, loosening the 'essential facilities doctrine' test is necessary, mostly by revisiting the concept of the indispensability of a dataset, access to which is being requested. Second and most controversially, competition law enforcement needs adjusting. Implementing behavioural remedies (such as data interoperability) requires a significant change in how competition law enforcement is structured in the EU and many other countries, by either giving competition authorities quasi-regulatory powers and extensive resources to monitor the implementation of behavioural remedies or creating a sectorial public body responsible for such monitoring (Section 4.3.2).

To conclude, the interplay between regulation and competition law in access to data cases is not easy to tackle. The 'ideal' system will likely be a mixed one, somewhere in the middle on the scale from pure regulation to pure antitrust. The 'toolkit' approach suggests that competition law assessment is better suited at the initial stage to identifying the case for granting access to data and defining the overall principles of such access. Then, a regulatory-like oversight of compliance with the remedy is required at the implementation stage (more akin to the UK Open Banking approach than to the PSD2).

Open Banking regulation emerged as a response to the digital transformation of the financial industry, which has been long considered a traditional and oligopolistic, able only slowly to adapt to changes. It is an attempt to create a level playing field to open it up for innovative competitors. This thesis provided an analytical framework for assessing how the Open Banking regulation impacted competition in the payment markets. It sought to create a model which reconciled vigorous intra-platform competition through access to customer accounts with effective inter-platform competition through the creation of end-to-end payment systems. In this way, the thesis

provides valuable lessons for both policymakers and competition authorities that tackle the challenges of the data-driven economy both in financial markets and in other industrial sectors.

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