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Open Banking in the UK and Singapore: Open Possibilities for Enhancing Financial Inclusion

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Open possibilities for enhancing financial inclusion

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ABSTRACT

A complex relationship exists between open banking – the technological advancement of financial services through sharing of consumer data – and financial inclusion. This article analyses the implementation and regulation of open banking in the United Kingdom and Singapore, critically evaluating opportunities and challenges for utilising open banking when tackling financial inclusion.

INTRODUCTION

Open banking is a divisive topic; its relationship with financial inclusion is even more controversial. Many commentators have argued that it has the potential to provide cost effective and efficient financial services to a wide range of people.[1] Others claim that it will do the opposite, exacerbating pre-existing vulnerabilities and increasing financial exclusion.[2] This debate is exceptionally important to effectively harness open banking's potential and ensuring that technological developments do not cause more harm than good. Unfortunately, the answer is far from clear. The views on both sides are most often based on individual or institutional perspectives, as opposed to academically and/or empirically grounded analysis of the situation. In addition, open banking is a relatively novel concept and, as a result, there is limited academic work on its relationship with financial inclusion. Further research is therefore clearly needed to fill the gap. This paper begins that task by exploring the competing narratives to determine how open banking can be harnessed for good, increasing financial inclusion of previously marginalised groups in society.

Due to the fast-paced and quickly changing nature of open banking, it was crucial to have an accurate understanding of how these issues played out 'on the ground'. This article therefore combines existing academic and policy work with novel empirical research on the open banking market. The authors interviewed a range of stakeholders on the potential risks and benefits of this technological development. It does so by comparing the different approaches taken to open banking implementation in the UK and Singapore. These two countries were chosen because they are both leaders and world centres in the banking field, but one which have taken remarkably different approaches to the regulation of open banking.

There are five parts. The first introduces open banking and financial inclusion, as well as the relationship between these two concepts. This section also outlines the open banking and financial inclusion situation in the UK and Singapore. Part II summarises the background to, and methodology of, the empirical research. Parts III and IV outline the opportunities and risks associated with open banking and financial inclusion, highlighting the unique characteristics of the open banking systems in the UK

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[1] See for example, Virtusa Corporation, 'Why Open Banking is Key to Increasing Financial Inclusion', available online.

[2] See for example, Greg Chen and Xavier Faz, 'Open Data and the Future of Banking' (*CGAP*, 23 October 2019), available online.

and Singapore. The final part, Part V, develops the previous analysis by summarising what we can learn from the approaches of the two countries, as well as what they can learn from each other. There is clearly no 'right' or 'wrong' model to open banking, instead the two approaches highlight different challenges and opportunities, and regulators should be open to learning from other jurisdictions to maximise the potential benefits from open banking and financial inclusion, particularly for already vulnerable or excluded members of society.

I. OPEN BANKING AND FINANCIAL INCLUSION

This introductory section provides a general overview of the concepts of open banking and financial inclusion, before proceeding to discuss the application of these concepts to the UK and Singapore.

A. Defining the Key Concepts

Open banking is an emerging financial services model that focuses on the portability and open availability of consumer data held by financial institutions.[3] An open banking framework comprises three key features: (1) consumers having greater access to, and control over, their banking data; (2) financial institutions being required to share their customer's data with customers; and (3) with the consent of customers, financial institutions sharing customer data with accredited third party providers ("TPPs"), which may include competing providers of financial services.[4] This sharing of consumer information is advocated by policymakers as giving consumers control over their data, leading to greater choice in their banking service providers and more convenience in managing their money.[5] For example, open banking enables account aggregation services that allow bank customers to view their accounts from different banks through a single interface, and product comparison services allowing the identification of suitable financial products, both of which facilitate the management of personal finance.[6] Globally, there have been three different regulatory approaches taken to open banking broadly classified as mandatory, supportive and neutral.[7] Mandatory jurisdictions have legislative frameworks compelling the adoption of open banking while in supportive jurisdictions, open banking initiatives may be facilitated by regulators but such data sharing is not compulsory in law. In neutral jurisdictions, there is an absence of regulatory statements on open banking, but there is some industry-led adoption and experimentation.[8]

Financial inclusion has been a growing concern of many governments worldwide, with policy aims to increase inclusion in financial markets, particularly for low-income and/or vulnerable consumers. Whilst aiming for financial inclusion is an important policy aim of these governments, it is often more common to hear of governments aiming to tackle financial *ex*clusion than increase financial *in*clusion. These two terms are clearly linked. Financial inclusion aims to ensure that individuals, regardless of their background or income, have access to useful and affordable financial products and services.[9] Financial exclusion is a more frequently considered and discussed concept, so it is important to have an understanding of this concept as well, as how financial *in*clusion and *ex*clusion interrelate. Although

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[3] Ana Badour & Domenic Presta, 'Open Banking: Canadian and International Developments' (2018) 34 BFLR 1, 41.
[4] Philip Hamilton, ''You're more likely to divorce than switch banks': will Open Banking encourage more switching?' (*Parliament of Australia,* 17 July 2019), available online.
[5] The Australian Government the Treasury, *Review into Open Banking: giving customers choice, convenience and confidence* (December 2017), v.
[6] The Open Data Institute and Fingleton Associates, *Open Banking, Preparing for lift off: Purpose, Progress & Potential* (2019), 30.
[7] Microsoft, Linklaters and Accenture, *Open banking: A shared opportunity* (2019), 20.
[8] ibid.
[9] HM Treasury & Department of Work & Pensions, *Financial inclusion report 2018-19* (March 2019), para 1.1.

there is no agreed definition of the concept, the European Commission ("EC") defines financial exclusion as 'a process whereby people encounter difficulties accessing and/or using financial services and products in the mainstream market that are appropriate to their needs and enable them to lead a normal social life in the society in which they belong.'[10] These include products and services such as banking, credit, insurance, pensions and savings, as well as transactions and payment systems, and the use of financial technology.[11] If consumers are not accessing or using financial services in a mainstream market in a way that is appropriate to their needs, this is an indication that they are financially excluded.[12] In terms of open banking, financial exclusion arises if an individual is either 'unbanked' or 'underbanked'. Unbanked consumers have no access to even the most basic bank account. In contrast, underbanked consumers have a bank account, but limited to no access to other financial products and services. The concept of being underbanked can be understood as such:

> [The] underbanked are people who do not have enough [access] to essential financial services. Essential financial services include … having a place to borrow money from. Some might also include insurance as an essential financial service. If you don't have the ability to get access to credit, to tide over short term financial needs and commitments … affordable safe credit is really one of the basic needs that we all expect.[13]

Financial exclusion is particularly important as it relates not only to a consumer's financial situation, but also to their general and social well-being. As highlighted by Ramsay, financial exclusion can 'act as a potential "multiplier" of advantage and disadvantage in society potentially heightening social divisions … exclusion from access to credit may therefore mean both economic exclusion from markets … and also exclusion from a central aspect of public expression in modern society'.[14]

Our financial needs and relationship between finance and technology has changed dramatically over a short period of time. Whilst financial inclusion used to be identified as access to a bank account, it has quickly developed beyond this traditional definition to a focus on access to general financial services. The relationship between financial inclusion/exclusion and open banking has been particularly controversial. Research by Connolly and Hajaj highlights that there is both a demand and supply side to financial exclusion concerns, and one of the key demand side indicators is whether the consumer can effectively use new technology to engage in financial services.[15] On the one hand, open banking has considerable potential to promote and enhance financial inclusion, by removing physical barriers and allowing increasing numbers of people to access financial services. It also has the capacity to create opportunities for the unbanked and underbanked by improving access to a wide range of services – ranging from insurance, lines of credit, and even access to education.[16] Yet consumer advocates caution that open banking, if mismanaged, could leave individuals worse off and increase financial exclusion. A study commissioned by Barclays Bank (UK) found that open banking may increase conflicts of interest, exploit asymmetries of power and exacerbate digital and financial exclusion.[17] The developments in financial technology also raise issues of data privacy and control.

[10] EC, *Financial Services Provision and the Prevention of Financial Exclusion* (2008) 9.
[11] *HM Treasury & Department of Work & Pensions* (n 9) para 1.1.
[12] Sharon Collard et al, *Tackling Financial Exclusion: An area-based approach* (The Policy Press 2001); Elaine Kempson and Sharon Collard, *Developing a Vision for Financial Inclusion* (Friends Provident Foundation, 2012).
[13] Damien Wong, FinTech Representative (Singapore, 27 January 2020).
[14] Iain Ramsay, 'Consumer Credit law, Distributive Justice and the Welfare State' (1995) 15 *OJLS* 177, 181.
[15] Chris Connolly and Khaldoun Hajaj, *Financial Services and Social Exclusion* (Consumer Policy Centre, UNSW, 2001).
[16] Damien Wong, 'Creating a more financially inclusive Asean through open banking' (*The Business Times,* 27 March 2019).
[17] Faith Reynolds, *Open Banking: A Consumer Perspective* (January 2017), available online.

Given the vast amount of resources being invested in promoting financial inclusion through technology, it is critical to examine whether the adoption of financial technology such as open banking would translate into consumer benefits. As countries around the world increase their efforts to exploit the potential of financial technology, it is critical that both financial services institutions and regulators alike ensure that financial inclusion remains not a by-product of its development, but a key goal.[18] The deeply polarised view over the costs and benefits of adopting open banking and its relationship with financial inclusion, highlight that there is clearly a need for detailed and thorough research on the relationship between these two concepts.

B. Open Banking and Financial Inclusion in United Kingdom

The UK has been an early mover in the development of open banking. In the UK, open banking enables consumers to consent to TPPs accessing their payment account information and/or making payments on their behalf.[19] Open banking was originally focused on tackling anti-competitive behaviour in the financial services industry. As early as August 2016, the Competition and Markets Authority ("CMA") issued a report concluding that the market for retail banking was not sufficiently competitive and was overly dominated by large banks.[20] The CMA then made an Order outlining a package of remedies under the umbrella of open banking, which required the nine largest banks in the UK to adopt "open application programming interface ("API") banking standards… [and] to make data available using these standards."[21] Consequently, the Open Banking Implementation Entity ("OBIE") was formed to design the CMA mandated API specifications.[22]

Simultaneously, open banking development in the UK has been influenced by the EU's Second Payment Services Directive[23] ("PSD2").[24] The PSD2 builds on previous EU efforts in establishing an EU digital single market. The PSD2's predecessor, the First Payment Services Directive (PSD1)[25] laid the foundations by harmonising payment transactions in the EU in order to establish a common European market in payment services. The PSD2 was drafted to, *inter alia*, address the rapid growth in electronic and mobile payments and the emergence of new types of payment services, which challenged the existing PSD1 framework.[26] For example, PSD2 is targeted at addressing legal uncertainty, potential security risks in the payment chain, and a lack of consumer protection in certain areas.[27] The UK implemented the PSD2 with the Payment Services Regulations 2017 ("PSRs").[28]

The PSRs provide the legal basis for regulated TPPs to access online payment accounts with the customer's explicit consent. Once customer consent is provided, account providers are also obligated to allow TPP access to customer account payment data. This allows TPPs to initiate payments on a customer's behalf. Three general categories of services have arisen: account information services (consumers are able to see all payment account information across different bank accounts in one platform), payment initiation services (consumers are able to pay merchants directly from their bank

[18] See further discussion in article by *Wong* (n 16).
[19] Financial Conduct Authority ("FCA"), *Call for Input: Open finance* (December 2019), para 2.3.
[20] CMA, *Retail banking market investigation: final report* (9 August 2016), 441- 461.
[21] ibid.
[22] Open Banking Limited, 'About Us', available online.
[23] Directive 2015/2366/EU of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market.
[24] PSD2, Recital 29.
[25] Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market.
[26] PSD2, Recital 3.
[27] PSD2, Recital 4.
[28] Payment Services Regulations 2017, SI 2017/752.

account without using a debit or credit card) and card based payment instruments (consumers can use TPP-issued payment cards to initiate payment transactions from an account held with another payment service provider).[29]

In the UK, open banking has developed to provide the following services to both individual consumers and small to medium enterprises (SMEs), including:

i. Credit reference agencies using transaction data to help consumers and businesses with 'thin' credit files access finance;
ii. Intelligent financial tracking apps helping consumers save money and/or avoid becoming overdrawn;
iii. Account dashboards to grow financial awareness and help consumers shop around;
iv. Debt advisers accessing clients' finances more efficiently and accurately; and
v. Dashboards using payment initiation services to move money between different bank providers.[30]

The UK is considering extending the model of data sharing encapsulated by open banking under the ambit of 'open finance'. Open finance would enhance existing open banking principles to give consumers and businesses more control over a wider range of their financial data, such as savings, insurance, mortgages, investments, pensions and consumer credit.[31] In November 2019, the FCA published its call for input to explore potential risks and opportunities that may arise from open finance.

Financial inclusion has been of increasing importance over the last decade. The UK Treasury has set financial inclusion as a priority, establishing the Financial Inclusion Policy Forum in November 2017. A new statutory body, the Single Financial Guidance Body (SFGB) was also formed by merging the Money Advice Service, the Pensions Advisory Service and Pension Wise. The SFGB was given a statutory function to develop a national strategy on financial capability, debt and financial education, working together with the financial services industry, the voluntary sector and the devolved administrations to offer a roadmap on how to make long-lasting impact across the UK, improving people's ability to manage their money effectively and avoid falling into problem debt.[32]

The UK government has also recognised the relationship between open banking and financial inclusion, and the opportunity that the government has to capitalise on open banking to tackle financial exclusion. The Financial Inclusion Report 2018-19 commented that,

> Financial technology can play a key role in tackling financial exclusion and offers opportunities for firms to develop innovative ways to increase consumer access to and use of financial services, delivering big benefits such as lower prices, increased choice, and better service to all, including the disadvantaged and vulnerable.
>
> The government is currently working closely with industry to roll out Open Banking, a radical intervention that will allow consumers and SMEs to access a range of new and innovative products that better meet their needs, by providing third party providers with secure access to their current accounts. These products could include more affordable lending solutions, as well as products to help consumers to track and manage their money and make payments.[33]

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[29] *FCA* (n 19), para 2.6.
[30] ibid, para 2.9.
[31] FCA, 'Call for Input: Open finance' (17 December 2019), available online.
[32] *HM Treasury & Department of Work & Pensions* (n 9) para 2.4.
[33] ibid, paras 1.35–1.36.

Despite the initiatives on financial inclusion, challenges remain and over one million adults in the UK still do not have access to a basic bank account.[34] There are still difficulties with both access to affordable credit (where the poorest members of society tend to pay the most[35]) and insurance (where nearly 40% of people do not have access to basic contents insurance[36]). Considering the emphasis placed on financial inclusion by many governments around the world, including both the UK and Singapore, there is clearly still work to be done.

C. Open Banking and Financial Inclusion in Singapore

By contrast with the UK, Singapore has adopted an 'organic approach' towards open banking.[37] While the country wants banks to share data with FinTechs and other non-bank firms, its financial regulator, the Monetary Authority of Singapore ("MAS"), believes that the transition to open banking can be more successful without enacting legislation.[38] The MAS has instead collaborated with the Association of Banks in Singapore to release non-binding guidance on developing and adopting open API-based system architecture which seeks to set data and information standards.[39] Singapore has been ranked top in the Asia-Pacific region for open banking readiness by global financial software provider, Finastra.[40] Banks in Singapore have been active in API development. OCBC Bank was the first in Southeast Asia to launch an open API platform in 2016,[41] while DBS launched an API developer platform in 2017 that was touted to be the largest by a bank anywhere in the world.[42] Beyond Singapore, the MAS has partnered the International Finance Corporation and the ASEAN Bankers Association to launch the ASEAN Fintech Innovation Network ("AFIN").[43] AFIN aims to support financial services innovation and financial inclusion within the Asia Pacific region by providing a platform for financial institutions and FinTechs to collaborate.[44]

Critically, Singapore's development of open banking does not stem from the need to address a specific competition issue but is part of its effort to digitise its financial services. In 2019, MAS announced plans for the implementation of open banking through a single platform allowing consumers to aggregate their financial information from various accounts across banks, insurance companies and brokerages.[45] Such a platform is envisaged to make it simpler for consumers to compare products and services for better financial planning and to switch between competing offers.[46] In 2018, MAS opened

[34] Stephen McKay et al, *Financial Inclusion Monitor 2019* (University of Birmingham, 2020) Part 5 'Access to Financial Products'.
[35] *HM Treasury & Department of Work & Pensions* (n 9) para 1.10.
[36] *McKay et al* (n 34) Part 10 'Insurance'.
[37] Chanyaporn Chanjaroen and Haslinda Amin, 'Singapore Favors 'Organic' Policy in Move Toward Open Banking' (*Bloomberg*, 13 April 2018).
[38] ibid.
[39] ABS-MAS, *Financial World: Finance-as-a-Service: API Playbook* (16 November 2016), 4.
[40] Leila Lai, 'Singapore leads Asia-Pacific in open banking readiness: poll' (*The Business Times*, 14 November 2018).
[41] Jamie Lee, 'OCBC Bank is the first bank in Southeast Asia to launch open API platform' (*The Business Times*, 17 May 2016).
[42] DBS, 'Reimagining banking, DBS launches world's largest banking API developer platform' (2 November 2017), available online.
[43] MAS, 'ASEAN Financial Innovation Network to support financial services innovation and inclusion' (16 November 2017), available online.
[44] MAS, 'World's First Cross-Border, Open-Architecture Platform to Improve Financial Inclusion' (18 September 2018), available online.
[45] Jamie Lee, 'Consumers to be able to aggregate and share financial data next year' (*The Business Times,* 25 October 2019).
[46] ibid.

up FAST, Singapore's round-the-clock and real-time payment system, to allow interoperability between bank and non-bank e-wallet payment systems.[47] This was followed by a 2019 decision to issue two digital full bank licenses and three digital wholesale bank licenses.[48]

In general, Singapore's approach towards open banking appears to be more facilitative in order to encourage innovation:

> Some regulators are trying to standardise their protocols and standards for open APIs and when the regulator does that, it's very hard to develop the market because technology always [advances] first before regulation. So it's difficult for the regulators to keep up with updating standards that can respond to market necessities or market needs … the numbers show that this kind of approach can work in jurisdictions like Singapore because the largest open API marketplace is the DBS marketplace in Singapore. It's amazing that in such a small country we have the biggest open API [marketplace] offered for the banking system.[49]

Singapore has traditionally enjoyed high levels of bank account ownership for its citizens and permanent residents. Since 2002, major retail banks in Singapore have offered basic banking accounts (BBAs) with low initial deposit and minimum account balance requirements.[50] BBAs generally operate like normal savings accounts and offer unlimited ATM transactions, access to internet and mobile banking services.[51] The World Bank's 2017 Global Findex survey found that 2% of Singapore's population are unbanked.[52] In contrast, a 2019 study by the Cambridge Centre of Alternative Finance, which included all residents of Singapore (including foreign workers), found that 17% of Singapore's population are unbanked, while 21% are underbanked.[53] Hence, while bank account ownership is high, the study shows that consumer access to other financial products and services is slightly more limited.

Even as the digitisation of Singapore's financial sector occurs, the concept of financial inclusion has been undergoing a similar transformation. Singapore's financial regulator has recognised the evolution of 'Financial Inclusion 1.0' to 'Financial Inclusion 2.0'. While the former was about improving access to bank accounts and developing innovative financial solutions for the unbanked, the latter focuses on the usage of bank accounts and facilitating collaboration between financial institutions and FinTechs to promote integrated solutions.[54] Singapore's position is that policy, infrastructure and services to improve financial inclusion need to make a genuine difference in people's lives to ensure that inclusion is meaningful and sustained.[55] From a digital perspective, the Infocomm Development Authority of Singapore has pioneered a Digital Inclusion programme to build a digitally inclusive society. This programme targets four key groups - senior citizens, needy students, low-income households and people with disabilities. The Silver Infocomm Initiative aims to addresses differences in seniors' educational

[47] MAS, 'Completing the E-Payment Jigsaw' (17 September 2018), available online.
[48] MAS, 'Digital Bank Licence' (28 June 2019), available online.
[49] Nydia Remolina, Academic (Singapore, 14 January 2020).
[50] MAS, *Reply to Parliamentary Questions on Basic Banking Accounts and the interoperability of Automated Teller Machines* (11 September 2017), available online.
[51] ibid.
[52] Asli Demirgüç-Kunt et al., *The Global Findex Database 2017* (World Bank Group, 2017), 95.
[53] Miguel Soriano et al., *The Asean Fintech Ecosystem Benchmarking Study* (Cambridge Centre for Alternative Finance, 2019), 25.
[54] MAS, 'Financial Inclusion and Innovation: Retaining the Customer' (13 November 2019), available online.
[55] ibid.

infocomm competencies through community support initiatives.[56] The programme also defrays the cost of computer ownership and internet access for students and people with disabilities from low-income households, and eligible low-income households may also be provided with basic mobile computing devices.[57]

[56] Infocomm Development Authority of Singapore, 'Factsheet: Overview of Digital Inclusion', available online, 1.
[57] ibid, 3–4.

II. METHODOLOGY

As the key concepts have now been introduced, with their application to both the UK and Singapore explained, the next section outlines the article's research methodology. This article draws on existing academic literature and policy work. Due to the cutting-edge and fast-changing nature open banking, it has been crucial to combine this literature with empirical research to ensure an up-to-date and accurate understanding of the current market. The empirical qualitative research was collected through a series of in-depth interviews with industry stakeholders. There are wide ranging and often competing views on the relationship between open banking and financial inclusion. It was therefore important to have a broad range of interviewees that reflected the full scope of potential views on the topic. All interviewees were selected for their expertise in the area of open banking and/or financial inclusion. In total, 13 people in the UK and eight people in Singapore were interviewed. The interviewees were divided into four general categories – researchers, government, consumer advocates and FinTechs. To ensure valuable comparative analysis, the authors ensured that people from all categories were interviewed in both the UK and Singapore.

Empirical research is defined as 'the systematic collection of information ("data") and its analysis according to some generally accepted method'.[58] Bright and Whitehouse observe that empirical legal studies are generally associated with the scientific or positivist tradition, meaning that quantitative work tends to dominate.[59] The aim of the current research project was to obtain an accurate and up-to-date understanding of open banking, its potential benefits and risks and, most importantly, its relationship with financial inclusion. Whilst this type of research could be interpreted as quantitative, given that the results from interviews were initially placed into a table and responses 'calculated', it is more closely aligned with qualitative research processes. As outlined by Kirk and Miller, 'technically, a "qualitative observation" identifies the presence or absence of something, in contrast to a "quantitative observation" which involves measuring the degree to which some feature is present.'[60]

The interview process was designed to comply with the requirements of a high-quality empirical research project, as suggested by Webley in her paper 'Qualitative Approaches to Empirical Legal Research'.[61] First, the most appropriate method was identified to answer the research question within the relevant constraints.[62] In this case, the main constraint was the fast paced nature of open banking and therefore the need to undertake the interviews and analysis under a tight timeframe. The UK interviews were therefore all conducted in late November 2019 and the Singapore interviews in January 2020. In addition, there were practical and ethical restrictions on interviewing the actual consumers of open banking products. The required information was instead obtained from interviews with industry stakeholders. The interviewees included academics, consumer advocates, policymakers, as well as people working for government bodies and FinTechs. By interviewing a wide range of people, the authors obtained a broad overview of the open banking situation and its controversial relationship with financial inclusion, which could be cross-checked against responses from different stakeholders and between the two different countries.

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[58] Peter Cane and Herbert Kritzer, 'Introduction' in Cane and Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (OUP 2010) 4.
[59] Susan Bright and Lisa Whitehouse, 'The Opportunities and Challenges of Empirical Work: Housing Possession in Theory and in Practice' in Akkermans, Ramaekers and Marais (eds), *Property Law Perspective II* (Intersentia 2013).
[60] Kirk and Miller cited in Lisa Webley, 'Qualitative Approaches to Empirical Legal Research' in Cane and Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (OUP 2010) 927.
[61] ibid 932.
[62] ibid 932.

Second, the subjects needed to be appropriately selected. A number of interviewees were obtained through 'snowball sampling'; that is, participants to suggest other people who would be appropriate for the research in question.[63] A small number of well-known people working in the relevant areas were contacted directly, the project was explained to them, and their assistance in identifying potential interviewees was requested. Most people responded quickly and were extremely helpful with referrals, and offered to provide a range of additional assistance, including invitations to attend relevant events and direction to helpful resources.

Third, the data collection method utilised was 'interacting' - using the interviews and surrounding communications to gain an in-depth understanding of the open banking market and the relevant risks and benefits.[64] Fourth, the authors considered whether the interviews should be conducted alone or in a team.[65] Whenever possible, the interviews were conducted as part of a two-person team. This had the practical benefit of added security, especially when many of the interviews were conducted face-to-face in private venues. The interviewers also had different areas of expertise, with one focusing on the open banking and the other on financial inclusion. This facilitated high-quality discussion on both aspects of the research project.

Finally, the relevant ethical issues were considered.[66] Our interview questions centred on the interviewee's professional views obtained in their line of work on open banking and/or financial inclusion. There were no personal questions asked at any point in the interview and all information obtained was from the interviewee's professional experiences and not any 'lived experience'. Each potential interview participant was contacted in writing, explaining the project and asking for their involvement. Interviewees were not paid for their involvement: their participation was completely voluntary. If they agreed to be interviewed, the participants were also sent a copy of the interview questions before the meeting. To ensure the accuracy of the information obtained and analysed, the interviewers asked for permission to record the interview, which was granted by each interviewee. Any interviewee who has been specifically named in the paper has been given the opportunity to review and approve the relevant reference.

The interview participants were asked a set number of open-ended questions[67] on a range of topics, including the definition of open banking, the indicators of financial inclusion, the benefits and risks associated with open banking and the impact it has had on financial inclusion. They were also asked if there were any steps that regulators or individual organisations could take to maximise the positive impact of open banking on financial inclusion. The answers to these questions provided an invaluable, accurate and up-to-date base to look at the opportunities and risks of open banking in relation to financial inclusion, which will be the focus of the remainder of the paper.

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[63] ibid 934.
[64] Kim Scheppele, 'Counting, Reading, Interacting: Focusing on the Activities of the Researcher in Thinking about Methods' referred to in Laura Nielson, 'The Need for Multi-Method Approaches in Empirical Legal Research' in Cane and Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (OUP 2010) 954.
[65] Webley (n 60) 932.
[66] ibid 932.
[67] ibid 937.

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III. OPEN BANKING & FINANCIAL INCLUSION – OPPORTUNITIES

This section examines the opportunities that open banking has brought to FinTechs, small businesses and individual consumers in accessing financial products and services. A few themes consistently surfaced when discussing the opportunities that open banking brings for financial inclusion. These include greater access to financial information, increased access to credit and a proliferation of financial capability applications.

A. FinTechs

From a FinTech's perspective, open banking creates the opportunity for increased collaboration with financial institutions and a more effective delivery of new products and services. As a FinTech representative observed:

> Let's say [a FinTech] wants to offer micro loans, or they have comparison portals or smarter payments ideas but what they don't have is the banking backend infrastructure…they don't have access to real banking systems and in the past it was a very clunky process to get access to a banking back-end infrastructure that they needed. With open banking now we are getting access through very simple web interfaces, web APIs, to access customer data, transaction data, location data, historical data to create a rich experience for the end clients. So without open APIs I would say the whole FinTech ecosystem would not really exist."[68]

This access to customer data also translates into cost savings for FinTechs, enabling them to focus on product development:

> FinTechs are normally highly dependent on cash flow from external investors. [These] investors don't want the FinTech to operate a large data center, they don't want to invest in cloud infrastructure … they just want the FinTech to focus on building apps in a cloud-based environment. The access to APIs is almost for free so they can build up their applications very fast without huge third-party costs. That is great for a FinTech because if you are a small FinTech you just don't have the investment muscles that are needed to create the infrastructure, the core banking back-end systems, the front-end, everything on your own.[69]

The use of open APIs in open banking creates new opportunities for the delivery of education in financial services. Students are able to access real-world commercial financial systems as part of their curriculum. For example, Finastra's FusionFabric.cloud's platform has been utilised by university students in the UK to attach to a bank's back end system to develop banking applications.[70] Arguably, early exposure to real-world commercial banking systems better equip students to form or join FinTech companies, to develop applications that may enhance financial inclusion. In Singapore, institutes of higher learning are also utilising open banking to adapt their curriculum developing students who can work with emerging technologies.[71]

B. Small and medium enterprises ("SMEs")

In the UK, SMEs have traditionally not been well served by the financial services sector. In 2019, it was reported that only 39% of SMEs utilised core forms of finance, such as overdrafts, loans or credit

[68] Martin Haering, FinTech Representative (Audio interview, 28 November 2019).
[69] ibid.
[70] Finastra, 'Finastra FusionFabric.cloud early adopters kick start open innovation ecosystem' (26 July 2017), available online.
[71] MAS, 'Singapore FinTech: Innovation, Inclusion, Inspiration' (12 November 2018), available online.

cards, provided by banks[72] and 28% of SMEs needed to inject personal funds.[73] Consequently, open banking technology can be utilised to improve SME access to finance by: (i) enabling SMEs to gather their data from different sources to build a richer credit file; (ii) allowing novel data sources to be used in credit scoring decisions; (iii) reducing the information gap and lowering the barrier to entry in the market for SME lending; and (iv) giving SMEs access to more diverse and competitive finance options.[74] Such improved access would be built on the UK's open banking initiative, and be based on digital identity verification, data standards enabling portability and robust credit scoring, as well as a platform and API with permissioned sharing governed by a clear framework.[75] In Singapore, the MAS has facilitated banks' credit assessment of SMEs using government data.[76] However, unlike in the UK, data sharing has been limited to government data on SMEs.

From a small business' perspective, open banking enabled accounting software has the potential to make a significant impact on enabling better and more efficient processes. UK-based FinTech Codat has utilised open banking technology for 'Open Accounting', which enables small businesses to connect their accounting platforms with their bank accounts, thus synchronising their banking transactional data into their accounting systems.[77] By having access to real-time accounting data, banks are able to manage risk more effectively and provide faster, more accurate lending decisions for small businesses.[78]

C. Consumers

In the UK, open banking-enabled products for consumers have mostly emerged around personal financial management platforms and credit risk profiling services.[79] Open banking has been credited for the possibility of cheaper credit to consumers. The FCA determined that many personal current account ("PCA") consumers take out lending products with their PCA provider, and may not be obtaining the best deals.[80] Given that the PCA holds the consumer's financial data, consumers are likely turn to their existing provider, especially for credit and debit cards as these markets are less intermediated.[81] Open banking creates possibilities for consumers to access alternative lending products not provided by their PCA, which may lead to a reduction in the cost of borrowing. This is because the consumer's PCA would be required to share the relevant transactional data with other TPPs.

For a closer assessment of opportunities that open banking brings for financial inclusion, consumers in the UK were profiled. Using data from the FCA's 2017 Financial Lives Survey, consumers were segmented into two categories based on resilience to small financial shocks and access to unsecured borrowing.[82]

Table 1: Open Banking Consumer Categories

i) On the margins (not resilient and not borrowing)	*ii) Overstretched (not resilient and borrowing)*

[72] BVA BDRC, *SME Finance Monitor 2019 Q2* (19 September 2019), 103.
[73] ibid, 113.
[74] Bank of England, *An open platform for SME finance* (20 June 2019), available online.
[75] ibid.
[76] *MAS* (n 71).
[77] PYMNTS, 'Open Banking Expands Its Horizons For Small Business Finserv' (21 October 2019), available online.
[78] PYMNTS, 'Codat Pulls SMB Accounting Into The Open Banking Fold' (16 October 2019), available online.
[79] Faith Reynolds et al., *Consumer Priorities for Open Banking* (June 2019), available online, 7.
[80] FCA, *Strategic Review of Retail Banking Business Models - Final report* (December 2018), para 4.32.
[81] ibid, para 4.34.
[82] *Reynolds et al*. (n 79) 13.

• Consumers were younger, earning below £15,000 a year and renting • No unsecured borrowing, but little or no financial buffer • Few have savings and many are on the margins of financial services	• Consumers average age 25 – 54 and are typically employed, most rent • Average of £9,000 in unsecured borrowing with little or no financial buffer • Regularly overdrawn and many are juggling credit card debt
iii) Aspiring (resilient and borrowing) • Consumers average age 25 – 54 and typically have medium to high incomes • Average of £10,000 in unsecured borrowing, and most have a mortgage	*iv) Asset-rich (resilient and not borrowing)* • Consumers are older and retired or younger and employed on a higher income (£15,000 - £50,000) • Average of £60,000 in savings • Almost half own their home

Each segment has different opportunities for open banking and financial inclusion. For consumers who are overstretched, open banking could help them move to a cheaper form of credit, as well as alerting them to avoid interest payments and penalties.[83] Asset-rich consumers could benefit by open banking facilitating a savings sweep facility, a cash management account which automatically moves high balances to an interest-bearing account and move existing savings to better paying accounts. In contrast, consumers in the aspiring segment could benefit from switching current account or finding a cheaper source of overdraft credit.[84] Consumers on the margins of financial services gain the least from open banking-enabled products, however they would still benefit from savings on household bills and insurance.[85]

An individual's financial capability can also be enhanced by utilising a communal approach towards open banking technology. The Money and Mental Health Policy Institute's research shows that people with mental health problems often rely on their friends and family for help managing their finances. The tools for sharing financial decision-making, such as a power of attorney, may not however meet their needs as this could lead to risky practices such as sharing bank cards and account details.[86] Open banking technology can be utilised to provide a solution. For example, Toucan is a UK-based FinTech company utilising open banking technology so that people with mental health problems or other difficulties can share the task of managing money with a nominated trusted party.[87] Compulsive overspending is part of the diagnostic criteria for mental health conditions including bipolar disorder.[88] Users with mental health issues may fall into episodes of overspending to boost their mood or because of increased impulsivity. Toucan connects banking data to the nominated party, sending alerts based on spending amounts and bank balances. The use of notifications provides a light touch approach that removes the need for a power of attorney, enabling users to maintain a degree of privacy and limiting the potential for financial abuse.

Likewise, Singapore uses the power of attorney to delegate financial decision-making when individuals are unable to make such decisions themselves. Singapore has also explored longer-term models of delegated decision-making through the creation of trust companies. The non-profit government-aided Special Needs Trust Company ("SNTC") is one such example, where caregivers are engaged to enhance

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[83] *Reynolds et al*. (n 79) 28.
[84] ibid.
[85] ibid.
[86] Nikki Bond et al., *A Little Help From My Friends - Tools to support financial decision-making for people with mental health problems* (Money and Mental Health Policy Institute, July 2019) para 1.3.
[87] Toucan App Ltd <https://usetoucan.com/> accessed 1 April 2020.
[88] Bailey Kursar, *Let's talk about money* (Toucan App Ltd., December 2019), 14.

the financial security of their loved ones with special needs. Open banking technology can be used to complement the SNTC's work through more seamless sharing of a beneficiary's financial information across different financial institutions.

IV. OPEN BANKING & FINANCIAL INCLUSION – RISKS

Whilst open banking provides a number of opportunities for promoting financial inclusion and other general benefits, the other side of the coin must be recognised. Open banking comes with significant risks and challenges, including inappropriate use of data and the exacerbation of the difficulties experienced by vulnerable consumers.

A. Discriminatory or exploitative use of data

One significant threat to financial inclusion stemming from open banking, and from big data more broadly, to financial inclusion is that the data and technology involved enables financial providers to more easily identify individual consumers and households that are less profitable and considered to be a higher business risk.[89] It must therefore be recognised that while open banking technology can bring new technology to consumers, there has been no fundamental shift in business models. Open banking may result in data flowing to start-ups, including FinTechs, that are 'even more commercial, even more motivated to exit and sell their company for a lot of money and pay off the investors'.[90] Given that start-ups generally rely on certain forms of commercial investment, their business models can be incompatible with financial inclusion goals and using data in a consumer friendly way.[91]

Payment transaction data accessed through open banking applications generate a significant wealth of information on individual consumers which may be used, intentionally or inadvertently, to profile consumers based on characteristics, such as gender, race or financial vulnerability. For example, in a study on pricing practices of retail general insurers in the UK, the FCA expressed its concerns over the potential use of data to create pricing models based on a consumer's race or ethnicity.[92] The regulator found that firms were using datasets, including datasets purchased from third parties, within their pricing models which may contain factors implicitly or potentially explicitly relating to race or ethnicity.[93] The UK's Equality Act 2010 protects characteristics such as gender, race and disability by proscribing discrimination based on the grounds of such characteristics.[94] The FCA is required to have due regard to eliminating discrimination and advancing equality while carrying out its regulatory activities.[95]

The exploitative use of data is a significant concern, specifically for vulnerable groups of consumers, such as those with mental health issues:

> If you look at the City [of London] and speak to some of the people who develop these technologies … off the record they will tell you that if you provide your bank transactions through open banking they can very, very easily tell you whether or not you have bipolar conditions … which stage, which phase of the bipolar cycle you're at any given time because of your spending patterns … and these are recognised as proxies for people who are who are experiencing bipolar conditions.[96]

The concern is that the combination of instantaneous technology and data allows profiling to occur and that this will be used in a discriminatory fashion and exploit behavioural biases.

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[89] Financial Inclusion Centre, *FinTech - Beware of 'Geeks' Bearing Gifts?* (January 2018), 5.
[90] Marloes Nicholls, Consumer Advocate (London, 21 November 2019).
[91] ibid.
[92] FCA, *Pricing practices in the retail general insurance sector: Household insurance* (Thematic Review TR18/4, October 2018), para 4.21.
[93] ibid.
[94] Equality Act 2010, ss.4, 13–27.
[95] Equality Act 2010, s.149.
[96] Mick McAteer, Consumer Advocate (London, 19 November 2019).

Unbundled overdrafts are a product of particular concern with open banking. Instead of obtaining an overdraft that is linked to their bank account, a consumer can utilise a revolving line of credit from a provider once access to banking data is authorised. SafetyNet is one such service provider, providing a permanent revolving line of credit with no minimum or maximum repayment terms.[97] Using a read-only connection to a consumer's bank account, SafetyNet takes automatic repayments when the consumer's bank balance increases by more than £50.[98] SafetyNet will attempt a full repayment, and if it is not possible it may attempt a part repayment.[99] While SafetyNet is authorised and regulated by the FCA, three main concerns have been raised. First, such applications effectively accord themselves the status of a preferential creditor, automatically clawing back money without a consumer's fresh authorisation on the timing or amount repaid. This is unlike other forms of personal credit, such as an overdraft, where a bank may demand repayment of the full amount, but the consumer ultimately maintains control over when and how this is done. Secondly, the frictionless nature of obtaining such loans may have a detrimental effect on the consumer's ability to exercise judgment over whether the loan is truly needed. Finally, it is unclear how lenders utilise the consumer's financial data, apart from automatically clawing back repayments. Similar concerns have been raised in other jurisdictions, such as Australia, where consumer groups have argued that unaccredited entities may utilise consumer data for predatory lending or marketing.[100]

More transparency is also required over the aggregation of an individual's open banking data. While a consumer may derive an immediate benefit (i.e. the provision of a service through an application) by the sharing of data, the long-term consequences of this are far from clear. One concern is that when data is used in aggregate for risk models and other decision-making tools, the consumer may be penalised for sharing such data. In particular, businesses may be able to identify a consumer's behavioural biases and provide information in ways that target these biases.[101] Further, businesses may be able to identify and target consumers at times when they are particularly vulnerable, and design online choice architectures to leverage control over consumer decision making.[102] In relation to online profiling, the EC noted a number of detrimental results of these practices, including a lack of control over personal data, lack of transparency on their use, price discrimination and reduced choice of products.[103]

Such concerns are increasingly urgent given the UK's move towards open finance. API calls can be very powerful, and can provide vast amounts of consumer data:

> [There are] APIs where you can pull the last 24 hours of all the mortgage data that went through your systems out and make a risk simulation based on that mortgage data. In terms of where the customers that might default, location, or the last financial transaction or things like that. So with one API call you have very rich data that you suck out of the system to do risk simulation. That kind of API calls must be very sensitive and highly regulated.[104]

In Singapore, MAS has published an ethical framework providing guidance to firms that use Artificial Intelligence and Data Analytics ("AIDA") to offer financial products and services. This framework enshrines fairness as a guiding principle and stipulates that AIDA-driven decisions cannot disadvantage

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[97] SafetyNet Credit, <https://www.safetynet.credit> accessed 1 April 2020.
[98] SafetyNet Credit, 'Responsible Lending', available online.
[99] ibid.
[100] James Eyers, 'Consumer warning of 'profiling for profit' by fintechs' (*The Australian Financial Review*, 15 January 2020).
[101] Brigid Richmond, *A Day in the Life of Data: Removing the opacity surrounding the data collection, sharing and use environment in Australia* (Consumer Policy Research Centre, 2019).
[102] Ryan Calo, 'Digital Market Manipulation' (1982) 4 The George Washington Law Review 995.
[103] EC, *European Consumer Consultative Group Opinion on consumers and vulnerability* (7 February 2013), 13.
[104] Martin Haering, FinTech Representative (Audio interview, 28 November 2019).

any particular individual or group without justification.[105] Notably, the framework specifies that the use of personal attributes as input factors for AIDA-driven decisions is justified.[106] An example of a justified decision where a firm uses a consumer's age, a personal attribute, to decide whether to offer retirement-related financial services and products.[107] However, the framework does not list exhaustively what would count as a personal attribute. The given example relates to differentiated product offerings but does not concern pricing decisions. It is therefore unclear whether under the ethical framework, it would be justifiable to offer consumers the same product at different prices based on personal attributes such as age or gender.

B. Data exclusion and digital capability

Access to open banking and its potential benefits is widely considered a significant concern:

> [Regarding] financial inclusion in a world where more and more financial services are delivered online … you have an intersection between people who don't have great access to financial services and then also don't have great access to online services or they don't feel very comfortable using it … actually people don't have the means, the hardware or the software, or actually they don't want to [use online financial services]. So I think there is something about how those forces might interact to create a fairly pernicious form of exclusion which could potentially affect quite a wide range of people.[108]

In 2018, Lloyds Bank produced an UK Digital Index highlighting that 12% of the population will remain digitally disengaged, with little or no digital behaviours.[109] Almost half (48%) of those who are offline are under 60 years old, challenging the assumption that the offline are mostly elderly, and 47% come from a low income household.[110] The intersection of low income and no digital engagement is particularly telling, lending credence to the proposition that certain groups of consumers might fall in the 'sharp end' of exclusion as financial services are increasingly digitised. There is often a correlation between a consumer's socio-economic class and the use of financial technology. A consumer's ability to use financial technology, such as open banking, is premised on access to internet and often the possession of a reliable 'smartphone'. Studies in the UK have shown that:

> We do have quite good data in the UK about who uses things like smartphones and what they use them for. And it's a very clear pattern of it - comes back to the mass affluent factor, that people who are better off and generally perhaps have more education tend to be quite early adopters of those types of technology. Whereas if you look at people in lower socio-economic groups, people who are disabled, people who have health problems the penetration of smartphones and the use of them is much less.[111]

Ironically, the increased use of financial technology may then hamper the delivery of financial services to certain segments of consumers, especially if service providers use financial technology at the expense of more traditional, physical modes of delivery. In the UK, the FCA found that banks are achieving cost savings from closing physical branches, a strategy that is likely to continue as banks seek to respond to

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[105] MAS, *Principles to Promote Fairness, Ethics, Accountability and Transparency (FEAT) in the Use of Artificial Intelligence and Data Analytics in Singapore's Financial Sector* (7 February 2019), 7.
[106] ibid.
[107] ibid.
[108] Sharon Collard, Academic (Bristol, 22 November 2019).
[109] Lloyd's Bank, *UK Consumer Digital Index 2019* (Lloyd's Bank, May 2019), 10.
[110] ibid.
[111] Sharon Collard, Academic (Bristol, 22 November 2019).

changing technology and consumer behaviour.[112] There are a number of negative impacts of bank branch closures that may lead to the financial exclusion of some groups. These include vulnerable consumers, especially the elderly who are over 60, who do not move to mobile banking when their branch closes, and the 20% of small businesses that use branches as their primary means of banking.[113]

The benefits of being able to use digitised financial services are undeniable. The UK Digital Index found that compared to those with less digital capability, 75% of those who prefer to manage money digitally are saving money online, for example, paying around 6% less a year for utilities.[114] The FCA has found that those who took advantage of open banking technology and switched current account providers tend to be younger, more digitally active but have lower balances, use overdrafts less and are less likely to hold other credit products with their PCA provider.[115] This means that consumers with most to gain (i.e. PCA customers with higher balances who tended to be older and were heavy overdraft users), may not be the first to take advantage of the savings available from open banking technology.[116]

It is therefore important for regulators to ensure that consumers equally benefit from the move towards digital technology and that some are not penalised by this shift. Singapore has actively engaged its citizens to go digital by gradually moving key government services online. In 2003, the Singapore Personal Access system was launched to allow users to transact with over 60 government agencies online easily and securely. Separately, initiatives have been undertaken to promote internet access to low-income families. Since 2014, Singapore's Home Access programme has provided subsidised fibre broadband connectivity and electronic devices to more than 14,000 low-income households.[117] As financial services become increasingly digitised, there must be an educational focus on the use of digital financial services to ensure that vulnerable consumers are not disadvantaged. A 2017 survey in Singapore on the financial literacy of older Singaporeans showed that only 43% of older Singaporeans felt they were well-prepared financially for retirement.[118] Equipping seniors on the use of open banking and financial technology would increase their access to a wider gamut of tools to help them financially. Hence, the IDA's Silver Infocomm Initiative is a pertinent initiative to build on in Singapore, and for the UK to consider replicating.

C. Vulnerable consumers

As recognised, one of the key indicators of financial exclusion is whether consumers can effectively use new technology to engage in financial services.[119] Hence, one of the biggest concerns regarding open banking and financial inclusion is the extent to which vulnerable consumers can benefit from open banking. A vulnerable consumer is defined as one who, due to their personal circumstances, is especially susceptible to detriment, particularly when a firm is not acting with appropriate levels of care.[120] There are many drivers of vulnerability including health conditions or illnesses that affect ability to carry out day to day tasks, low ability to withstand financial or emotional shocks, low knowledge of financial matters, low confidence in managing money and detrimental major life events,

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[112] FCA, *Strategic Review of Retail Banking Business Models - Final report* (December 2018) para 4.6.
[113] Jeroen Nieboer, 'When bank closures bite: the picture across the UK' (FCA, 31 March 2019), available online.
[114] *Lloyd's Bank* (n 109), 10.
[115] *FCA* (n 112), para 4.26.
[116] ibid.
[117] Yip Wai Yee, 'Parliament: Low-income households to get faster Internet access under enhanced Home Access scheme' (*The Straits Times*, 3 March 2020).
[118] Richard Hartung, 'Financial Literacy In A Time Of Digitalisation' (Public Service Division Singapore, 12 June 2019), available online.
[119] *Connolly and Hajaj*, (n 15).
[120] FCA, *FCA Mission: Approach to Consumers* (17 July 2018), 10.

such as bereavement.[121] These individuals may lack the critical judgment needed to navigate new forms of financial technology to remain financially included. While open banking provides opportunities to overcome some of the pre-existing disadvantage faced by vulnerable consumers, it does create additional risks in two main ways: first, by promoting data-driven access to credit and secondly, increasing market fragmentation.

1. Data-driven access to credit

The advent of open banking and other forms of financial technology may have severe consequences for vulnerable consumers, specifically those from low-income groups. Automated data-driven lending decisions provided by open banking may not be suitable for this group of consumers. Arguably, when an automated decision is made, there should be an effort to ensure that the consumer can tolerate some error.[122] Low-income consumers have very low tolerance for poor financial decisions. Care must therefore be taken when introducing new open banking-enabled products to such vulnerable consumers:

> Even if they have full and accurate information, at the point of decision making they might still make the wrong decision. They might sign off and regret later, we call that present bias. It goes back to the physiological problem – it's hard for them to exert self-control if you have to exert self- control on a hundred things a day. At one point your defence will shut down, and you will make a mistake. And when they make a mistake, it's extremely costly for them. They cannot recover from it, especially if it's the kind [of product] where there's high interest rates. Because of this, we have to be very careful of exposing them to too much information or too many products. It just creates more difficulties for them to make good decisions because it requires more processing.[123]

Similar concerns have been raised in relation to payday lenders in the UK. Research has shown that payday lenders systematically identify the bars and barriers that prevented consumers from taking loans quickly and removed such barriers, leading consumers to make potentially harmful impulse decisions.[124] Open banking may allow such practices to be replicated and even enhanced by loan providers who are able to amass significant data on their target market, allowing the systematic removal of bars and barriers with greater precision. This is of grave concern, as the use of open banking technology and consumers' financial data may result in consumers being trapped in perpetual cycles of debt.

A considered approach must therefore be taken towards the data-driven extension of credit. A recent initiative by a Singapore-based FinTech, Grab, to extend credit to its employees came under scrutiny and was eventually closed. As an employer, Grab possesses a rich dataset on its employees and disbursed cash based on historical earnings and driving patterns. Questions were raised over the borrowers' rights and responsibilities, how Grab would analyse the full credit history of a borrower, and how payment would be enforced.[125] Notably, the programme was introduced unilaterally by Grab and closed only after concerns were raised.[126] Care must be taken to ensure that borrowers are not caught in a cycle of debt while utilising a data-driven approach towards access to credit. In countries where digital lending applications have become prevalent, such as Kenya, these applications have been

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[121] ibid, 25.
[122] Marloes Nicholls, Consumer Advocate (London, 21 November 2019).
[123] Ong Qiyan, Academic (Singapore, 24 February 2020).
[124] See Sarah Beddows and Mick McAteer, *Payday lending: fixing a broken market* (Financial Inclusion Centre, May 2014).
[125] Jonathan Chang, 'Commentary: Isn't Grab's cash advance scheme a loan programme?' (*Channel NewsAsia*, 28 November 2019).
[126] Toh Ting Wei, 'Grab drops cash advance scheme for its drivers and riders' (*The Straits Times*, 23 February 2020).

labelled a form of 'enslavement' by making claims on a debtor's future labour.[127] The confluence of technology and unregulated lending has created a cycle of indebtedness that lenders have little incentive to break given the high returns. Each time a loan is taken out, more user data is harvested and this allows companies to develop better predictions on the rates of repayment of a given customer.[128] A consumer's pre-existing vulnerability may be exacerbated by the use of open banking enabled financial technology.

Open banking as a concept itself may present practical and technological difficulties for the lay consumer; the seamless decision-making brought by open banking-enabled technology may increase existing vulnerabilities.[129] In highly complex markets, such as in financial services, even the most sophisticated consumer may struggle.[130] Hence, vulnerable consumers whose circumstances may hamper their ability to exercise critical judgment face additional challenges in utilising open banking technology to their benefit, effectively forming a barrier to financial inclusion. In this vein, the Organisation for Economic Co-operation and Development has recommended that stakeholders work together and, taking into account insights from information and behavioural economics, determine what changes may be necessary to address the special circumstances of vulnerable consumers when utilising digital services.[131]

2. *Market fragmentation*

The second issue to consider is the relationship between vulnerable consumers and market fragmentation. It remains to be seen whether open banking is effective as a competition measure. The significant resources required to implement open banking may in itself constitute a barrier to entry and thus, paradoxically, facilitate a non-competitive market. Due to the technology involved, many large-scale banks have partnered FinTech companies in the implementation of open banking technology.[132] Without an alternative funding model, successful FinTechs are likely to be acquired by established financial institutions and the original competition concerns that open banking in the UK aimed to address may replicate themselves. This process is likely to mean that consumers are not offered effective alternative choices in the long term:

> When the open banking market evolves…small banks in some jurisdictions are not going to be able to open their APIs because if they are very small, not many third parties would like to work with them or call their APIs. [Third parties] would prefer to call APIs from bigger institutions. In the end these types of platforms or open API marketplaces are likely to be highly concentrated … even though [open banking] started as something to solve market failure, it could create another one if this evolves in that sense. We are seeing this with big tech companies [that provide] data driven products. They have huge market shares and it's very hard for a small challenger to enter and compete with these big companies that expose their data through open APIs. So, the big platforms will be the most successful, and that will create another competition problem.[133]

Conversely, it has been argued that the introduction of new players leads to greater fragmentation in the market and hinders consumer ability to make effective choices. In essence:

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[127] Kevin Donovan and Emma Park, 'Perpetual Debt in the Silicon Savannah' (*Boston Review*, 20 September 2019).
[128] ibid.
[129] OECD, 'Challenges to Consumer Policy in the Digital Age: G20 International Conference on Consumer Policy Background Report' (2019), [6.3.1].
[130] CMA, 'Consumer vulnerability: challenges and potential solutions' (2019), available online.
[131] *OECD* (n 129) 38.
[132] Gregory Magana, '81% of banking executives see working with partners as the best path to digital transformation' (*Business Insider*, 2 October 2019).
[133] Nydia Remolina, Academic (Singapore, 14 January 2020).

> It is getting increasingly hard, not easier, for consumers to spot value in a very complex market. We also have conflicts of interest when it comes to the way information intermediaries behave in the UK. The credit information service providers are a case in point. They typically offer people free credit checks because they have partnerships with lenders, and they have a revenue sharing agreement with those lenders. So [with regards to open banking] there's conflicts of interest in the supply chain which also need to be addressed.[134]

While it is claimed that the proliferation of open banking driven personal financial management services enable consumers to better manage their finances, in an increasingly complex market there is a concern that vulnerable consumers will make unsuitable financial decisions. Considering the lack of a financial buffer, these decisions will potentially be very costly for vulnerable consumers and their families. Ultimately, there is a need for improved market monitoring and law enforcement to detect and tackle against unfair commercial practices concerning consumer vulnerability in the transition towards digitised financial services such as open banking.[135]

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[134] Mick McAteer, Consumer Advocate (London, 19 November 2019).
[135] *OECD* (n 131) 35.

V. WHAT CAN WE LEARN?

Developing on the discussion in the previous two sections, this final part summarises the findings and comparative analysis of the UK and Singapore and outlines what can be learnt from their two different regulatory and implementation approaches to open banking.

A. Government-led initiatives

Regulatory action is critical to maximise the positive impact that open banking can have on financial inclusion and to minimise any potential detriment, especially to vulnerable consumers. In both the UK and Singapore, government initiatives have been put in place to tackle financial inclusion and the technical implementation of open banking. However, greater overlap can be seen in the measures taken by the UK; open banking technology is specifically directed at tackling some of the financial inclusion challenges in the country. This is highly likely to be linked to the fact that open banking in the UK has its origins in tackling anti-competitive behaviour in the financial services industry and in advancing consumer interests. In contrast, Singapore's implementation of open banking is the third prong of its move towards digitising its financial services sector. Issues of financial inclusion are therefore more tangential to its efforts at implementing open banking. Admittedly, Singapore does not appear to face the same set of financial inclusion issues that the UK is tackling. This is in part due to its already high levels of bank account ownership, and seemingly high levels of internet access across its population. However, there are groups of consumers in Singapore that would benefit from a more targeted use of open banking technology; or more importantly, for active safeguards to be put in place to ensure that even as Singapore's financial sector is digitised, the circumstances of vulnerable consumers cannot be exploited.

The UK has been pro-active in formalising partnerships to embed social purposes in its open banking development. UK's Inclusive Economy Partnership ("IEP") was set up to tackle social issues such as financial inclusion and capability[136] and in 2019 the partnership launched The Open Banking for Good ("OB4G") Challenge. As a partnership between Nationwide, UK's top FinTechs, debt charities and academics, it promotes the use of open banking technology in supporting consumers facing financial challenges.[137] These partnerships provide alternative funding for FinTechs. For example, the OB4G Challenge is supported by a £3 million fund from Nationwide Building Society to enable the selected FinTech firms' development of open banking applications. The availability of alternative sources of funding is also pertinent, as FinTechs' funding models may make it unprofitable to create products benefiting consumers. Hence, formalising partnerships to provide funding allows for a viable alternative; FinTechs are not subject to commercial pressures and can focus on developing products that actively promote financial inclusion.

The OB4G Challenge has resulted in the selection of seven FinTech companies providing solutions across three categories: (1) income and expenditure, (2) income smoothing and (3) money management and help. In the first category, open banking technology is used to help debt advice charities streamline the process of creating an income and expenditure profile. Income smoothing helps consumers manage their fluctuating incomes. Trezeo is a FinTech company that uses historical open banking data to calculate a consumer's regular pay cheque, laying the foundation for access to the financial products, such as income protection insurance, pensions and even mortgages.[138]

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[136] HM Government, *Inclusive Economy Partnership - From one idea to improving 50,000 lives* (November 2018).
[137] Nationwide Building Society, 'Seven FinTech firms join forces with Nationwide to address financial capability issues' (23 April 2019), available online.
[138] Trezeo <https://www.trezeo.com/> accessed 1 April 2020.

Singapore has likewise employed government-led initiatives, such as the MAS' Global FinTech Hackcelerator inviting FinTechs to produce solutions tackling problem statements in three focus areas, one of which was financial inclusion.[139] Singapore could consider building on its existing efforts by adopting the UK's approach of formalising co-operation. A more permanent partnership, such as the UK's IEP, could be established in order to encourage the sustained use of open banking technology to promote financial inclusion in a Singaporean context. Furthermore, in line with the IEP's approach, Singapore's charities and social organisations could be involved in such partnerships to ensure that open banking development will serve pre-existing social needs to meet financial inclusion goals.

The UK has the OBIE, a government created entity, to oversee the technical implementation of open banking. Its role involves detailed standard setting to facilitate open banking development. For example, the OBIE designs specifications for banks and building societies to securely provide open banking, creates security and messaging standards, sets out the process for managing disputes and complaints, and provides guidelines for participants in the open banking ecosystem.[140] The CMA's objective of allowing individual consumers and SMEs to share their account data securely with TPPs is achieved through the development, maintenance and publication of API standards.[141] Critically, the process of developing such applications is arguably smoother without the individual developer having to navigate different technical standards. The government's role in creating such an entity in charge of standard setting has been key in facilitating the development of applications and services that benefit consumers:

> The route we've chosen is basically almost open source. We had an implementation entity which was charged to develop the standards and we basically developed a universal plug and plug socket for open banking. And so any firm now developing any electrical open banking device can see the specification for the universal plug and play into the system. That means that all sorts of innovative firms that don't have to wait for a deal with the bank, they don't have to do backroom deals … they can just figure out what service they will provide to customers, sell it to a customer, plug into the system."[142]

This is a key lesson as the UK considers the move to open finance:

> Stick with the idea of trying to make that market as open as possible. Allow firms to innovate by allowing them just to come along and plug into the system rather than have a thousand different plug types and every bank has a different plug and a different way of providing data. And that way you could end up with a whole different system of banks with different deals which doesn't really deliver open banking because from a customer perspective it would mean they could only have their accounts with that bank and the people that done a partnership with it."[143]

Singapore has engaged in a similar standard setting exercise. In 2016, MAS partnered the Association of Banks Singapore to release a framework introducing governance, implementation, use cases and design principles for APIs (the "API Playbook").[144] However, Singapore does not take a mandatory approach towards the adoption of these design principles. Indeed, the API Playbook itself recognises that not all organisations see business value in APIs and may not choose to invest in them, often due to a lack of technical knowledge, ability to ascertain monetary benefits and/or focus on other strategic

[139] MAS, 'MAS Announces 20 Finalists for the 2019 Global FinTech Hackcelerator' (November 2019), available online.
[140] *Open Banking Limited* (n 22).
[141] Open Banking Limited, *Open Banking - Guidelines for Open Data Participants* (July 2018), para 1.2.
[142] Alex Roy, Government, (London, 19 November 2019).
[143] ibid.
[144] Graham Rothwell, 'The Brave New World of Open Banking in APAC: Singapore' (*Accenture*, 27 September 2018), available online.

prioritisations.[145] While a non-mandatory approach towards API standards offers financial institutions and FinTechs more flexibility in developing products, the corollary to this is that there is no standardisation over how consumer information is shared between financial institutions and third parties. This raises some potentially unintended consequences. For example, where the financial institution does not own the customer experience provided by third parties, this does not qualify as an "outsourcing arrangement" and the MAS Technology Risk Management Guidelines and Outsourcing Guidelines do not apply.[146] Such instances include third party applications allowing consumers to view their account balances held across different financial institutions. In these cases, the API Playbook recommends that financial institutions and FinTechs adopt general baseline risk management principles, such as to have a "well-defined vetting process to govern third party API access" and that the vetting criteria should be "risk appropriate while not being onerous".[147] This is far from ideal. As Singapore progresses in its open banking development, it could learn from the UK's decision to set-up a dedicated entity to oversee API standards. Critically, the OBIE does not just set API standards, but also creates security and messaging standards, and sets out the process for managing disputes and complaints between financial institutions and TPPs – a function which is currently missing in the Singaporean open-banking eco-system.

B. Enhanced collaboration and alternative funding models

Given that open banking technology has introduced a myriad of new ways to spend, save and borrow money, it is inevitable that certain groups of consumers will be left behind.[148] Hence, collaboration between financial institutions, FinTechs and other social entities, such as charities is exceptionally important in terms of open banking and financial inclusion. The proactive involvement of charities and consumer advocates is crucial:

> [This] breaks down the kind of tokenistic engagement with charities and other organisations…FinTechs I think can be a bit guilty of trying to retrofit products and services they've already got to people's needs …So instead of doing that, it's starting from the problem and saying 'okay, well, is there an open banking answer to this and is that the best answer'. And if it is an answer how are you going to protect consumers by making sure they're not exploited by the business model. So I think there's a real role for charities and civil society to engage in that kind of design and really be involved in that design and product testing.[149]

In both countries, collaboration between FinTech companies and charities or social services organisations could, and should, be enhanced. The interview process showed that, while most government officials and FinTech representatives were extremely knowledgeable about the technical details of open banking, these groups had comparatively little awareness of the relevant social problems in both countries. Conversely, consumer representatives (especially in Singapore where open banking is still in its developmental infancy) were more likely to be aware of financial inclusion concerns and access to credit and financial issues faced by vulnerable groups, but less aware about open banking technology. Facilitating conversations between these two groups would be exceptionally useful.

Additionally, the non-profit use of open banking technology may foster the development of open banking-enabled propositions that are valuable for consumers but are currently under-developed. These include tools to help consumers compare third party overdrafts (an unbundled alternative to traditional

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[145] ABS-MAS, *Financial World Finance-as-a-Service: API Playbook* (2016), 7.
[146] ibid, 20.
[147] ibid.
[148] See discussion at Open Banking Limited, 'Open Banking & Vulnerable Customers', available online.
[149] Sharon Collard, Academic (Bristol, 22 November 2019).

overdrafts), optimise cashflow for personal and business current accounts, support managing balance transfers on credit cards, identify better deals on household bills and save money when making international payments.[150] Some of these services may not be profitable and therefore, without government intervention and collaboration, commercial development may be slow:

> I think the open banking phenomenon is going to focus a lot on how to get people to start being consumers. But there are segments of the market that are not as well served because they are deemed too risky or not creditworthy. Hopefully people will realise there are segments or pockets of the market that are underserved today and be able to serve them more effectively with a more targeted approach. I believe that is one of the benefits that will happen as a result of [open banking]. If everyone gravitates towards the traditionally profitable segments and undercuts each other even more aggressively, then obviously [open banking] won't address this problem we have in the first place.[151]

Currently, Singapore has implemented measures encouraging financial institutions to shift from a purely profit-oriented model to consider the development of financial technology for social good. For example, the MAS' assessment criteria for awarding a digital banking license considers whether the applicant's business model incorporates the innovative use of technology to serve consumer needs and reach under-served segments of the market, thus differentiating it from existing banks.[152] As the UK refines its open banking development and moves towards open finance, it could learn from Singapore's approach and incorporate similar goals in the licensing regime of payment service providers and other entities that are able to access and share consumer financial data.

Apart from reaching financial inclusion goals, collaboration between FinTechs, governments and charities can also benefit consumers in terms of access and storage of consumer data. For example, the development of a data charity to guard consumer privacy or a non-profit consent intermediary:

> We can have a non-profit organization looking at all the data. People could share their data, consent to share that data with them and it could be used to monitor patterns of financial health. Even provide tools to help people use open banking. So for example one thing there isn't a way currently to manage all your consents so you might have apps or whatever and you've signed you've consented to share your data with like ten different apps, you lose your phone and you might forget what apps they were. How do you record? You don't remember. So could there be some kind of non-profit tool to help people remember what they've consented to. There's some missing bits of the ecosystem around open banking which mean that it's being pulled in a certain direction. And I think if there was more engagement with civil society, different diversity of kind of business models, it could work better.[153]

C. Safeguards and regulatory frameworks

The UK's approach recognises that pricing decisions can be based on factors that penalise vulnerable groups of consumers as open banking facilitates greater accessibility to consumer data. The FCA states that issues of fairness in pricing are likely to become increasingly prevalent and complex in the future, particularly as firms' use of new technologies and data becomes more sophisticated, enabling them to price discriminate more finely.[154] While FCA observes the general principle that consumers should have

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[150] *Reynolds et al.* (n 79), 7.
[151] Damien Wong, FinTech Representative (Singapore, 27 January 2020).
[152] MAS, 'Digital Bank Licence' (28 June 2019), available online.
[153] Marloes Nicholls, Consumer Advocate (London, 21 November 2019).
[154] FCA, *Fair Pricing in Financial Services: summary of responses and next steps* (July 2019), para 2.2.

responsibility for their choices,[155] it recognises that some pricing practices may be exploitative and particular consumers or groups of consumers could be unfairly penalised.[156] The FCA has applied its fair pricing framework to assess concerns over price discrimination of general insurance products.[157] Moving forward, the FCA intends to embed fair pricing into its regulatory approach.[158] As the UK attempts to build on open banking towards the broader goal of open finance, the FCA acknowledges that with greater access to a wider range of data, the potential for open finance to help facilitate personalised pricing to almost an individual basis. This is likely to create both winners and losers - some may see more competitive outcomes while for others, their personal data could lead to detrimental discrimination.[159] Consequently, having a framework on fair pricing is critical to mitigate the risks of discrimination present in the development of open banking and subsequently open finance.

In Singapore, it is currently unclear whether financial institutions will be able to access consumers' data across all financial service providers on Singapore's open banking platform, and what impact this access would have on pricing decisions made by these financial institutions. While Singapore has implemented robust guidelines on the secure sharing of data,[160] it is unclear what framework is available to guide pricing practices given increasingly available consumer financial data. Hence, Singapore could learn from the UK's approach in developing guidelines on pricing practices. For example, the UK-based Banking Standards Board has launched a framework illustrating what good banking outcomes would look like to consumers, especially in an increasingly digitised financial services sector. The principle of fairness is key to this framework, ensuring banks and building societies price products and services fair and appropriately, irrespective of consumers' individual circumstances and without taking advantage of customer loyalty.[161]

While the MAS' FEAT guidelines[162] are a step in the right direction, more guidance is needed on concepts such as what constitute 'personal attributes', and whether there are circumstances where it would be considered unjustifiable for such attributes to be taken into account. In this vein, Singapore may consider adopting a similar approach to the UK's Equality Act 2010, which explicitly states characteristics such as race, gender or disabilities are not to be inappropriately taken into account by financial institutions when making pricing decisions. In addition, unlike the comprehensive redress procedure stated in the Equality Act 2010, [163] it is currently unclear what remedies are available to consumers in Singapore where there has been price discrimination based on characteristics such as race, gender or disability. Singapore could consider adopting the UK's approach by standardising a procedure to address such complaints, if and when they arise, as this will provide a useful safeguard and regulatory framework to ensure that technological developments from open banking do not create unforeseen, but unfortunate and discriminatory, outcomes.

CONCLUSION

This article has analysed the approaches to the implementation and regulation of open banking in both the UK and Singapore, focusing on the benefits and detriments of these different approaches – particularly in relation to enhancing financial inclusion. This allowed key issues and takeaway messages to be identified, highlighting what the two countries can learn from each other. This is a complex and

[155] Financial Services and Markets Act 200, ss. 1C(2)(d), 1C(2)(e) and 3B(1)(d).
[156] *FCA* (n 154), para 2.7.
[157] FCA, *General insurance pricing practices: Interim Report* (October 2019).
[158] ibid, para 7.47.
[159] Sheldon Mills, 'Open Finance: an opportunity for financial services' (18 November 2019), available online.
[160] Infocomm Media Development Authority of Singapore and Personal Data Protection Commission, *Trusted Data Sharing Framework* (2019), available online.
[161] Banking Standards Board, *Consumer Framework: What do good banking outcomes look like to consumers?* (2017), 9.
[162] *MAS* (n 105).
[163] Equality Act 2010, Part 9.

quickly changing area. It is however clear that there is no right or wrong model for open banking implementation and regulation, with the two approaches having different strengths and weaknesses. Open banking is a powerful concept and, as outlined in this article, comes with a number of opportunities and risks. Keeping in mind the risks involved, caution must be shown in relation to the ways that open banking develops. Appropriate measures must be taken to ensure that the development of open banking does not cause more harm to vulnerable consumers. Even as advancement in technology aims to reach the underserved, it is critical that these consumers are able to understand and manage these potential new sources of credit, which are often administered seamlessly through an electronic platform. Guidelines will be needed on how a consumer’s financial information is utilised, to ensure that consumers are not penalised, in terms of price differentiation, on factors such as race, gender and disability. Open banking technology has the potential to increase access to useful and affordable financial products and services, and to facilitate collaboration between financial institutions and FinTechs allowing for the promotion of integrated consumer-focused products. Increased collaboration and consultation with charities or social organisations is therefore key to maximise the potential benefits that open banking can bring to financial inclusion. However, such financial inclusion goals would have to be actively set at the forefront of open banking development.