The Journey to Open Finance: Learning from the Open Banking Movement

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Abstract

The creation of an open financial data ecosystem is a new frontier to be explored within a financial services industry characterized by the presence of new players, along with traditional financial intermediaries. Spurred by datafication and digitisation, open finance is considered an extension of the open banking foundation launched in Europe through targeted regulation. The open finance journey is just beginning. By taking stock of the open banking experience across jurisdictions, this article examines the future shift from open banking to open finance. Selected critical issues within the open banking context give valuable indications for the development of open finance.

Keywords

Open finance; datafication; digitisation; open banking; APIs; PSD2; Consumer Data Right; reciprocity; consumer education.

1. Introduction

Since the outbreak of the Covid-19 pandemic, governments worldwide have been picking up the pieces of an economy severely shaken by an invisible enemy. Life remains in the shadow of the Covid-19 virus and its variants while restrictions are loosening in some countries. In taking stock of the pandemic's impact, changes in individual habits are one of the most notable shifts of these challenging times. In particular, the 'stay home and stay safe' policy underpinning early anti-Covid-19 strategies shaped new digital habits by forcing people to work, meet, and stay connected online.[2] Amidst these changes, digital finance demonstrated multiple potentialities for supporting governments, businesses, and households,[3] giving further impetus to the evolution the financial sector has been undergoing since the 2007–2009 global financial crisis. Essentially, the Covid-19 pandemic accelerated transformations in the financial services industry worldwide, facilitated by data and technology.[4] One of the most notable transformations relates to the creation of an open finance ecosystem, regarded as an extension of the open banking trend. Pioneered in Europe through the

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[2] Zeynep Ahmet Vidal & Gunnar Ehrnborg, *How has the Pandemic's Impact Influenced our Digital Habits?*, Ericcson (6 April 2021), https://www.ericsson.com/en/blog/2021/4/pandemic-influence-digital-habits, 02 September 2021
[3] Maria Ramos et al., *People's Money: Harnessing Digitalization to Finance a Sustainable Future*, United Nations Task Force on Digital Financing of the Sustainable Development Goals, 17 (August 2020), https://drive.google.com/file/d/1wTwBXZu9dxlxrQi9SkmuqPB8yU4Qex3S/view, 02 September 2021.
[4] Nydia Remolina, *Towards a Data-driven Financial system: The Impact of COVID-19*, Centre for AI & Data Governance, Singapore Management University, 3 (July 2020), https://ink.library.smu.edu.sg/caidg/8/, 20 May 2021; *see* also Deloitte and Institute of International Finance (IIF), *Realizing the Digital Promise: Covid-19 Catalyzes and Accelerates Transformation in Financial Services*, 5 (24 June 2020), https://www2.deloitte.com/global/en/pages/financial-services/covid-19/realizing-the-digital-promise-covid-19-catalyzes-and-accelerates-transformation.html, 02 September 2021.

European Union (EU) Payment Services Directive 2015/2366 (PSD2)[5] and the United Kingdom (UK) Open Banking Standard,[6] open banking permits third parties (usually FinTech start-ups) to access the account information of bank customers or initiate payments. This data sharing mechanism requires the bank customer consent and adequate technology to streamline communication between banks and third parties, namely application programming interfaces.[7] In practice, banks 'open' their application programming interfaces to third parties, thus providing them with account and payment related information. This will enable third parties to develop new products[8] or make payments on behalf of the bank customers directly from their accounts.[9] Spurred by the goal of increasing competition in the banking sector, enhancing innovation and improving interoperability in the payment sector, adoption of the open banking philosophy has already created significant opportunities worldwide.[10] Open finance is intended to further broaden the open banking spectrum by extending beyond the area of payment accounts to mortgages, insurance, pension, and investment services. All participants in the open finance ecosystem benefit, and at a larger scale than open banking. Indeed, the UK Financial Conduct Authority (FCA) stressed the importance of open finance as a win-win concept, in which financial decision-making and management, price and product comparability, competition, and innovation improve for both businesses and consumers, thanks to the possibility of accessing a wider range of providers and products.[11]

Nevertheless, open finance is still an ongoing project, with ill-defined contours. As open banking leaders, the EU and the UK are actively pursuing their own open finance regulatory aims. Charting a path for its 'Digital Finance Strategy', the European Commission aims to develop an open finance regulation proposal by mid-2022, leading to a final regulation draft to be issued by 2024.[12] In the UK, open finance is part of the post-Brexit regulatory reforms. The Taskforce for Innovation, Growth and Regulatory Reform encouraged the government to plan the transition from open banking to open finance.[13] Accordingly, the FCA is in consultations with key stakeholders to develop an open finance framework.[14] While work is clearly in progress in the EU and the UK, open finance has yet to be

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[5] Directive (EU) 2015/2366 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 (PSD2), OJ L337, 23 December 2015.

[6] Open Banking implementation Entity (OBIE), *Open Banking. Guidelines for Open Data Participants*, Version 3.1.6 (25 June 2020), https://standards.openbanking.org.uk/operational-guidelines/introduction/latest/ 03 September 2021.

[7] Basel Committee on Banking Supervision (BCBS), *Report on Open banking and Application Programming Interfaces*, BIS, 4 (19 November 2019) https://www.bis.org/bcbs/publ/d486.htm, 03 September 2021.

[8] 'Some examples of open banking apps are budget planning programs, which pull data from a person's bank accounts and credit cards' *see* Hydrogen, *Open Banking – APIs, Use Cases & Benefits* (25 November 2019), https://www.hydrogenplatform.com/blog/what-is-open-banking, 03 September 2021.

[9] Darcy Tyrrel, *Open Banking Examples That We're Excited About* (22 July 2020), https://www.yodlee.com/open-banking/open-banking-examples, 03 September 2021.

[10] 'Today more than 3 million people and businesses are using open banking-enabled apps and services in their daily lives', *see* Financial Conduct Authority (FCA), *Open Finance-Feedback Statement*, FS21/7 (26 March 2021), https://www.fca.org.uk/publication/feedback/fs21-7.pdf, 03 September 2021.

[11] *Ibid*.

[12] European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, and the Committee of the Regions on a Digital Finance Strategy for the EU*, COM (2020) 591 final (Brussels 2020), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0591&from=EN, 03 September 2021.

[13] *See* Taskforce on Innovation, Growth and Regulatory Reform, *Final Report*, 41 (May 2021) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994125/FINAL_TIGRR_REPORT__1_.pdf, 03 September 2021; *see also* Ron Kalifa OBE, *Kalifa Review of UK FinTech*, 17 (26 February 2021), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/978396/KalifaReviewofUKFintech01.pdf, 03 September 2021.

[14] FCA, *Call for Input: Open Finance* (17 December 2019), https://www.fca.org.uk/publication/call-for-input/call-for-input-open-finance.pdf, 05 September 2021.

planned in other jurisdictions,[15] either because those open banking systems are still in early stages of development or under completion, but they still have potential to transition into open finance. The open finance journey is not a standalone process but rather, an additional step for creating a system in which data are shared across sectors.[16] This sets the stage for the financial sector to be a decisive test area for bigger developments.

Building on this insight, this article reviews the open finance project as an extension of the open banking framework. To this end, a cross-jurisdictional analysis of the open banking movement is provided, with an emphasis on those jurisdictions that have influenced the development of open banking worldwide and are currently pursuing transition to open finance, notably the EU, UK, and Australia. Against this backdrop, this article advances the open finance debate by concentrating the analysis on three specific areas: third-party onboarding, data sharing reciprocity, and consumer education. Along with their shortcomings and unanswered issues, these topics are regarded as fundamental for planning and designing a solid open finance ecosystem.

The core analysis is presented in Section Two and Three. Section Two introduces open finance by examining its rationale and constituent elements. This includes a discussion of datafication and digitisation as context for igniting open finance debates. Building on the assumption that open finance represents an expansion of open banking, the section goes on to explain the open banking philosophy and how it is applied across jurisdictions. The section concludes with an appraisal of the technology providing the backbone of open banking/open finance. Section Three critically reviews issues in the open banking scene that must be resolved before advancing to an open finance ecosystem. This section first considers the relationship between financial institutions and third parties. After clarifying the terminology used by regulators to classify third parties, the analysis focusses on the limits of some open banking regimes (particularly, at the EU level) as to the financial institutions' duty to verify third party legal status. Second, this section discusses the lack of reciprocity between financial institutions and third parties in the data sharing process; in other words, the argument that open banking regimes create an unlevelled playing field as banks are prevented from asking third parties to share their customer data. Accordingly, it questions the value of the reciprocity claim within the open finance project. Third, the section stresses the importance of financial education as a necessary tool for protecting and empowering consumers in the (future) open finance world. Section Four draws final conclusions from the previous sections.

2. The Open Finance Concept

2.1 Digitisation and Datafication

Open finance is a complex project. Its value can be discerned through the diverse elements that constitute its fundamentals. In the first instance, there is a direct correlation between open finance and digitisation and datafication phenomena, which are currently viewed as the driving forces behind a data-driven society.[17] Digitisation and datafication are transformative processes. Stated plainly, digitisation involves the transformation of analogue information into a digital format.[18] Libraries are cited as prime examples for acknowledging the scope and greatness of digitisation processes, first through the digitisation of selected materials (non-mass digitisation) and later through large-scale

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[15] *See* Section 2.2 below.

[16] European Commission, *supra* n. 12, at 4.

[17] José Van Dick*, Datafication, Dataism and Dataveillance: Big Data Between Scientific Paradigm and Ideology*, 12 Surveillance and Society 2, 198 (9 May 2014), https://pdfs.semanticscholar.org/6d1c/5eb45a50d62c031088bc4b82828d582068a4.pdf?_ga=2.72799955.1738427065.1628517785-246418029.1624894690, 05 September 2021.

[18] Andrea De Mauro et al., *What is Big Data? A Consensual Definition and a Review of Key research Topics*, International Conference on Integrated Information 1644, 98 (19 February 2015), http://big-data-fr.com/wp-content/uploads/2015/02/aip-scitation-what-is-bigdata.pdf, 05 September 2021.

projects, such as the Google Library Project or the Open Content Alliance, which aim to digitise the assets of an entire library (mass digitisation).[19] Digitisation makes information easily accessible and sharable, along with improving communication and stimulating commercial competition.[20] On the other hand, datafication is considered to be more complex. By focusing on the library example again, some authors emphasise that it is datafication (not digitisation) that makes a digital book indexable and searchable.[21] With this understanding, datafication goes beyond transforming the physical to digital.

Any discussion of this concept begins with data. Data do not exist on their own; namely, they are 'captured' elements of things, contexts, or phenomena.[22] Abstraction is part of the datafication process, to the extent that it allows for the generation, collection, and selection of data. The essence of datafication emerges when data are analysed, measured, categorised, indexed, or transformed, and when insights are obtained from the use of data and made available to a community.[23] From the 1950s until today, computer technology and other supporting infrastructures have expedited the transformative dynamics associated with datafication and therefore reinforced its significance as an insight-generating process.[24] Digitisation and datafication are far-reaching phenomena. Scholars appear to give more weight to the latter, on the assumption that the process of datafication can involve every aspect of life (the so-called 'datafication of everything').[25] In other words, datafication is discussed as a bipartite process through which social action is transformed into quantified data and values generated from the captured data.[26] In this manner, datafication is the conduit for investigating and digesting human behaviour.[27]

Within the open finance context, it is crucial to put digitisation and datafication in the same league, rather than contrasting them in terms of scope and implication. Recent studies support this approach by stressing how both digitisation and datafication are at the intersection between finance, data, and technology in financial markets around the world.[28] Accordingly, digitisation and datafication work as aggregating forces in the financial sector. The roots of this process are found in the regulatory responses to the 2007–2009 global financial crisis, which affected the structure and operation of financial institutions, aimed to contain systemic risk, and led to the re-design of supervisory

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[19] Hal R. Varian, *The Google Library Project*, AEI-Brookings discussion, 2 (10 February 2006), https://www.site.uottawa.ca/~stan/csi2911/Google-Lib-L11.pdf, 10 April 2021; Ronald Milne, *The Google Mass Digitization Project at Oxford*, 16 Liber Quarterly 3, 3 (2006), https://www.researchgate.net/publication/27710717_The_Google_Mass_Digitisation_Project_at_Oxford, 05 September 2021.

[20] Ioanna Constantinou et al., *Digitization and the New Dimensions of Competition: The Case of Digital Platforms in the Sharing Economy*, 33rd Colloquium of the European Group of Organization Studies (EGOS), 6 (17 January 2017), https://www.researchgate.net/publication/322641852_Digitization_and_the_New_Dimensions_of_Competition_The_Case_of_Digital_Platforms_in_the_Sharing_Economy, 05 September 2021.

[21] Viktor Mayer-Schönberger & Kenneth Cukier, *Big Data: A Revolution That Will Transform How We Live, Work and Think* ch 5, 84 (New York: Houghton Mifflin Harcourt, 2013); Ulises A Mejias & Nick Couldry, *Datafication*, 8 Internet Policy Review 4, 2 (29 November 2019), https://policyreview.info/concepts/datafication, 05 September 2021.

[22] Rob Kitchin, *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences* 2 (London: Sage Publication, 2014); Mejias & Couldry, *supra* n. 21, at 2.

[23] Ibid.

[24] Karin Van Es & Mirko T Schafer, *Introduction: New Brave World* 13 (Amsterdam: Amsterdam University Press, 2017).

[25] Mayer-Schönberger & Cukier, *supra* n. 21, at 93-94.

[26] Mejias & Couldry, *supra* n. 21, at 3.

[27] Van Dick, *supra* n. 17, at 198.

[28] Dirk A Zetsche et al., *The Future of Data-Driven Finance and RegTech. Lessons from EU Big Bang II*, Law Working Paper Series, Paper number 2019-005, University of Luxembourg, Faculty of Law, Economics and Finance, 11 (1 January 2019), https://www.researchgate.net/publication/332177468_The_Future_of_Data-Driven_Finance_and_RegTech_Lessons_from_EU_Big_Bang_II, 05 September 2021.

architectures in some jurisdictions.[29] It is acknowledged that these changes, interlaced with contextual data protection reforms, spurred de facto digitisation and datafication processes across the financial industry.[30] Backed by regulation, the digitisation and datafication alchemy drove innovation through the use of sophisticated technologies, such as artificial intelligence, machine learning, blockchain, cloud computing, application programming interfaces, as well as opened the financial services industry to new players, such as big-tech companies and financial technology (FinTech) start-ups offering innovative technology-enabled solutions. Consequently, the industry is witnessing a gradual transition toward data-driven finance as part of the broader path toward a stronger, data-led society.[31] Unquestionably, the financial sector is among the most prolific users of data. Data-driven finance is an ecosystem in which the combination of digitisation and datafication processes offer benefits to all participants. Indeed, as will be shown, the data-driven finance ecosystem is based on a customer-centric approach, subverting the traditional canons that identify financial institutions as the unique custodians and gatekeepers of customer data. The open finance project draws from this practice and echoes the regulatory and industry stances toward an ever increasing digitized and datafied financial sector.

2.2 Building on the Open Banking Movement

The UK FCA stresses that giving financial services customers ownership and control of their data is the linchpin of open finance.[32] The open finance project is not the first time this principle has been established. Customer ownership and control over their data is the paradigmatic shift the open banking movement seeks within the relationship between financial institutions and their customers.[33] Open finance represents the expansion of open banking and therefore, any discussion of open finance cannot be disengaged from the nature, scope, aims, or regulatory approaches surrounding open banking.

The Basel Committee on Banking Supervision interprets open banking as a data sharing process, implying that banks will share their customers' data with third parties to exploit for the development of new applications, products, and services.[34] Financial services customers' consent is the primary requirement for setting in motion such a process. The label 'customer-permissioned data' is indeed used to emphasise the centrality of customers in the whole process.[35] Open finance draws on the dynamics of open banking but has yet to gain the same momentum. Europe is recognised as the cradle of the open banking movement worldwide, with the EU and UK taking the lead. In the EU, the General Data Protection Regulation (GDPR) and the revised Payment Services Directive (PSD2) are the catalysts of open banking.[36] The GDPR establishes a framework that empowers consumers to the

[29] *See* Financial Stability Board, *Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience* (7 April 2008), https://www.fsb.org/wp-content/uploads/r_0804.pdf?page_moved=1, 05 September 2021.
[30] Zetsche et al., *supra* n. 28, at 4.
[31] Remolina, *supra* n 4, at 4.
[32] FCA, *Open Finance-Feedback Statement*, FS21/7 (26 March 2021), https://www.fca.org.uk/publication/feedback/fs21-7.pdf, 31 March 2021.
[33] Tales Lopes et al., *Unlocking Value with Consumer Data Rights Rules*, Accenture, 4 (2019), https://www.accenture.com/_acnmedia/PDF-102/Accenture-Unlocking-Value-Consumer-Data-Rights-Rules.pdf, 05 September 2021
[34] BCBS, s*upra* n. 7, at 4.
[35] *Ibid*.
[36] European Data Protection Board (EDPB), *Guidelines 06/2020 on the Interplay of the Second Payment Services Directive and the GDPR*, Version 2.0, 9 (15 December 2020) https://edpb.europa.eu/sites/default/files/files/file1/edpb_guidelines_202006_psd2_afterpublicconsultation_en.pdf, 05 September 2021.

portability, security, and control of their data through consent mechanisms.[37] Meanwhile, the PSD2 traces back to a joint project between the European Commission, the European Central Bank, and the Euro system to standardize payments in Europe to reduce fragmentation across Member States, promote competition, and continue toward a pan-European digital payment system.[38] The PSD2 sets open banking in stone through the 'access to account rule' that grants third parties, via customer consent, access to account data and bank infrastructures.[39] In the UK, open banking is the winning formula that the Competition and Market Authority used to boost competition in the UK retail banking market and stimulate innovation in the financial industry.[40] In this vision, data sharing with third parties builds a diversified ecosystem that allows more businesses to compete in the provision of financial services, thus widening the range of products and offering more choice to customers.[41]

Other open banking initiatives flourished on the heels of the European financial data sharing strategy, so much so that open banking is now a global movement, comprised of distinct approaches that borrow discrete elements from the pioneering jurisdictions. Jurisdictions around the world are currently in the process of discussing, developing, or implementing their own frameworks for open banking regimes. Distinguishing between voluntary versus mandatory regimes helps map the open banking world. The United States (US), New Zealand, Singapore, China, and Hong Kong pursue market-driven approaches, whereby non-binding guidelines or regulations are issued. While US regulators have so far given industry stakeholders broad freedom to develop open banking, regulators in other jurisdictions have been more activist, despite following soft-law strategies.[42] For instance, Singapore's Monetary Authority fosters open banking through a set of standards (the 2016 'Finance-as-a-Service: API Playbook') developed in cooperation with major financial institutions.[43] Similarly, the Hong Kong Monetary Authority developed the 'Open Application Programming Interfaces' framework to guide the banking industry in the adoption of open banking approaches.[44]

The EU, UK, Australia, Brazil, and Japan instead pursue regulatory-driven approaches. Nonetheless, there are differences even among this cohort. While in the EU the relevant PSD2 contemplates both retail and corporate banks, in the UK the Competition Market Authority kicked off the open banking project by first mandating the nine biggest banks[45] to open to third parties via customer consent. As will be shown, the UK open banking framework is a regime where all the involved players abide by standardized rules. Similarly, the Australian regime is rule-based and commences with the country's

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[37] Regulation 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), OJ L119/1, 04 May 2016.

[38] Directive (EU) 2015/2366 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 (PSD2), OJ L337, 23 December 2015.

[39] *See* Article 36 PSD2.

[40] Competition & Market Authority (CMA), *Retail Banking Market Investigation*, Final Report, 313 (9 August 2016) https://www.gov.uk/cma-cases/review-of-banking-for-small-and-medium-sized-businesses-smes-in-the-uk, 07 September 2021.

[41] Open Banking Europe, *Open banking: Revolution or Evolution?* The Economist Intelligent Unit Limited, 2 (2020), https://www.openbankingeurope.eu/media/2044/economist-open-banking-report.pdf, 07 September 2021.

[42] Susan Pandy, *Developments in Open Banking and APIs: Where does the U.S. Stand?* Federal Reserve Bank of Boston, 4 (17 March 2020), https://www.bostonfed.org/publications/payment-strategies/developments-in-open-banking-and-apis-where-does-the-us-stand.aspx, 07 September 2021.

[43] The Association of Banks in Singapore (ABS) & Monetary Authority of Singapore (MAS), *Finance-as-a-Service: API Playbook* (25 November 2016) https://abs.org.sg/docs/library/abs-api-playbook.pdf, 07 September 2021.

[44] Hong Kong Monetary Authority (HKMA), *Open API Framework for the Hong Kong Banking Sector* (18 July 2018), https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/FinTech/open-application-programming-interface-api-for-the-banking-sector/, 07 September 2021.

[45] These are Allied Irish Bank, Danske Bank, Lloyds Banking Group, Nationwide Building Society, Barclays, Bank of Ireland, RBS, HSBC, and Santander UK.

four major banks[46], but is ultimately broader compared to both the PSD2 and UK regimes. From the Australian perspective, open banking is only one component of a wider open data strategy housed within the 'Consumer Data Right' regulation. The Australian regulation empowers consumers in terms of ownership and control of their data by establishing an open data (sharing) framework applicable to all key sectors, from the financial sector to the energy and telecommunication sectors.[47] Against this backdrop, the financial services industry has been designated as the starting point via an open banking regime.[48] The Brazilian open banking regime mirrors both the EU and UK experience through its 2020 'Sistema Financeiro Aberto' issued by the Brazilian Central Bank.[49] Compared to these four regulatory-based regimes obligating financial institutions to open customer data to third parties, Japan appears to be the odd-one out. The rationale behind the Japanese open banking regime is improving payment access and efficiency, as well as reducing transaction costs. It is definitively a regulatory-based framework, but regulators play a more balanced role by granting financial institutions leeway in implementing the regime, particularly with regard to their relationship with third parties.[50] Overall, the open banking universe is a patchwork of approaches driven by different aims, from enhancing competition to driving innovation to financial inclusion.[51]

Within this context, some jurisdictions embrace the open finance ethos to the extent that they can foresee the development of their regimes into open finance. The EU, UK, and Australian regimes are currently the most influential. In the EU and UK, open finance regulation is under discussion. As already mentioned, the open finance debate in the EU is led by the European Commission within the discussions on the creation of the Single Digital Market, and in the UK by the FCA, which published its statement for the creation of open finance in March 2021. Both jurisdictions will finalize regulatory proposals by 2022. The Australian Consumer Data Right and the Brazilian 'Sistema Financeiro Aberto' already refer to open finance, as these frameworks contemplate the gradual evolution of open banking services from the customer payment account area, which is the sole arena of the EU and UK open banking regimes, to other services such as mortgages, insurance, and investment products.[52] Significantly, a jurisdiction's move toward open finance depends on the outcomes or phasing of its open banking regimes. With some jurisdictions fostering a transition from open banking to open finance, the degree of influence this might have on other jurisdictions that embraced the open banking trend remains to be seen.

2.3 The Primary Technology

Sophisticated technology is essential for customer data sharing with third parties. Open finance must be built with the same technology used in open banking, namely application programming interfaces (APIs). APIs are software interfaces facilitating communication between different systems and

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[46] Namely, Commonwealth, NAB, Westpac and ANZ.

[47] Australian Competition and Consumer Commission (ACCC), *Competition and Consumer (Consumer Data right) Rules 2020* (4 February 2020), https://www.accc.gov.au/focus-areas/consumer-data-right-cdr-0, 07 September 2021.

[48] Australian Government-The Treasury, *Review into Open Banking in Australia-Final Report* (8 February 2018), https://treasury.gov.au/sites/default/files/2019-03/Review-into-Open-Banking-_For-web-1.pdf, 07 September 2021.

[49] Banco Central do Brasil, *Regulation on Open Banking,* Joint Resolution No 1 (4 May 2020), https://www.bcb.gov.br/content/config/Documents/Open_Banking_Regulation_Joint%20Resolution_No_1_Updated.pdf, 07 September 2021.

[50] Hideki Osawa, *Open APIs are Essential to Japanese Banking innovation*, Nomura Research Institute Ltd, 2-6 (24 January 2020), https://www.nri.com/-/media/Corporate/en/Files/PDF/knowledge/publication/lakyara/2020/01/lakyaravol310.pdf?la=en&hash=6B7F1CDCC30E60DB3565E9C3F39404E002E4D487, 07 September 2021.

[51] *See* Yan Carrière-Swallow et al., *India's Approach to Open Banking: Some Implications for Financial Inclusion*, IMF Working Paper 21/52, 2-23 (26 February 2021), https://www.imf.org/en/Publications/WP/Issues/2021/02/26/Indias-Approach-to-Open-Banking-Some-Implications-for-Financial-Inclusion-50049, 07 September 2021.

[52] ACCC, *supra* n 47, at Schedule 3, section 1.4; Banco Central do Brasil, *New Regulation on Open Banking in Brazil,* 2 (08 May 2020), https://www.bcb.gov.br/en/pressdetail/2330/nota, 07 September 2021.

applications to process and exchange information.[53] APIs vary depending on their purpose and use. For example, private APIs allow data to be shared internally, that is, for the use of in-house developers. In contrast, external (or open) APIs permit stretching beyond the in-house perimeter, as they are meant to be accessed by third-party developers.[54] The use of APIs for data sharing has grown exponentially and with considerable impact across industries, to the extent that even API literature remarks how digital leaders such as e-Bay, Google, Amazon, Facebook, Salesforce, and Twilio paved the way for the API-economy.[55] These days, the API businesses exist because of their potential to meet business targets, create customer value, and drive innovation.[56]

Open APIs underpin the operation of open banking and open finance. Financial institutions open their APIs to third parties for the development of new apps, products, and services. In this setting, open APIs are not only a gateway for fostering relationships between financial institutions and third parties, but also the preferred data sharing facilitator. By limiting access to only customer-permissioned data, open APIs are thought to guarantee easier, more transparent, and more secure communication practices between the involved parties than other data sharing practices, such as reverse engineering or screen scraping.[57] Accordingly, open APIs have become the norm in the open banking movement across jurisdictions. The UK, Australian, and Brazilian open banking frameworks are based on open APIs. In the EU, even though the PSD2 does not specify APIs as the preferred method, it is acknowledged that financial institutions will rely on them to comply with the PSD2.[58] Moreover, in other jurisdictions like Singapore and Hong Kong, open banking manifestos even have 'API' in their titles, demonstrating the relevance of APIs in an increasingly digitized and datafied financial services industry.

As an extension of open banking, open finance will become an even larger API-space, and the scope of open finance implementation may be an opportunity to reinforce standardisation in the use of interfaces. In the UK and Australia, banks must comply with the standards adopted by their jurisdiction's respective open banking regulations, which also apply to the use of APIs. Banks will follow the same set of open API functions developed by the authorities overseeing open banking implementation in these cases, the Open Banking Implementation Authority for the UK and the Australian Competition and Consumer Commission in Australia.[59] Select open APIs are also mandatory in Singapore, where the industry was required to agree on a set of open API standards

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[53] Marcos Zachariadis & Pinar Ozcan, *The API Economy and Digital Transformation in Financial Services: The Case of Open Banking*, SWIFT Institute Working Paper No. 2016-001, 4 (15 June 2017), https://www.researchgate.net/publication/317999505_The_API_Economy_and_Digital_Transformation_in_Financial_Services_The_Case_of_Open_Banking/link/5b36028a0f7e9b0df5d89790/download, 09 September 2021.

[54] Open Data institute & Fingleton Associates, *Data Sharing and Open Data for Banks: A Report for HM Treasury and Cabinet Office*, 16-17 (September 2014), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/382273/141202_API_Report_FINAL.PDF, 09 September 2021; Euro Banking Association (EBA), *Understanding the Business Relevance of Open APIs and Open Banking for Banks*, EBA Working Group on Electronic Alternative Payments (May 2016), https://www.abe-eba.eu/media/azure/production/1380/understanding-the-business-relevance-of-open-apis-and-open-banking-for-banks.pdf, 09 September 2021.

[55] Bill Doerfell et al., *The API Economy. Disruption and the Business of API*, 3 (Stockholm: Nordic API, 2016).

[56] Enrico Camerinelli, *Open Bank, APIs, and Financial Services Ecosystems: The Future of Banking*, Aite, 8 (July 2017), https://www.softwareag.com/corporate/images/Aite_Group_Open_bank_api_and_financial_services_Research_Jul17_tcm389-167453.pdf, 09 September 2021.

[57] Screen scraping practices bring up significant concerns to the extent that they entail that third parties will use the customer authentication credentials (user id, password), *see* BCBS, *supra* n. 7, at 9.

[58] *See* European Banking Authority (EBA), *Working Group on API under PSD2*, https://www.eba.europa.eu/regulation-and-policy/payment-services-and-electronic-money/eba-working-group-on-apis-under-psd2, 09 September 2021.

[59] *See* OBIE, *supra* n. 6; *see also* ACCC, *supra* n. 47, at 13.

listed in the API Playbook.[60] In the EU, the 'European Banking Authority (EBA) Working Group on APIs under PSD2' did not suggest a specific API standard. According to the EBA, imposing any particular API standard across the EU would have been contrary to the aims of fostering innovation and remaining technology neutral, which are PSD2 milestones.[61] Nevertheless, numerous industry-led initiatives flourished to bridge what several financial institutions considered a significant gap in the EU open banking framework.[62] For instance, a group of major French banks (altogether STET S.A)[63] developed their PSD2 API V1.5[64], while a consortium of 26 major players in the payment industry called 'the Berlin Group' developed the NextGenPSD2 API; both APIs were then adopted by most European banks.[65] There is, therefore, potential to prompt a convergence of EU standards where there is a large scale adoption of industry-suggested APIs, despite non-regulatory intervention.[66]

The 'more room to the industry' approach is also followed in the Brazilian open banking framework, but with convergence on common standards. Under the 'Sistema Financeiro Aberto', API is once again the required interface for data sharing with third parties, but participant institutions are encouraged to agree on the standards to be uniformly applied in the data sharing process.[67] Japan follows a similar protocol, while in Hong Kong, API standardisation appears to be the future. The Hong Kong Market Authority acknowledged the industry's preference for a selected, standardised open API, but also noted that financial institutions had already developed their own initiatives. Consequently, a set of high-level open APIs was proposed under the open API framework, although banks are given the freedom to deploy their own road map. Once the Hong Kong API regime is fully implemented and at a stage for review, the authority envisages industry convergence to a standardised open API,[68] which is said to ensure more security in the data sharing process. The transition to open finance may accelerate the consolidation of API standardisation, which is ultimately driven by regulatory or industry-led initiatives.

Finally, another interesting aspect to consider relates to the monetisation of API. As shown, open banking has driven the use of open APIs as a cornerstone for building an ecosystem in which diversified players can offer customer-tailored products and services. With this being depicted as a win-win situation, the financial services industry has sought ways to capitalise on the requirements to open their customer data to external players via their own APIs.[69] To this end, business literature

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[60] ABS & MAS, *supra* n. 43, at 24.

[61] European Payments Council, *Implementation of PSD2: A Viewpoint from the EBA, the European Banking Authority,* News and Insights (18 March 2020), https://www.europeanpaymentscouncil.eu/news-insights/insight/implementation-psd2-viewpoint-eba-european-banking-authority, 09 September 2021.

[62] Sebastian Maus & Pontus Mannberg, *Adapt or Die? Why PSD2 has so far Failed to Unlock the Potential of Open Banking?*, Roland Berger, 7 (6 November 2019), https://www.rolandberger.com, 08 June 2021.

[63] STET S.A. was launched in 2004 to create a common platform for the payment industry. STET is jointly owned by BNP Paribas, BPCE, Crèdit Agricole, Banque Fédérative du Crédit Mutuel and Société Générale, *see* https://www.stet.eu/en/about-us/, 09 September 2021.

[64] *Ibid*, https://www.stet.eu/en/psd2/, 09 September 2021.

[65] *See* The Berlin Group, https://www.berlin-group.org/, which has also launched its open finance 2021 API framework workplan, https://c2914bdb-1b7a-4d22-b792-c58ac5d6648e.usrfiles.com/ugd/c2914b_f34f434a647144229c7a5673045eeab3.pdf, 10 June 2021; other industry-led initiatives can be mentioned, such as public bank API launched by Fidor Bank in Germany or the 'Open Banking Project' funded by Tesobe Ltd, *see* The Open Data Institute, *The Open Banking Standard*, 139-140 (2016), http://theodi.org/wp-content/uploads/2020/03/298569302-The-Open-Banking-Standard-1.pdf, 09 September 2021.

[66] Maus and Mannberg, *supra* n. 62, at 7.

[67] Banco Central do Brasil, *supra* n. 49, at 2.

[68] HKMA, *supra* n. 44, at 18.

[69] The Paypers, *Global Open Banking Report 2020: Beyond Open Banking – Into the Open Finance and Open Data Economy*, 17 (2020), https://thepaypers.com/reports/the-global-open-banking-report-2020-beyond-open-banking-into-the-open-finance-and-open-data-economy/r1244913, 09 September 2021.

has elaborated on suitable API models, such as ‘app market’, ‘distributor’, ‘aggregator’, or ‘bank-as-a-platform’.[70] Explaining this categorisation is outside the scope of the present analysis; rather, it is more useful to underline that all of these models are centred on the possibility of financial institutions gaining revenues from open APIs. These prospects, however, are quashed by most open banking regulatory approaches around the world, where the trend is to prevent banks from charging third parties for the use of APIs. Unlike the EU, UK, Australia, and Brazil, where banks are forced to publish open APIs, Japan is the outsider through its practice of giving banks the opportunity to charge fees for connectivity.[71] The open finance debate, particularly in jurisdictions pioneering a regulatory-based open banking framework, appears to remain consistent with the non-monetisation approach.[72] Nonetheless, the concept of open finance is still new and likely to develop equally with market and technology evolution. At the same time, open finance is vaster in scope than open banking. These elements will reignite the inclination of financial institutions to earn revenue from opening to third parties. The ensuing debate will need to consider the needs of banks in connection with the question of whether charging fees for connectivity is beneficial or stifles the development of open finance.

3. The Open Finance Transition: Strategies and Directions

The open finance debate is happening and much of the discussion, particularly at the industry level, appears to be focused on the benefits of an enlarged data sharing framework in the financial sector, presenting open finance as a captivating and unmissable opportunity for all involved players.[73] Beyond the benefits, the question of whether open banking is robust enough to foster a transition to open finance should also be asked. This could be addressed from several angles. The following analysis concentrates on three areas that are still controversial within the open banking experience, offering some clues for the development of open finance.

3.1 Financial Institutions and Third Parties

The first line of discussion concerns the connection between financial institutions and third parties, which is established the moment the former receives a request to open their customer-permissioned data via APIs. Until now, especially in jurisdictions pursuing open banking through regulatory approaches, this link creates significant challenges to consider for the transition to open finance. Preliminarily, it is necessary to understand the role of third parties through the experience of jurisdictions where the implementation of open banking is at an advanced stage (EU, UK, and Australia), and where an open finance transition is envisaged.

In line with regulatory authorities’ aim to boost competition and innovation in the financial sector, the third-party market is within the reach of diversified players, ranging from banks, merchants, insurance companies, big tech companies, and FinTech companies.[74] As mentioned, the open banking

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[70] Camerinelli, *supra* n. 56, at 14-17.

[71] Osawa, *supra* n. 50, at 2.

[72] FCA, *Advice from the ‘Open Finance Working Group on Incentives’ to the FCA* (December 2019), https://www.fca.org.uk/publication/documents/incentives-advisory-group-open-finance-advice-note.pdf, 10 September 2021.

[73] Jason White & David Dalton Brown, *Is Trust the Key to Unlocking Open Finance? How to Remain Competitive, Build Trust and Transform for an Open, Digital World*, Ernest & Young (EY) & The Investing and Saving Alliance (TISA), 5 (7 February 2020), https://assets.ey.com/content/dam/ey-sites/ey-com/en_uk/topics/financial-services/ey-and-tisa-open-finance.pdf, 10 September 2021; Woodhurst, *Uncovering the True Potential of Open Finance* 6 (November 2020), https://www.woodhurst.com/uncovering-the-true-potential-of-open-finance/, 10 September 2021; Hakan Eroglu, *The Ambitious Path to Open Finance and Open Data ...How Europe is Leading the Way*, Finextra (6 March 2020), https://www.finextra.com/blogposting/18517/the-ambitious-path-to-open-finance-and-open-data--how-europe-is-leading-the-way, 10 September 2021.

[74] Particularly, FinTech companies have been playing a decisive role in the open banking sphere as third parties*, see* Alan Brener*, EU Payment Services Regulation and International Developments* in Iris H-Y Chiu & Gudula Deipenbrock (eds), *Routledge Handbook of Financial Technology and Law*, 159 (Abingdon, New York: Routledge 2021).

structure allows third parties to access consolidated information on customer payment accounts or initiate payment orders. The UK and EU pursue both possibilities, which is referred to as the read/write approach, with 'read' referring to account information only and 'write' to payment transactions; the Australian Consumer Data Right only mandates read access.[75] In the EU, as to the types of data available to third parties, the PSD2 only refers to payment processing data. The directive, however, allows Member States to widen the scope. In the UK, the data in scope are customer transaction data, customer reference data, and aggregated data.[76] The Australian Consumer Data Right is similar, but it extends beyond the payment account area by referring to those products (mortgages, business finance, investment products, etc.) that are targeted by the open finance project.[77]

Notably, regulators have developed different nomenclature to identify third parties. At the EU level, under the PSD2, a distinction is made between 'Account Information Service Providers' and 'Payment Initiation Service Providers'. The former will request to access customer account-related information, while the latter will use customer data for processing payment services on behalf of bank customers. Both will liaise with banks, which under the PSD2 terminology are called 'Account Servicing Payment Service Providers'.[78] The PSD2 glossary is applied in the UK under the open banking standard regime, and the UK Payment Services Regulation that transposed the PSD2 into national law.[79] Payment Initiation Services Providers and Account Information Services Providers are not used in the Australian Consumer Data Right's jargon; instead, given its aim to propose a common open data framework for the financial, energy, and telecommunication sectors, a more general taxonomy is used. Accordingly, 'Data Holders' denotes institutions obliged to share data in the aforementioned sectors under the regulation. These institutions are then categorised as 'Authorised Deposit Taking Institutions' within the Consumer Data Right section concerning open banking. 'Data Recipients' is used to designate actors like the PSD2 Account Information Service Providers and Payment Initiation Service Providers but finally covers all the third parties operating in the sectors contemplated by the Australian framework.[80] Against this backdrop, a more neutral 'third parties' term can easily be used to draw comparisons.

3.2 *Third-party Verification*

The three regimes converge in making third-party status subject to license. In the EU, third parties must seek authorisation from national competent authorities (NCAs),[81] while in the UK they are required to be either 'authorised' or 'registered' by the FCA. Specifically, authorisation applies to Payment Initiation Service Providers outright, while Account Information Services Providers are subject to authorisation only when their activity covers both account and payment services. On the other hand, registration is required for third parties whose business activities are exclusively account information. For this reason, they are named 'Registered Account Information Service Providers'.[82]

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[75] Deloitte, *Open Banking Payment Initiation. Completing the Vision* 3 (December 2019), https://www2.deloitte.com/content/dam/Deloitte/au/Documents/financial-services/au-fsi-deloitte-open-data-banking-payment-060120.pdf, 10 September 2021.

[76] The Open Data Institute, *supra* n. 65; *see* also Open Banking Implementation Entity (OBIE), *Open Banking Publishes the Latest Version of the Open Banking Standard* (June 2020), https://www.openbanking.org.uk/news/obie-publishes-version-3-1-6-of-the-open-banking-standard, 10 September 2021.

[77] ACCC, *supra* n. 47, at Schedule 3, section 1.4.

[78] *See* Article 4 PSD2.

[79] UK Treasury, *The Payment Services Regulations 2017*, Statutory Instruments No. 752 (19 July 2017), https://www.legislation.gov.uk/uksi/2017/752/pdfs/uksi_20170752_en.pdf, 10 September 2021.

[80] ACCC, *supra* n. 47, at Division 1.3.

[81] *See* Article 5 PSD2.

[82] FCA, *Regulation for Third Party Providers* (17 March 2021), https://www.fca.org.uk/firms/account-information-services-payment-initiation-services, 10 September 2021.

Likewise, Australian third parties must be accredited by the Australian Competition and Consumer Commission under the Consumer Data Right regulation.[83]

Licensing is a condition for entering the open banking world and, obviously, for extending operations within the wider open finance context. Regulators pursuing an open finance strategy need to review the relationship between financial institutions and third parties beyond licensing aspects. Accreditations or authorisations are only the first steps for allowing third parties to onboard financial institutions, but then their status must be verified. This is a crucial obligation of financial institutions vis-à-vis their customers when third parties access the information of the latter. Any third-party fraud will be detrimental for financial institutions in terms of liability, loss of reputation, and customer trust.[84] The question is, therefore, whether financial institutions participating in the future open finance system have sufficient means for ongoing verification of the third-party authenticity.

In this regard, the open banking experience maintains some unsolved issues. According to Australian regulators, setting up a Register of Accredited Participants (the Register) is the solution for ensuring that data holders have ongoing, updated information on the legal status of the data recipient. The Register is administered by the Australian Competition and Consumer Commission as the Accreditation Registrar and lays out obligations for third party participants to communicate any change in status. The Accreditation Registrar is supposed to exercise strong control and update the Register of any suspensions or revocations of accreditation; penalties apply in the event the participants fail to communicate changes.[85] Even though the Consumer Data Right is still being implemented and the operation of the Register will require further testing, this system appears to be well contrived. Things are different in the UK and EU, where critical elements to address persist despite registering requirements. In the UK, third parties will enrol in the Open Banking Implementation Entity Directory (the Directory) to effectively liaise with financial institutions. The Directory provides identity information and access management services but is also a whitelist of open banking participants,[86] namely an additional step for third parties to enter the open banking world after obtaining regulatory approval from the FCA. The issue of smooth, ongoing verification of their identity and rights is pending. This is also apparent at the EU level, where a register of approved third parties has been created on the EBA's website to facilitate the duties of financial institution identification.[87] However, this is not a central register like the Australian Register, as it depends on information of questionable accuracy passed on by the NCAs.[88] The EBA claims it does not have sufficient resources to maintain a centralised register of real-time information on third parties and, additionally, expressly declines any responsibility for the authenticity of its information.[89] The EBA register is, ultimately, a toothless wonder. As mentioned, the NCA's registers are not helpful either. Each country has its own approach, adding limitations and increasing complexities for

[83] ACCC, *supra* n. 47, Part 5.

[84] Kristian T. Sørensen et al., *The Tricky Encounter*, A Norfico and Konsentus White Paper About the Connections Between Financial Institutions and Third Party Providers under PSD2, 6 (April 2020), https://www.konsentus.com/wp-content/uploads/The_Tricky_Encounter_2020_final.pdf-, 11 September 2021

[85] ACCC, s*upra* n. 47, at Division 5.3.

[86] Open Banking Limited, *Enrolling onto the OBIE Directory* (November 2020), https://www.openbanking.org.uk/wp-content/uploads/Enrolling-Onto-Open-Banking-Guide.pdf, 11 September 2021.

[87] *See* Article 15(1) PSD2; *see* also EBA Register at https://www.eba.europa.eu/risk-analysis-and-data/register-payment-electronic-money-institutions-under-PSD2, 11 September 2021.

[88] Sørensen et al., *supra* n. 84, at 8.

[89] 'The present Register has been set up by the EBA solely on the basis of information provided by national competent authorities of the EEA Member States. Therefore, unlike national registers under PSD2, this Register has no legal significance and confers no rights in law. If an unauthorized institution is inadvertently included in the Register, its legal status is in no way altered; similarly, if an institution has inadvertently been omitted from the Register, the validity of its authorisation will not be affected'. *See* EBA, https://www.eba.europa.eu/risk-analysis-and-data/register-payment-electronic-money-institutions-under-PSD2, 11 September 2021.

financial institutions. For example, it is noted that some NCA registers do not keep a record of changes of third party legal status, making it hard for financial institutions to verify the history of third parties, in order to assemble a complete picture of the entities asking to access customer data.[90] Furthermore, it is hard for financial institutions to interpret national register data in different languages, forcing them to rely on external services for processing information clearly and quickly;[91] inevitably this makes identification a cumbersome and costly process.

These inconsistencies prompted EU regulators to discuss opportune solutions, culminating in the suggestion that third parties should identify themselves through qualified certificates (eIDAS certificates) issued by qualified trust services providers (QTSP) under the eIDAS regulation.[92] In theory, eIDAS certificates appear reliable, as the identity and rights of third parties are ascertained by QTSPs. Even though they were eventually endorsed by the EBA during the drafting of the Regulatory Technical Standards (RTS) to implement the PSD2,[93] this solution encountered significant criticism at the industry level, stressing, among other things, how the eIDAS certificates provide only short-term validation and cannot provide any updates on subsequent legal status.[94] In fact, should a NCA revoke a third-party authorisation, there is no obligation for the NCA and the QTSP to liaise on this matter. This could create a situation where an eIDAS certificate is still valid for a third party no longer authorised by its NCA.[95]

Against this backdrop, the differences between the Australian and EU systems are apparent. The Consumer Data Right is supposed to be an open data framework, uniformly applied across several strategic sectors. For this reason, there is a central register to govern the relationship between all the participants of the open data ecosystem and to ensure authenticity. The Register covers all participants identified as Accredited Persons. Absence of centralisation is, instead, a source of flaws in Europe. When the time comes to revisit the PSD2 to build open finance, European regulators may consider the results of the Australian experience using a central register, although suggestions to follow the models of different systems should always be taken with caution. Indeed, like open banking, open finance will not emerge from a coordinated international approach, but jurisdictionally specific aims, drivers, and interests will shape its development. Regardless, the robustness of the relationship between financial institutions and third parties deserves due consideration. The open banking experience reveals that financial institutions have been dealing exponentially with third party data sharing requests since the creation of open banking frameworks.[96] This is bound to increase once the open finance ecosystem is in place, as new players such as insurance companies, pension funds, wealth managers, and regulated or non-regulated third parties will join, in addition to the current open

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[90] David Parker, *PSD2 Open Banking: The Challenge of Third-party Provider Identity and Regulatory Checking* in (Susanne Chisthi et al. (eds), *The PayTech Book: The Payment Technology Handbook for Investors, Entrepreneurs and FinTech Visionaries*, 64 (Chichester: John Wiley & Sons Ltd, 2020).

[91] John Broxis, *The Risk of Checking eIDAS Certificates*, Open Banking Europe (29 July 2021), https://www.openbankingeurope.eu/open-banking-europe-insights/the-risk-of-only-checking-eidas-certificates/, 11 September 2021.

[92] Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC, OJ L 257, 28.8.2014

[93] EBA, *EBA Opinion on the Use of eIDAS Certificates Under the RTS on SCA and CSC,* EBA-Op-2018-7 (December 2018), https://www.eba.europa.eu/sites/default/documents/files/documents/10180/2137845/d429d45e-f936-473c-bc02-c23060d11f19/EBA%20Opinion%20on%20the%20use%20of%20eIDAS%20certificates%20under%20the%20RTS%20on%20SCACSC.pdf, 11 September 2021.

[94] Sørensen et al., *supra* n. 84, at 10.; Broxis, *supra* n. 91.

[95] *Ibid*.

[96] It is estimated that there are currently more than 400 TPPs in Europe, *see* Statista, *Number of Open Banking Third Party Registrations in Europe Q4 2020, by Country*, Statista Research Department, 1 (9 April 2021), https://www.statista.com/statistics/1214254/number-of-open-banking-third-party-registrations-in-europe-by-country/, 11 September 2021.

banking participants. Regulators with an open finance project need to think of corrective measures, with a view toward creating a system that allows financial institutions to identify third party legal status easily and transparently. Overall, the Australian and EU experiences reflect various prospects and unsolved problems in each system. These are valuable grounds for regulators to reflect on the strength of their future open finance framework.

3.3 Data Sharing: One-way or Two-way?

Authenticity and security issues are not the only contentious matters in the relationship between financial institutions and third parties. Another interesting element is the absence of a level playing field in the data sharing process. This controversy can be summarized in the claim that financial institutions are mandated to open customer data upon request, but cannot ask the same of third party customers. Moving from open banking to the wider open finance system, this lack of reciprocity remains controversial. With the expansion of FinTech players after the 2007–2009 global financial crisis, the financial services industry is no longer the domain of traditional financial intermediaries. This large space is made up of small and big entrants. It is recognized that there is a sort of alliance or complementary relationship between traditional financial intermediaries and FinTech companies.[97]
As the Covid-19 pandemic imposed further digitisation in the financial sector, customers are becoming more digitally experienced and expect their banks to provide a seamless digital interaction. Accordingly, banks rely on cutting-edge technology developed and used by FinTech companies. On the other hand, FinTech companies can also benefit from the wider experience traditional financial intermediaries have in the financial services industry, in terms of customer base, brand reputation, risk management, and compliance.[98]

The scenario is different for big entrants, particularly large tech companies such as Google, Amazon, Facebook, and Apple, penetrating the financial sector through lending, payment, or credit card services.[99] These companies bring the competitive advantages small FinTech entrants desire to attain, from a large customer base to significant investment budgets, and they are also strong API users, with platforms that generate a massive amount of data that gives the ability to offer customers tailored solutions.[100] While big tech companies have not taken any significant action in the open banking world to date, the fear remains that they can scale up the financial services domain with their competitive advantages.[101] The open banking context ignited this fear, and the open finance debate continues to fuel it. Accusations of an unlevelled playing field between financial institutions and third parties in the data sharing process is rooted in the dissatisfaction financial institutions expressed toward some open banking regulatory approaches not allowing reciprocity.

There are, once again, relevant differences across the most influential open banking jurisdictions, stimulating reflections ahead of open finance. The EU and UK open banking framework have sown the seeds of this discontent, as financial institutions cannot rely on reciprocity vis-à-vis third parties.

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[97] René M Stulz, *FinTech, BigTech and the Future of Banks,* National Bureau of Economic Research, Working Paper 26312, 12 (September 2019), https://www.nber.org/system/files/working_papers/w26312/w26312.pdf, 12 September 2021; Douglas Arner et al, *From FinTech to TechFin: The regulatory Challenges of Data-Driven Finance*, University of Hong Kong Faculty of Law research Paper No. 007, 10 (January 2017), https://www.researchgate.net/publication/317999278_From_FinTech_to_TechFin_The_Regulatory_Challenges_of_Data-Driven_Finance, 12 September 2021.

[98] *Ibid*; *see* also Jeroen van der Kroft, *Collaboration at the Core: Evolving Partnerships Between Banks and FinTechs*, Ernest and Young (23 March 2021), https://www.ey.com/en_nl/banking-capital-markets-transformation-growth/collaboration-at-the-core-evolving-partnerships-between-banks-and-FinTechs, 12 September 2021.

[99] Juan Carlos Crisanto et al, *Big-techs in Finance: Regulatory Approaches and Policy Options,* Bank for International Settlement (BIS), FSI Briefs No. 12, 3 (16 March 2021), https://www.bis.org/fsi/fsibriefs12.htm, 12 September 2021.

[100] *Ibid*.

[101] *See* Scott Carey, *Why the US Tech Giants are Uninterested in Getting into Open Banking*, Computerworld (1 May 2019), https://www.computerworld.com/article/3428045/why-the-us-tech-giants-are-uninterested-in-getting-into-open-banking.html, 12 September 2021.

This is a source of confrontation with regulators, as financial institutions claim that open banking is not a win-win situation but a costly compliance exercise.[102] The Australian Consumer Data Right, instead, allows reciprocity in the data sharing process. From the beginning, Australian regulators underlined the importance of creating a level playing field between open banking participants through a reciprocity rule, so that also data holders are entitled to access similar or equivalent data held by third parties.[103] The creation of this rule, however, was not as straightforward as it appears. It was first mentioned among draft provisions governing 'data holders' and later reinforced in the explanatory memorandum of the Consumer Data Right.[104] Then, during the open banking preparatory work, stakeholders urged the Australian Competition and Consumer Commission to introduce the reciprocity rule and specify the terms of equivalent data.[105] Finally, the regulatory authority refrained from introducing a specific reciprocity rule in the last version of the Consumer Data Right, on grounds that it required more consultation.[106] This does not mean that reciprocity is not considered by Australian regulators. The principle can be pinpointed in the Consumer Data Right explanatory memoranda, which state the possibility for data recipients to provide the same services as data holders.[107] Furthermore, the Consumer Data Right's phasing table refers explicitly to the exchange of account product and transactional data as an obligation for a 'reciprocal' accredited entity.[108] Consequently, though watered down in comparison to early premises, the reciprocity rule is expected to be a milestone development of the Australian open data framework.

Against this backdrop, it appears that reciprocity is essential within an open data framework, to be applied uniformly across sectors. Some scholars suggest introducing a 'reciprocity clause' wherever it is missing, for instance, in the PSD2 access to account rule.[109] Once again, the role big tech companies can play in this context underpins these analyses. Other commentators advocate a more robust system, in which a company's raw data are accessible in all industries (via consumer consent) on similar terms.[110] Finally, caution is urged as possible (anti Big Tech) reforms could diminish the pro-competition aims that underpin open banking regulations.[111] The open finance project shall be also facing these issues.

Nonetheless, beyond advocating reciprocity as the solution for creating a level playing field between financial institutions and third parties, it should not be overlooked that customers are at the centre of

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[102] Banco Santander, *Open banking – The Quest for a Level Playing Field: Can the Brave New World of Open Banking Exist Without Fair Play and Reciprocity?* (2020), https://santander.ft.com/open-banking-the-quest-for-a-level-playing-field, 12 September 2021.

[103] ACCC, *Consumer Data Right Rules Framework*, 21-22 (12 September 2018), https://www.accc.gov.au/focus-areas/consumer-data-right-cdr-0, 12 September 2021.

[104] *Ibid*; *see* also ACCC, *ACCC Makes Amendments to the Consumer Data Right Rules* (19 February 2021), https://www.accc.gov.au/focus-areas/consumer-data-right-cdr-0/accc-makes-amendments-to-the-consumer-data-right-rules, 12 September 2021.

[105] Australian Government, *Open Banking: Customers Choice Convenience Confidence* (December 2017), https://treasury.gov.au/sites/default/files/2019-03/Review-into-Open-Banking-_For-web-1.pdf, 12 September 2021.

[106] ACCC, *supra* n. 103, at 21-22.

[107] *Ibid*.

[108] *See* ACCC, *Proposed CDR rules - Phasing table* – (02 September 2019), https://www.accc.gov.au/system/files/Proposed%20CDR%20rules%20-%20Phasing%20table%20-%202%20September%202019%20rules%20update.pdf, 12 September 2021.

[109] *See* Article 36 PSD2: *see also* Fabiana di Porto & Gustavo Ghidini, *I Access Your Data, You Access Mine'': Requiring Data Reciprocity in Payment Services*, 51 IIC - International Review of Intellectual Property and Competition Law, 307 (5 March 2020), https://link.springer.com/article/10.1007/s40319-020-00914-1, 12 September 2021.

[110] Institute of International Finance (IIF), *Reciprocity in Customer Data Sharing Framework* (July 2018), https://www.iif.com/portals/0/Files/private/32370132_reciprocity_in_customer_data_sharing_frameworks_20170730.pdf, 12 September 2021.

[111] Oscar Borgognono & Giuseppe Colangelo, *Open Banking and the Ambiguous Competitive Effects of Data Portability*, CPI Antitrust Chronicle, 2-6 (April 2021), https://ssrn.com/abstract=3826444, 12 September 2021.

the project, as the owners and controllers of their own data. Open finance means not only more areas and more actors, but also more data to be potentially shared.[112] Any discussion on introducing reciprocity must first clarify the reciprocal data, and how customer ownership and control can be preserved accordingly. This is an area where interpretation of 'equivalent data' is not straightforward, as the Australian Consumer Data Right process shows. The Australian experience, with its significant changes and work still in progress, demonstrates that reciprocity is hard to conceive and cannot be envisaged under *quid pro quo* logic, where A receives from B what B receives from A. Moreover, consumer protection organisations have expressed concerns, as they fear reciprocity may aggravate security risks despite consumer consent. Clearly, there is a stark contrast between the respective positions of financial institutions and consumer protection organisations, with the former claiming competitive asymmetries due to a lack of reciprocity, and the later portraying open finance as an 'open bar for consumer data' in the event reciprocity is introduced.[113] It is likely that the open banking experience will yield insufficient outcomes for tilting the balance in favour of reciprocity or not. The time for open banking is not ripe and it may be too early for open finance, but dialogue among all stakeholders can gather a more coordinated pace on such a delicate issue.

3.4 Consumer Education

Open finance is expected to bring relevant outcomes to all involved players. As a customer-centric model, there are significant consumer risks when consent is given for data sharing purposes, among others, in terms of security and privacy. Global open banking frameworks are designed to ensure consumer protection along with other aims, such as enhancing competition, boosting innovation, and fostering financial inclusion. For example, at the EU level, the PSD2 interplays with the data protection principles that constitute the pillars of the GDPR: lawfulness, fairness and transparency, purpose limitation, data minimisation, accuracy, storage limitation, integrity and confidentiality, and accountability.[114] Furthermore, the European Commission adopted RTS on 'strong customer authentication' and 'common and secure open standards of communication' to strengthen customer security in electronic payments.[115]

However, to deliver these outcomes, data sharing frameworks like open banking and open finance need to gain consumer trust. Beyond the design of adequate protection mechanisms, trust is also built when consumers understand the complexities and benefits associated with their participation in open banking/open finance ecosystems. Accordingly, consumer financial education needs to be promoted and guaranteed. Financial education has been on the regulatory agenda since the 2007–2009 global financial crisis, along with macro-prudential and consumer protection strategies. Recent academic work highlights the importance of financial education as a crucial process for achieving and

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[112] FCA, *supra* n. 72.

[113] The European Consumer Organisation (BEUC), *Open Finance Should not Mean an Open Bar for Consumer Data*, 2-6 (June 2020), https://www.beuc.eu/publications/beuc-x-2020-054_open_finance_should_not_mean_open_bar_for_consumer_data.pdf, 13 September 2021.

[114] GDPR, *supra* n. 37.

[115] Commission Delegated Regulation (EU) 2018/389 of 27 November 2017 supplementing Directive (EU) 2015/2366 of the European Parliament and of the Council with regard to regulatory technical standards for strong customer authentication and common and secure open standards of communication, OJ L69, 13 March 2018; *see also* EBA, *Draft Regulatory Technical Standards on Strong Customer Authentication and Common and Secure Communication under Article 98 of Directive 2015/2366 (PSD2)*, EBA/RTS/2017/02 (23 February 2017), https://www.eba.europa.eu/sites/default/documents/files/documents/10180/1761863/314bd4d5-ccad-47f8-bb11-84933e863944/Final%20draft%20RTS%20on%20SCA%20and%20CSC%20under%20PSD2%20%28EBA-RTS-2017-02%29.pdf, 13 September 2021.

improving individual financial well-being, thereby aggregating several forces, such as literacy (knowledge and understanding), capability (ability to act), and inclusion (opportunity to act).[116]
Within the open banking context, regulators and policymakers are encouraging literacy strategies. Reference is made to the work of the open data institute, which provides jargon explanations and a dictionary to navigate through the complexities of a data sharing ecosystem. Nonetheless, it appears that regulators associate literacy strategies only with customer awareness of risk. This approach is too narrow. As mentioned, shielding customers from the risks of data sharing is of capital importance and should never be marginalised. Literacy (knowledge and understanding), on the other hand, should not be circumscribed to risk awareness but broadened to include consumer awareness of the meaningfulness of being the owners and controllers of their data; how their relationship with financial institutions is likely to change; the potential interactions they may have with other players; and how consumers should manage themselves accordingly. Security will then come into play as part of this wider literacy dimension.
This vision has yet to be achieved in open banking and will be even more crucial in a larger space like open finance. Overall, despite some natural conservatism when it comes to the use of personal data, consumers found the open banking idea appealing, particularly the prospect of having applications that can easily help them track savings and spending habits.[117] This is undoubtedly a positive trend, but a distinction always needs to be made between tech savvy and non-tech savvy consumers, with the former better equipped to understand the intricacies of the data sharing process via open banking. Up until now, when examining the relationship between financial institutions and their customers, the open banking trend shows a generally low level of awareness among bank customers. This leads to a fear, among other issues, that tech-savvy advisers may be more incentivized to liaise with tech-savvy customers.[118] Through this lens, the risk is that open banking becomes an inner circle, with gaps among consumers. Such a risk may become more acute under open finance, given its wider scope. Naturally, the bigger the thing, the bigger the effort, and this includes educating consumers. We are moving toward a fascinating and brave open data world. The financial sector is being given the keys to test this path through open banking and the eventual transition to open finance. The open finance debate and ensuing strategies are opportunities to consider optimal coordination between all stakeholders, and to guarantee adequate consumer awareness of the value of going 'open'.[119]

4. Concluding Remarks

Open finance, at this stage, exists as a project. Open banking, in its scope and regulatory approaches, is the area from which open finance will be developed and extended to other products and services. Significantly, there is a connection between them, so that open banking can work as the basis for determining what is needed for the creation of a solid open finance framework. In this respect, open

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[116] Francesco De Pascalis & Arad Reisberg, *Consumer Financial Well-being in the Post-crisis Era: Financial Education on the Crossroad to Prominence* in Daniel Cash & Robert Goddard (eds), *Regulation and the Global Financial Crisis*, 227 (London: Routledge, 2020).

[117] Chandana Asif et al., *Financial Services Unchained: The Ongoing Rise of Open Financial Data*, McKinsey & Company (11 July 2021), https://www.mckinsey.com/industries/financial-services/our-insights/financial-services-unchained-the-ongoing-rise-of-open-financial-data, 13 September 2021.

[118] 'I have heard a lot about open banking over the last few years – usually at seminars and conferences where its possible uses and benefits have been highlighted by technology companies. However, I've yet to have a client even mention it to me and I do not bring it up during meetings', *see* Shekina Tuahene, *Pandemic has Driven up Use of Open Banking but Awareness Remains Low,* Marketwatch (16 June 2021), https://www.mortgagesolutions.co.uk/your-community/2021/06/16/pandemic-has-driven-up-use-of-open-banking-but-awareness-remains-low-marketwatch/, 13 September 2021.

[119] Roderick Simons et al., *Data Security and Open Banking, Dispelling Myths and Misconceptions*, White Paper, Yolt Technology Services (YTS), 10-11 (23 February 2021), https://yts.yolt.com/images/logos/YTS_Whitepaper_Data-Security-1.pdf, 13 September 2021.

banking offers some relevant insights. As shown, from a regulatory perspective, open banking is a mosaic of approaches. It is possible to map these approaches across jurisdictions by reviewing the degree of influence that the most advanced open banking frameworks have had on the development of other frameworks. In practice, countries have different drivers for making open banking a global and diversified movement, where actors can borrow from each other and then develop their own philosophy. Open finance will develop within these inputs. Indeed, some regulations are already staging a transition toward open finance, like the Australian Consumer Data Right and the Brazilian 'Sistema Financeiro Aberto', while others, such as the UK and EU, are discussing an open finance regulation outside of the open banking regulation perimeter. In between, other jurisdictions are silent on the open finance project because their open banking systems are still waiting on outcomes. It will be interesting to see the impact the open finance regulation is likely to have on other countries, once again led by the pioneering jurisdictions of open banking, and whether the open banking movement can indeed transform into an open finance movement. In any case, open finance is a gigantic task, and the journey is still long and arduous. By selecting jurisdictions with an open finance ethos, this analysis highlights areas where the open banking experience has either revealed pending shortcomings, left unanswered questions, or needs to do more. The liaison between financial institutions and third parties can be placed under the first category. Open finance will enlarge the already growing third-party family. Consequently, regulators must consider the weaknesses of third-party identification mechanisms in their open banking structure; this mainly applies to the European level. Lack of reciprocity in the data sharing process is, instead, a dilemma. Despite many advocates for a two-way data flow system within the open banking context, there are still significant issues relating to the type of data to reciprocate, identifying who really benefits, and the level of security to be established. More dialogue is needed between the involved parties, as well as to address the fear consumers are already expressing in anticipation of open finance.

Finally, the open banking experience revealed that more must be done to foster consumer awareness beyond risk knowledge. A new ecosystem, founded on the principle of giving consumers control and ownership of their financial data (as a step toward a broader open data ecosystem), can deliver benefits when the protagonists understand entirely the values associated with their roles. The complexity of open finance will require joint efforts at the industry and regulatory level to enhance consumer knowledge of their role in the new system. There will be further prospects for discussion, once some open finance regulations are in place and operational. Open finance is an opportunity to revisit the outcomes of open banking and tackle shortcomings. Open finance cannot be developed with the same problems. However, the issues discussed also demonstrate that open banking has not yet completely matured, still leaving much to be seen in this ecosystem. This brings to the forefront the question of whether times are appropriate for launching an open finance transition.