IS IT A WONDERFUL LIFE? CASHLESS SOCIETIES AND MONETARY EXCLUSION

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ABSTRACT

In many countries, cash is fast disappearing. Credit cards, online banking apps, or digital services such as ApplePay, Paypal, or Venmo are now used by a large part of the population as their main means of payment. The common narrative of digital payments presents them as the solution to a number of problems, from tax evasion to financial exclusion. Yet, this paper will show that the disappearance of cash is giving rise to a situation of forced economic exclusion to a portion of society which uses cash as its only means of payment. The groups include, unbanked individuals, persons with mental health and physical disabilities, or poor digital literacy. Most ofthe population at risk of exclusion live in conditions of poverty and social marginalization. For them, not being able to pay with banknotes means total social and economic exclusion. I define this phenomenon as 'monetary exclusion'.

The goal of this essay is to analyse what monetary exclusion means from a regulatory perspective, what its origins are, and how to overcome it. In doing so, I discuss the evolution of retail payments design in the US and UK, from the 'old' banknote system to the new cashless payments, and the role played by Central Banks, banks, and payment service providers. This article argues that monetary exclusion in a cashless economy is due to a flawed regulatory design in which private operators are de-facto put in control of a fundamental social good. In the past, the State, through the issuance of banknotes, played a fundamental role in safeguarding monetary inclusion for its citizens. The nature of cash indeed guarantees universal access to a basic means of payment for everyone.

However, the disappearance of cash and the rising importance of bank deposits as the main source of money has progressively transferred control over the access to the payment system to private banks. The rise of digital payment start-ups over the last decade is dangerously shifting the control of monetary access even further away from the public sphere. This essay will demonstrate that digital payments present fundamental accessibility problems, which inevitably lead to the marginalization of the poor and minority groups. To overcome the limits of cashless payments, it is necessary to redesign a cashless payment system in which universality of access is mandatory.

I. INTRODUCTION

Since the launch of the debit and credit card in the 1960s, innovations in payment technology have progressively reduced our dependence on cash for retail transactions.[1] Undoubtedly, the shift has increased further with the rise of smartphones, which now offer a variety of mobile-based payment solutions, from digital wallets to web-based bank apps.[2] GooglePay, ApplePay, Venmo, Paypal, or Wechat in China, are just some of the new players disrupting the traditional payments channels. In a few countries, like Sweden, Singapore, China, and the United Kingdom, the share of electronic transactions has already largely surpassed cash. For them, a full cashless economy is no longer a dream.[3] The speed of change over the last decade has led some commentators to predict a very quick transition from a cash-based to a cash-less society.[4]

Given their transparency and operability through mobile devices, electronic payments are believed to offer a solution to a range of diverse problems, from money laundering to tax evasion, or even tackling low inflation.[5] International donors[6] and the payment industry[7] see digital payments as the next tool to combat poverty. For this reason, a few governments around the world are actively trying to reduce reliance on cash and are moving progressively towards a full electronic payment system.[8] In many European countries, for instance, governments have introduced ceilings on cash transactions and eliminated high-denomination notes.[9] In the United States, under the *Bank Secrecy Act*, banks are required to file a 'Suspicious Activity Report", for any suspicious activity involving more than $3,000.[10] Laws mandating banks' disclosure of large cash deposits and withdrawals are adopted also in most Western and Asian countries. In a few cities, buses and metro rides can be paid only with a digital card. More importantly, even without direct government intervention, it is the new financial and retail ecosystem that seems to be naturally favouring

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[1] Tom Fish & Roy Whymark, *How Has Cash Usage Evolved in Recent Decades? What Might Drive Demand in The Future?* (Q3 Bank of Engl. Quarterly Bulletin) September 2015.

[2] *See* Capgemini and BNP Paribas, *World Payments Report* 2018'.

[3] *See* Morten Bach et al., *Payments Are A-Changing' but Cash Still Rules,* (BIS Quarterly Review) 2018, at 67, 67-73; Walter Engert et al, *Is a Cashless Society Problematic*? 9 (Bank of Canada Staff Discussion Paper No. 12, 2018); UK Markets, *UK Payment Markets Summary,* June 2019.

[4] KENNETH ROGOFF, THE CURSE OF CASH (2016).

[5] Ambreena Manji, *Eliminating Poverty? 'Financial Inclusion', Access to Land, and Gender Equality in International Development*, Mod. L. Rev., Oct. 22, 2010, at 985, 985.

[6] *See* WORLD BANK, FINANCE FOR ALL? PROBLEMS AND PITFALL IN EXPANDING ACCESS (2012)' WORLD BANK, DIGITAL DIVIDENDS: WORLD DEVELOPMENT REPORT (2016).

[7] The mobile payment and telecom industry have established and financed an association GSMA that conducts research and organizes events around the world to promote industry standards on mobile banking. *See* The Enablement Effect, https://www.gsma.com/

[8] Among them, the Monetary Authority of Singapore, the European Central bank, the Swedish Central bank.

[9] Deutsche Bundesbank, *Cash Discussed at Symposium* (Jun. 15, 2016), https://www.bundesbank.de/en/tasks/topics/cash-discussed-at-symposium-635170.

[10] 12 U.S.C. § 1813 and 1818 (Year); 31 U.S.C. § 5318(g)(2) (Year).

non-cash payments. Indeed, in many countries, mainstream platform-based services such as UBER, can now only be purchased by credit card.[11]

While the decline of cash is not uniform around the world - with some countries, like the United States still clinging onto banknotes - the reduction in the usage of physical notes and coins seems to be an inevitable and long-term trend.[12] Yet, the transition from a cash-based to a cash-less society is not without costs. The progressive disappearance of cash has made access to payments very difficult for vulnerable groups which, for different reasons, find themselves unable to operate cashless payments.[13] These groups include the elderly, people living with disabilities or suffering from health issues, homeless persons, immigrants, and individuals living in a condition of poverty. For them, cash is a necessity more than a choice. The problem is even worse for those individuals without a bank account. Indeed, the bank-dependent nature of cashless payments creates a double whammy that locks unbanked individuals out of both the credit system and the cashless payment system. Thus, the inability to pay with cash for food or clothes not only excludes a sizeable minority of individuals from any official credit opportunities, but it also puts them in the a dire condition of poverty and forced social exclusion. I define this phenomenon as 'monetary exclusion'.

Awareness of this problem is just only emerging. In the United Kingdom, the Parliament has recently published a report – the *Access to Cash Review Report* - to examine the social implications of the cashless society. The report warns that the quick demise of cash could soon leave 17% of the UK population struggling to make even the most basic payments.[14] In the United States, a 2019 US Congress report – *Long Live Cash* - similarly warned that the steady decline of banknotes and the inevitable rise of cashless payments will soon leave the 9 million unbanked households in the same situation of monetary exclusion that we now see in the UK.[15] In Sweden, arguably the country with the lowest share of cash transactions and with the most pro-cashless environment, the mounting opposition of elderly people to

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[11] A GUIDE TO UBER PAYMENTS, https://www.uber.com/en-GB/blog/uber-payment-options/; Amazon Go changed its policy to enable cash payments only in late 2019. *See* Katie Kanales, *We tried to pay $1 in cash for a soda at Amazon's cashier-less convenience store of the future, and it took way longer than expected*, BUSINESS INSIDER (Sept. 24, 2019, 5:19 PM), https://www.businessinsider.com/how-to-pay-cash-amazon-go-san-francisco-2019-9?r=US&IR=T

[12] Raynil Kumar et al., *2018 Findings from the Diary of Consumer Payment Choice*, FED. RES. BANK OF SAN FRANCISCO (Nov. 15, 2018), https://www.frbsf.org/cash/publications/fed-notes/2018/november/2018-findings-from-the-diary-of-consumer-payment-choice/.

[13] *See* Charles Randell, Chairman, Fin. Con. Authority, Speech delivered at the Retail Banking Conference: Is it a Wonderful Life? (Mar. 13, 2019), https://www.fca.org.uk/news/speeches/is-it-a-wonderful-life.

[14] Access to Cash, *Access to Cash Review: Final Report*, March 2019, https://www.accesstocash.org.uk/.

[15] David Perkins, *Long Live Cash: The Potential Decline of Cash Usage and Related Implications*, CONG. RES. SERV 1, 23 (2019), https://crsreports.congress.gov/product/pdf/R/R45716; On the fact that cashless payments have not yet taken off in the US, see Kate Rooney, *Mobile payments have barely caught on in the US, despite the rise of smartphones*, CNBC (Aug. 29, 2019, 12:51 PM, updated 6:32 PM), https://www.cnbc.com/2019/08/29/why-mobile-payments-have-barely-caught-on-in-the-us.html.

the disappearance of cash has led the central bank Governor to publicly voice his scepticism as to whether a cashless future would be feasible.[16]

A need therefore arises to guarantee that the benefits of economic innovations in payments will not be achieved at the expense of those who need them the most.[17] The movement against the war on cash is in its infancy, but it is already gaining traction. In many countries, civil society groups and journalists are actively challenging the dominant positive narrative surrounding cashless payments, instead showing the detrimental effects of a cashless society on minority groups and the poor.[18] In the United States, two bills that address the discriminatory effect of the war on cash are under discussion in Congress. The *Payment Choice Act 2019*[19] and the *Cash Always Should Be Honored Act 2019*[20] aim to make it unlawful for a retail establishment to refuse payment in legal tender for goods sold in such an establishment. Under the Payment Choice Act, individuals should also have a private right to action to challenge the discriminatory effect of digital sales.[21] Finally, in a 2019 speech, Charles Randell, the Chair of the Financial Conduct Authority — the UK biggest financial regulator — acknowledged for the first time that cashless payments indeed disproportionately affect those who are less able to afford them.[22] Something must be done.

The goal of this article is to examine the rising phenomenon of monetary exclusion and the reasons behind it. While the problem has many legal dimensions, from the constitutional requirement of non-discrimination[23] to the more commercial law aspects of retail payments,[24] this article instead focuses on the regulatory aspects of monetary exclusion. More specifically, I examine how regulatory design influences access to payment. In doing so, I discuss the evolution of retail payments design from the 'old' banknote system to the new cashless payments. The main argument advanced in this essay is that the move towards

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[16] *See* Stefan Ingves, *Going Cashless*, IMF FIN. DEV (Jun. 2018), https://www.imf.org/external/pubs/ft/fandd/2018/06/central-banks-and-digital-currencies/point.htm; Maddy Savage, *The Swedes Rebelling Against a Cashless Society*, BBC NEWS (Apr. 6, 2018), https://www.bbc.com/news/business-43645676.

[17] *See* Nicolas Cachanosky, *Is Money a Public Good?* AIER (Feb. 17, 2011), https://www.aier.org/article/is-money-a-public-good/.

[18] Katie Evans, *Ending Financial Exclusion* MONEY AND MENTAL HEALTH POLICY INSTITUTE, https://www.moneyandmentalhealth.org/ending-financial-exclusion/ (last visited…); Joe Lepper, *Cashless society 'putting vulnerable people at risk of digital exclusion'*, CHARITY DIGITAL NEWS (Nov. 19, 2019), https://www.charitydigitalnews.co.uk/2019/11/14/cashless-society-putting-vulnerable-people-at-risk-of-digital-exclusion/; Amy Westerwelt, *In The Rush Toward A Cashless Society, The Poorest Are At Risk Of Further Exclusion*, HUFF. POST, February 16, 2018.

[19] Payment Choice Act of 2019, H.R. 2650, 116th Cong.

[20] Cash Should Always be Honored (CASH) Act, H.R. 2630, 116th Cong. (2019).

[21] Payment Choice Act of 2019, H.R. 2650, 116th Cong § 5104

[22] Randell, *supra* note 13.

[23] In the United States, the Fifth and Fourteenth Amendments prohibit State and Federal governments to deny a fundamental right to individuals of a suspected classification. On this, see Samuel Erlanger, *A Cashless Economy: How to Protect the Low-Income*, CARDOZO. L. REV. 166, 186-192 (de-novo 2019).

[24] *See* Adam J. Levitin, *Pandora's Digital Box: The Promise and Perils of Digital Wallets*, 166 U. PA. L. REV. 305 (2018); Adam J. Levitin, *Priceless: The Economic Costs of Credit Card Merchant Restraints*, 55 UCLA L. REV. 1321 (2007).

cashless payments is the result of a progressive regulatory shift away from the state-based payment system dominated by cash in which access to a means of payment is universal, towards a private monetary regime. A private regime in which banks, payment firms, and commerce platforms are controlling who is able to access their services. While the essay relies mostly on the experience of the United States and the United Kingdom, the study nonetheless aims to make a general theoretical contribution to the understanding of the cashless economy.[25] A contribution that, in the author's view, shall also trigger the debate in other countries.

First, this essay will contribute to the emerging legal scholarship on economic inequality and access to finance, and, more generally, on the burgeoning debate of the social value of financial services.[26] Because of the hybrid nature of cashless payments as both digital devices and financial services, the debate on monetary exclusion is inextricably linked to that on digital exclusion and financial exclusion. As digital devices, cashless payments services can become impossible to access for individuals that have no access to a broadband network, or that are unable to use internet or smartphones. Despite the widespread availability of internet and the relatively cheap price of smartphones and computers, the digital divide is still affecting part of the population. The World Economic Forum has recently released a study showing that in the United States 29% of adults in households with an income below $30,000 a year don't own a smartphone, while 44% of adults don't have access to a broadband service or own a traditional computer.[27] The digital divide is particularly evident in rural areas, where more than 30% of Americans don't have access to broadband.[28] A very similar situation occurs in the United Kingdom and in other countries in Europe and Asia.[29]

As financial services, digital payments, are also linked to the debate on financial exclusion. Despite cashless payment solutions now being offered by tech-firms alongside banks, the

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[25] The United Kingdom is a very good case study for monetary exclusion. Since the late 2000s, the UK government has promoted various regulatory initiatives to enhance the use of cashless payments and has actively encouraged FinTech start-ups to establish in London. As of 2020, cashless transactions have largely surpassed cash as the main retail payment method. At the same time, the U.K. press and consumer associations were among the first to highlight the social risks of the cashless economy.

[26] Abbey Atkinson, *Rethinking Credit as Social Provision*, 71 STAN. L. REV. 1093 (2019); Michael S. Barr, *Credit Where It Counts: The Community Reinvestment Act and Its Critics*, 80 N.Y.U. L. REV. 513, 605-06 (2005); Greta R. Krippner, *Democracy of Credit: Ownership and the Politics of Credit Access in Late Twentieth-Century America*, 123 AM. J. SOC. 1, 2 (2017); Gunnar Trumbull, *Credit Access and Social Welfare: The Rise of Consumer Lending in the United States and France*, 40 POL. & SOC'Y 9, 10 (2012); MEHRSA BARADARAN, HOW THE OTHER HALF BANKS: EXCLUSION, EXPLOITATION, AND THE THREAT TO DEMOCRACY 210-25 (2015); LISA SERVON, THE UNBANKING OF AMERICA: HOW THE NEW MIDDLE CLASS SURVIVES 81 (2017).

[27] Monica Anderson & Madhumitha Kumar, *The Digital Divide Continues In The US As Lower-Income Americans Fall Behind*, WORLD ECONOMIC FORUM (May 10, 2019), https://www.weforum.org/agenda/2019/05/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/.

[28] John Hendel & Tucker Doherty, *GRAPHIC: America's digital divide in 2 maps*, POLITICO (Jul. 2, 2018), https://www.politico.com/agenda/story/2018/02/07/digital-divide-in-america-graphic-000639

[29] Access to Cash, *Supra* note 14, at 37-39.

large majority of cashless payments still require users to have a bank account from which money is transferred to an e-wallet. Hence, despite the pledge of payments start-ups to raise people up out of poverty, cashless payments are unfortunately only reinforcing a doom loop of financial exclusion. In addition, the sophisticated design of digital payment instruments, whilst attracting a large cohort of users, nonetheless tends to exclude a minority of customers who are unable to understand or operate the payments' digital interface.

Second, this article contributes to the literature on payments law and regulation. It will do so by analysing how regulation and monetary design can restrict or open both individuals' and firms' abilities to use money and to access the payment system, and thus exert their socio-economic role as consumers and traders. I will look at the evolution of money and retail payments through history.[30] For centuries, individuals overwhelmingly relied on banknotes and coins to exert their socio-economic role of consumers and traders. Individuals' access to retail payments was guaranteed by direct government intervention in the form of State-backed banknotes. In a fiat monetary system, the central bank's monopoly in the printing of banknotes and in the control of the money supply offers a basic and yet extremely efficient payment instrument for everyone. A payment method that ignores the socio-economic characteristics of its users and instead relies on the credibility of the entity issuing money – the Government, through the central bank. With the increasing central role of bank deposits as the main form of money since the early 20th century, private banks took a central role in the money creation and distribution system. Individuals and firms could rely on both bank deposits and state-backed banknotes as the main form of money. Yet, unlike banknotes, bank deposits have much higher barriers to access as banks offer them on market conditions and subject to regulations, thus excluding some individuals and firms.

Moreover, even though mobile app digital payments are typically zero or low cost, they entail a fundamental bargain with the users that is not present with cash.[31] This includes the lack of anonymity of transactions, the appropriation of users' data, and the lack of interoperability with other providers in a shared network.[32] Moreover, unlike cash, digital payments are dependent on wireless technology networks for their very functioning, which are not fault-proof. In a cashless society there is a strict correlation between the protection of property rights of money guaranteed by law and the availability of payment technology, which on the contrary, is left to market forces. The asynchrony between these two elements is the main regulatory challenge for the future of payments.

This essay will analyse the problem of monetary exclusion, and it will show the role of regulation in addressing it. In order to demonstrate my argument, in Section 2 I will set out

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[30] For the sake of simplicity, I will consider only the modern banknotes as it emerged in the last two centuries. For a discussion on earlier monetary history, see CHRISTINE DESAN, MAKING MONEY: COIN, CURRENCY, AND THE MAKING OF CAPITALISM (2014). *See also* BENJAMIN GEVA, THE PAYMENT ORDER OF ANTIQUITY AND THE MIDDLE-AGES: A LEGAL HISTORY (2011).

[31] On the contrary to credit and debit cards, which are arguably the most expensive payment system. *See* Adam J. Levitin, *The Antitrust Super Bowl: America's Payment Systems, No-Surcharge Rules, and the Hidden Costs of Credit*, 3 BERKELEY BUS. L.J. 265, 272-73 (2005); David Humphrey et al., *What Does it Cost to Make a Payment?* 2 REV. OF NET. ECON. 159, 162-63 (2003).

[32] Levitin, *Supra* note 24.

the theoretical framework to understand monetary inclusion. In Section 3, I will analyse the evolution of the central bank banknote and its role in monetary inclusion. Section 4 will discuss the rise of bank deposits as the main form of money and how this influences monetary exclusion. Section 5 will analyse the emergence of the cashless economy and its impact on monetary exclusion. Section 6 will propose some regulatory strategies for monetary inclusion in a cashless world.

II. FRAMING THE REGULATORY DEBATE ON MONETARY EXCLUSION

In Western economies, the debate on financial exclusion has mostly focused on the unaffordability or lack of access to credit, and on the reduced access to savings and pensions.[33] Within this debate, the analysis of the relationship between access to credit, economic inequality, and discriminations has emerged as one of the hottest topic in the policy narrative.[34] The works of scholars like Jacob Haker, Mehrsa Baradan, or Jonathan Mordock and Rachel Schneider, to mention just a few, demonstrate how a mix of poor regulatory interventions, racial biases, and extreme free market economy has forced an increasingly high proportion of individuals to a vicious cycle of increasing indebtedness.[35]

Within the broader discussion on financial exclusion, the problem of access to the payment system has barely emerged.[36] On the contrary, the large majority of the specialized literature and the entire popular narrative on digital payments purports them as one of the key tools to lift people out of poverty.[37] For instance, one of Facebook's core claims on the Libra project was that the new currency and payment method will help the 1,7 Billion unbanked

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[33] Financial inclusion has emerged since the early 2000s as one of the fundamental objectives of development economics. International Organizations like the World Bank or the United Nations, and large private donors like the Gates Foundations have invested hundreds of millions of dollars to investigate the causes of financial exclusion in developing countries, and to set up projects around the world to expand access to financial services. In western economies, the debate was much less focused on how to 'develop' the foundations of the financial system, and more focused on the impact of debt – including credit card, mortgage, payday loans, and university costs - on low income families.

[34] A. Atkinson, *Rethinking Credit as A Social Provision,* 71 STAN. L. REV. 1093 (2019); Creola Johnson, *Payday Loans: Shrewd Business or Predatory Lending?* 87 MINN. L. REV. 1, 10 (2002); Angela Littwin, *Beyond Usury: A Study of Credit-Card Use and Preference Among Low-Income Consumers,* 86 TEX. L. REV. 451, 458 (2008); Creola Johnson, *The Magic of Group Identity: How Predatory Lenders Use Minorities to Target Communities of Color,* 17 GEO. J. ON POVERTY L. & POL'Y 165, 187 (2010); LISA SERVON, THE UNBANKING OF AMERICA: HOW THE NEW MIDDLE CLASS SURVIVES 81 (2017); Mehrsa Baradaran, *Banking and the Social Contract*, 89 NOTRE DAME L. REV. 1283 (2014).

[35] JACKOB HAKER, THE GREAT RISK SHIFT: THE ASSAULT ON AMERICAN JOBS, FAMILIES, HEALTH CARE AND RETIREMENT AND HOW YOU CAN FIGHT BACK (2006); BARADARAN, *supra* note 26; JONATHAN MURDOCH & RACHEL SCHNEIDER, THE FINANCIAL LIFE OF THE POOR: HOW AMERICAN FAMILIES COPE IN A WORLD OF UNCERTAINTY (2017).

[36] *See* Erlanger, *Supra* note 23; Morgan Ricks, *Money as Infrastructure*, 3 COLUM. BUS. L. REV. 757, 828-836 (2018).

[37] For a good overview on the literature on payments and financial inclusion, see WORLD BANK, DIGITAL DIVIDENDS: WORLD DEVELOPMENT REPORT (2016); CPMI WORLD BANK GROUP, PAYMENT ASPECTS OF FINANCIAL INCLUSION (2016).

individuals to access the financial system.[38] The World Economic Forum claims that digital payments will "finally close the financial inclusion gap."[39] Even Visa, the credit card firm, boasts on its website that "Visa's global network is a powerful platform to advance financial inclusion".[40] Yet, in countries where the shift towards cashless payments is more pronounced, emerging evidence suggests the very opposite.[41]

The emerging phenomenon of monetary exclusion, and the asynchrony between the popular narrative and the reality on the ground, forces us to investigate the link between a specific payment method and inequality. In this section, I will provide the theoretical foundations of the analysis on payment methods.

A. Defining Monetary Exclusion

The first issue to define the precise meaning of monetary exclusion. In policy debate financial exclusion is usually defined as the situation in which an individual, because of their lack of access to the mainstream financial system, is unable to manage day-to-day financial transactions, meet expenses, manage a financial loss, and avoid or reduce a problem debt.[42] As such, financial exclusion can refer to the lack of access to various financial products, such as transactions, payments, savings, credit and insurance.[43] More broadly, the term monetary exclusion can be used to define the inability of individuals or firms to transfer monetary value to other individuals and firms in exchange for goods or services. In this sense, an inclusive monetary system would be one where every individual has the ability to choose the payment method that is most convenient and efficient: to pay a meal with banknotes, or to pay university fees through an electronic bank transfer, or pay the metro fare with a smartphone e-wallet app.

On a deeper level, however, equality in access to payments is the result of specific institutional and monetary design.[44] From an economic perspective, the higher the regulatory, social, or economic barriers to the usage of money, the lower the network effects that money can rely on as less people will accept using them to discharge debts. Only by

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[38] LIBRA, *White Paper*, https://libra.org/en-US/white-paper/ (last visited…).

[39] Mehul Desai, The Benefits of a Cashless Society, WORLD. ECONOMIC FORUM (7 January 2020) https://www.weforum.org/agenda/2020/01/benefits-cashless-society-mobile-payments/

[40] VISA, *Financial Inclusion*, https://www.visa.co.uk/about-visa/financial-inclusion.html (last visited…).

[41] BBC, *Free cash machines vanishing at alarming rate, says Which?* BBC NEWS (May 1, 2019) https://www.bbc.co.uk/news/business-48107372.

[42] *See* HOUSE OF LORDS SELECT COMMITTEE ON FINANCIAL EXCLUSION, TACKLING FINANCIAL EXCLUSION: A COUNTRY THAT WORKS FOR EVERYONE? H.L. PAPER 132, 1, at 10 (2016-17).

[43] The World Bank defines financial inclusion as the situation in which "individuals and businesses have access to useful and affordable financial products and services that meet their needs transactions, payments, savings, credit and insurance delivered in a responsible and sustainable way.' *See* THE WORLD BANK, *Financial Inclusion: Overview*, https://www.worldbank.org/en/topic/financialinclusion/overview (last visited…).

[44] See Christine Desan, *The Constitutional Approach of Money: Monetary Design and the Production of the Modern World, in* MONEY TALKS: EXPLAINING HOW MONEY REALLY WORKS (Nina Bandelj et al., eds., 2017).

guaranteeing total equality among users, can money be used by everyone and, thus, exert its fundamental economic and social functions as a medium of exchange, store of value, and unit of account.[45] Thus, from a regulatory perspective, one of the main objectives of payment and monetary policy is to reduce friction to the access and use of money. This is especially true with regard to retail payments, which enable individuals to intermediate money for their everyday life expenses.

The ability to transfer monetary value is the result of a combination of two separate elements: access to payment methods in the narrow sense, and access to a source of money either central bank notes, or bank deposits - that can be intermediated through the payment system. To make the distinction clear, I will now provide two examples. Barriers to access to payment methods would arise when an individual with access to bank deposit account is not able to transfer money because he/she cannot operate a digital bank app, or because he/she does not qualify for a credit card. Conversely, barriers to access to money would arise when an individual is unable to access a bank account through which he can then transfer money via the various payment methods. Thus, although he/she is in theory able to operate a smartphone or a computer, he/she is nevertheless unable to pay because he/she is unbanked. The distinction is important for our debate on the cashless society because, as I will explain later, only banknotes are a payment method and a source of money at the same time.[46] Hence, only banknotes can guarantee equal access to payments to all individuals.

B. Access to The Payment System

As a subset of financial inclusion, monetary inclusion deals primarily with access to financial services. More precisely, it deals with individuals' access to the payment system. Payment mechanisms are those sets of rules, procedures, institutions, infrastructures and technologies that enable the settlement of financial transactions.[47] Examples of payment methods include banknotes and coins, cheques, debit and credit cards, electronic fund transfers, or digital wallets.[48] Because of their key economic function, payments are usually considered the most essential financial service. Indeed, they are used by the quasi-totality of the population to transfer value, from the simple act of buying milk to the purchase of a house.[49] The availability of payment instruments to discharge debt obligations is therefore

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[45] These are the three classical functions of money according to the economic literature. *See* Micheal McLeay, Amar Radia & Ryland Thomas, *Money in the Modern Economy: An Introduction,* (Q1 Bank of Engl. Quarterly Bulletin) March 14, 2014 at 9.

[46] ROSS CRANSTON ET AL., PRINCIPLES OF BANKING LAW 362-63 (3rd ed. 2018); SIMON GLEESON, THE LEGAL CONCEPT OF MONEY 14-15 (2019).

[47] EUROPEAN CENTRAL BANK, THE PAYMENT SYSTEM: PAYMENTS, SECURITIES, DERIVATIVES, AND THE ROLE OF THE EUROSYSTEM 25 (Tom Kokkola ed. 2010).

[48] BIS, *Payment, Clearing and Settlement Systems in the United Kingdom*, (BCBS Committee Report on Payment and Settlement System) 2012.

[49] For instance, in the hierarchy of demand of financial products, payments are required by 100% of the population. *See* Committee on Digital Payments, *Medium Term Recommendations to Strengthen the Digital Payments Ecosystem: Report,* MIN. OF FIN. GOVT. OF INDIA December 2016 at 28.

indispensable for individuals and firms, as it enables them to participate actively in the economy as both consumers and traders.

Enabling access to the payment system requires the presence of two interrelated elements. First, on a macro-level, it requires the presence of a network of 'payment points' that enable payers to transfer monetary value to the highest number of payees. Second, at the micro-level, it necessitates the elimination of all those physical, technological, and legal impediments that prevent payers from using a particular payment method. I will now examine them.

1. Achieving Network Externalities

The key element for the success of a monetary system is the presence of a network that connects as many users as possible. The literature demonstrates that there are direct network effects and economies of scale associated with money and payments.[50] The main function of money and payments is to connect two end users of a monetary transaction who would otherwise be unable to settle their debts (because of distance, let's say). Because both payer and payee need to participate in the network in order for the transaction to work, the efficiency of a monetary system is directly correlated to the size of the network it can rely on.[51] Thus, payers will be more likely to use a type of money and a payment network that allows them to connect with the highest number of users, and thus perform their transaction more efficiently. We can describe these network externalities as the beneficial effects that any additional user of a payment network brings to all other users of the network.[52] Hence, the more users choose a given payment method for their transactions, the more those users will benefit from it. Network externalities do not exist only in payments but can also be found in other industries such as digital platforms and e-commerce, to mention just a few.

The development of networks, however, presents two fundamental problems, which explain why State's involvement is essential. The first is that networks might not arise naturally. If that is the case, individuals and firms that need to transfer money to a payee who is not part of their monetary system, might be unable to do so or might have to pay a fee. In order to develop a network, regulation is sometimes essential. We will see in the next sections that the State has historically played a major role in monopolizing the control of the monetary and payment network, thus creating the network that money needs to function. It did so by centralizing the issuance of banknotes by the central bank, and by acquiring a monopolistic role in setting the monetary policy. Moreover, central banks have also acquired a central

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[50] John A. Weinberg, *Network Externalities and Public Goods in Payment Systems*, RES. DEPT. FED. RES. BANK OF RICHMND November 1996.

[51] For general treatments of network effects that discuss legal and regulatory implications, see Mark A. Lemley & David McGowan, *Legal Implications of Network Effects* 86 *California Law Review* 479 (1998); Nicholas Economides, *Competition Policy in Network Industries: An Introduction, in* THE NEW ECONOMY AND BEYOND: PAST, PRESENT AND FUTURE (Dennis W. Jansen ed. 2006).

[52] Weinberg, *supra* note 50.

position in the inter-bank payment systems, (both small-value and high-value), which have enabled the creation of the modern payment system and sustained its substantial coverage.[53]

The second problem is that network-based systems tend to lead to monopolies or oligopolies.[54] Competition law teaches us that when a firm reaches a position of dominance, it might restrict or make access more expensive. This is typical with certain services such as energy, transport, and water, which for this reason are tightly regulated and required to offer universal access. This is the key problem of financial access to payments. As long as money supply is guaranteed by the State, for instance through the issuance of banknotes, which do not pose particular access requirements, there is limited risk of exclusion. However, as long as money is issued by private institutions as in the case of bank deposits, and as long as the payment system that transmits money is controlled by payment firms, the question of access becomes a regulatory problem. As I will argue later, paradoxically, while regulation was trying to make money issuers stronger and safer, especially banks, it also raised a number of barriers to access for individuals, who were left out of the banking and, thus, monetary system.

2. Users' Discriminations

Creating a network, however, is not enough to guarantee universal access to payments. It is also necessary to remove those direct or indirect barriers that sometimes prevents certain users from accessing a particular payment mechanism. In modern economies, retail payments are intermediated mostly by private institutions. Banks, credit card companies, ATM providers were for a long time the main players in the payment market. In the emerging cashless economy, however, payment services are now offered also by a panoply of digital payment services such as *Paypal* or *GooglePay*, which compete for customers with the traditional payment service providers.

The outsourcing of payment services to private institutions adds an additional layer of complexity to the quest for monetary access, as payment firms control the access requirements to their services. In market economies, finance is supplied in a regime of competition between firms. This means that, in principle, payments operators are not obliged to offer their products to everybody, nor are they obliged to design their product in a way that suit the needs of all customers. For instance, while UK law mandates open access for payment services to guarantee the access to clearing and settlement services to small payment providers, there is no requirement of universal access to individuals. Constitutional protections such as the Equal Protection Clause in the United States Constitution,[55] or the Equality Act 2010 in the United Kingdom struggle to extend the coverage to discriminations

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[53] Not surprisingly, countries like Sweden or China, both of which have well established electronic payment networks are at the forefront of the war against cash. Alan Wheatley, *Cash is Dead: Long Live Cash*, 54 IMF FIN. DEV., no 2, 2017.

[54] Kokkola (ed), *supra* note 57, at 131-141.

[55] Frank Michelman, *Socioeconomic rights in constitutional law: Explaining America away*, 6 INTL J. CONS. L. (2008); Cass R. Sunstein, *Why Does the American Constitution Lack Social and Economic Guarantees?* 56 SYR. L. REV. 2005-2006 at 1.

based on the economic status of individuals.[56] The exclusion of economic status as a protected characteristic in anti-discrimination laws makes it more difficult for poor customers to receive affordable or accessible finance.[57] While on the one hand, banks and payment intermediaries cannot discriminate on the basis of race or gender or refuse to open bank accounts for individuals legally residing in the UK or in the EU.[58] On the other hand, they can still price financial services according to market risks, thus refusing to offer cheap credit to consumers with poor credit scores, or disinvest from unprofitable geographical areas or services, thereby leaving certain groups with no access to finance. [59] It is precisely these market dynamics of banking and payments services that need to be addressed.

C. Access to Monetary Value

Sometimes, monetary exclusion is the consequence of an individual's exclusion from the banking system. The interplay between banking inclusion and access to payment methods is particularly important in the overall analysis of monetary inclusion. Indeed, modern payment methods, including electronic bank transfers, credit cards, and the various new digital payments app, require access to bank accounts to work. Only a very tiny minority of cashless transactions are indeed performed with cryptocurrencies. Thus, an individual who is unbanked and relies only on cash would be automatically excluded from the payment system.

In order to understand this interplay, it is necessary to explain what money is in contemporary economies. Money is a socio-economic concept that defines a claim usually expressed in the form of a physical token or verifiable record that is accepted as payment in discharge of debts either by virtue of the law or by mutual agreement of the parties.[60] From a financial perspective, money is, essentially, debt.[61] Or in the words of the Bank of England, 'just a special form of IOU'.[62] As I will show in the next sections, over the last three centuries, this IOU has been issued primarily by two institutions: private banks, and central banks.

1. Central Bank Notes

Central banks issue state-backed money in the form of central bank reserves and banknotes.[63] While the former is outside the scope of this analysis as it is a form of money

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[56] Kate Malleson, *Equality Law and the Protected Characteristics*, 81 MOD L. REV. 2018 at 598, 611-615.
[57] *Id.*
[58] Council Directive 2014/92/EU, 2014 O.J. (L257/214).
[59] BARADARAN, HOW THE OTHER HALF BANKS, *supra* note 26.
[60] In English law, there is no definition of 'money' as such, but only of 'coins' and 'banknotes' in the Currency and Bank Notes Act 1954 (c. 12) s. 1(1)-(4), and 'electronic money' in the Electronic Money Regulations 2011, s 2.
[61] GLEESON, *supra* note 46, ch 3.
[62] McLeay, *supra* note 45, at 3.
[63] Michael McLeay, Amar Radia & Ryland Thomas, *Money Creation in the Modern Economy*, (Q1 Bank of Engl. Quarterly Bulletin) March 14, 2014 at 14; MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION (2016).

available only to a few select commercial banks, the latter is of particular importance due to its widespread availability for individuals and firms. As I will demonstrate, banknotes are the form of money with the lowest barriers to access. The fact that central banks back their value protect them from credit risks. Secondly, because of their characteristics of negotiability and anonymity, banknotes can be intermediated by anyone. In one of the key cases in the English common law of finance, *Moss v Hancock*, money is defined as "that which passes freely from hand to hand in the community in final discharge of debts and full payment of commodities, **being accepted equally without reference to the character or credit of the person who offers it**…".[64] The concept of equality is a key, albeit rarely discussed, element in the law of money. As the judgment clearly spells out, the irrelevance of the social or economic conditions of the payer is a fundamental characteristic for any type of medium of exchange that aims at being universal, from coins to bitcoin. The lack of reference to the individual who tenders banknotes in payment of debt served precisely to eliminate the risks that social or economic barriers to the usage of money might reduce the network effects money relies on, thereby enabling it to be universal. Only by guaranteeing total equality among users, can money exert its fundamental economic and social functions of medium of exchange, store of value, and unit of account.[65]

2. *Bank Deposits*

Banks too create money in the form of bank deposits that are intermediated through the bank payment system to extinguish debt obligations among depositors.[66] As any textbook on banking law says, bank deposits are nothing more than a loan that the depositors make to the bank, which is in turn obliged to return it to the client at any time upon his request.[67] Bank money, however, present two fundamental problems. First, as the vast literature on financial exclusion demonstrates, banks are prone to the very same problem of access and discrimination that we have seen earlier with payment systems. Thus, individuals who do not fit the criteria set by the bank for the opening of a deposit account can be left out of the banking system. Secondly, bank deposits leave money holders exposed to the solvency risk of the entity that issued the money, or to price fluctuations that reflect the issuer's underlying credit conditions. From an economic perspective, a monetary system is credible only to the extent that the entities issuing it are able to meet the credit demand. Indeed, the higher the risk of monetary depreciation, the lower the ability of ordinary individuals to use a particular type of money for their commercial transactions. As I will show in the next section, this was the key problem of early private bank notes. For this reason, one of the key regulatory objectives of monetary access is to guarantee the solvability of the entities that had the privilege to issue money. Since money is a debt, only those institutions that could

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[64] Moss v Hancock, [1899] 2 QB 111, 116,

[65] These are the three classical functions of money according to the economic literature. *See* McLeay, *supra* note 45.

[66] Robert C. Hockett & Saule T. Omarova, *The Finance Franchise,* 102 CORNELL L. REV. 1143 (2017); McLeay, *supra* note 63; Ricks, *supra* note 63.

[67] *See* for instance, CRANSTON ET AL., *supra* note 46, at 190-192.

guarantee that their debts could be met at any point in time, had the right to create money. Central banks rely on the backing of the State and have a statutory privilege to print money limitlessly, and a variety of monetary policy tools to control the price of money in the economy (even though they are not always successful in that).[68] Banks are subject to a number of licencing and prudential requirements that limit their money creation function and reduce their risks of illiquidity and insolvency.[69] More complex is the question regarding digital money issuers, who are only now starting to be regulated, albeit in a much less intrusive way than standard banks.

Before concluding, it is important to notice that the central bank money and bank deposits are not the only sources of money. This historical duopoly is now challenged by new entrants. On the one hand, shadow banking entities such as Repo lenders or money market funds, are now issuing their own form of money that are used predominantly by corporations.[70] Since this essay deals only with individuals' access to the monetary system, I will not discuss shadow banks. More importantly for our analysis, for what concerns mainstream and retail payments, a panoply of new entities are now able to issue their own cryptocurrencies relying on software-based solutions and platforms. While cryptocurrencies are undoubtedly an important form of money, they only occupy a minuscule fraction of the retail payment system. For this reason, they are not included in the analysis.

III. BANKNOTES AND PAYMENTS EQUALITY

In light of the discussion above, it is now time to review in detail how monetary access was guaranteed in history, and the role of the State in this process.[71] More than any other aspect of finance, payments have been constantly evolving, from simple coins to letters of credit and, eventually, credit cards. Yet, one particular method of payment, the banknote, has acquired a particular place in modern societies.[72] Its particular legal and financial attributes make it a very convenient monetary tool, used by rich and poor alike. As I will demonstrate in this section, the success of banknotes has also a lot to do with the critical role played by

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[68] CHARLES GOODHART, THE EVOLUTION OF CENTRAL BANKS (1988); ROSA M. LASTRA, CENTRAL BANKING AND BANKING REGULATION (1996).

[69] KERN ALEXANDER, PRINCIPLES OF BANKING REGULATION (2019).

[70] Hockett, *supra* note 66; Ricks, *supra* note 63; GARY GORTON, SLAPPED BY THE INVISIBLE HANDS: THE PANIC OF 2007 (2010).

[71] For an excellent overview of modern legal monetary history, see MONEY IN THE WESTERN LEGAL TRADITION: MIDDLE AGES TO BRETTON WOODS (David Fox & Wolfgang Ernst eds., 2015).

[72] For a discussion on the earlier type of transferable money, see Benjamin Geva, *Bank Money: The Rise, Fall, and Metamorphosis of the 'Transferrable Deposit', in* MONEY IN THE WESTERN LEGAL TRADITION: MIDDLE AGES TO BRETTON WOODS (David Fox & Wolfgang Ernst eds., 2015); James Steven Rogers, *Early English Law on Checks, in* MONEY IN THE WESTERN LEGAL TRADITION: MIDDLE AGES TO BRETTON WOODS (David Fox & Wolfgang Ernst eds., 2015); James Steven Rogers, *Early English Law on Bank Notes, in* MONEY IN THE WESTERN LEGAL TRADITION: MIDDLE AGES TO BRETTON WOODS (David Fox & Wolfgang Ernst eds., 2015).

the State, through its central bank, as controller of the currency and ultimate creditor.[73] A critical role that, as I will show in the following section, is very difficult to replicate in a cashless society.

A. The Inefficiency of the Private Bank Notes[74]

In order to understand the specific role exerted by the State in monetary affairs, and with regard to money in particular, it is first necessary to start from the time when money was a private financial product. While modern monetary systems have established money supply as a (mostly) public function in the hands of central banks, the history of money has witnessed long periods in which money was a private business.[75] In the 19th century, during the 'free banking' period, a new form of payment, the bank note, was created.[76] Unlike now, bank notes were issued individually by commercial banks instead of the central bank, and were backed by an equal amount of commodity money (gold and silver) that could be redeemed by the note holder in one of the issuing bank's branches. In practice, individuals were paying goods and services with notes from different banks. Unlike commodity currency, whose value reflected the value of the metal it was made with, bank notes depended totally on the solvability of the issuing bank. While mechanisms were put in place to minimize the risk of frauds or defaults, ultimately the efficiency of the private currency system relied on the business acumen of the bank itself. As Walter Bagehot acutely observed in *Lombard Street*:

> 'A bank of issue, which need not pay its notes in cash, has a charmed life; it can lend what it wishes, and issue what it likes, with no fear of harm to itself, and with no substantial check but its own inclination.'[77]

The redemption costs inherent in the fact that notes could be redeemed only at the issuing bank made them trade at values below par (i.e., at a price lower than its face value).[78] Thus, while the note was issued for a specific amount – let's say, 10 Dollars – it was actually accepted for a lower value. In the US, the devaluing effect was made worse by the fact that notes could be redeemed by law only in the State where the bank was registered. In order to facilitate monetary exchange, banks eventually established arrangements allowing holders

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[73] *See* GOODHART, *supra* note 68; Francois Gianviti, *The Objectives of Central banks, in* INTERNATIONAL MONETARY AND FINANCIAL LAW: THE GLOBAL CRISIS (Mario Giovanoli & Diego Devos eds., 2010).

[74] In this essay, I will refer to notes issued by private banks as 'bank notes' to distinguish them from the modern central bank 'banknotes'.

[75] For an overview of the early UK bank notes, see, Rogers, *Early English Law on Bank Notes, supra* note 72.

[76] The free banking era was a prominent feature of the US system where no central bank existed, and to a lesser extent of the UK, where the Bank of England had already acquired the task issuing of Bank of England banknotes alongside private banks.

[77] WALTER BAGEHOT, LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET 54 (12th ed. 2015).

[78] Gary Gorton, *Pricing Free Bank Notes,* 44 J. MONETARY ECONS., Aug. 1999 at 33.

to redeem notes issued by partner banks, while the banks' mutual debts would then be settled through clearinghouses.[79] Yet, private note holders had to have faith that either the issuing bank would have enough funds to redeem the note if requested to do so or, more often, that their future payees and the society at large would trust the note as valid and worth not less than what the payer originally accepted it for. In this era, weak consumer protection and bank supervision frameworks often led to consumer frauds, mostly when a bank's outstanding monetary liabilities were much higher than its reserves, or because of note forgeries. For instance, in the US during the free banking era between 1830 and 1863, when entry restrictions for banks were lifted, entry controls on banks were so limited that frauds and insolvencies skyrocketed.[80] It was precisely as a reaction to the weaknesses of this model that national currencies were adopted.

At roughly the same time, and especially after the creation of Joint-Stock banks in 1826, goldsmith banks began to evolve quickly from paymasters and deposit taking institutions into the modern banks we see today.[81] This meant that banks could not only issue bank notes and take deposit, but they also acquired the ability to create money in the form of loans issued to borrowers. Similarly, to the issuance of private bank notes, also the issuance of commercial bank money depended on the credit-worthiness of the bank and its ability to manage its reserves, but unlike private banknotes, the lending function of banks was much riskier. Indeed, banks did not need to back loans with 100% deposits — what economists call 'full reserve banking' — but were essentially free to keep the minimum amount of liquidity that allowed them to meet depositors' demands.[82] Not surprisingly, not all banks were so skilled in managing the process of maturity transformation to avoid illiquidity. Thus, until the mechanisms of bank supervision and lending controls were tightened, bank runs and insolvencies were the order of the day.[83]

B. The Genius of (Central) Banknotes

In a monetary system in which only a handful of individuals had bank accounts, bank notes necessarily were the main means of payment for the majority of the population. Yet, in a free monetary system such as the one we described earlier, payees receiving a private bank note in discharge of a debtor's obligation were assuming an immediate credit risk. While payment with a bank note achieved finality in a legal sense — thus immediately and irrevocably discharging the payer's debt obligation — it did not necessarily guarantee credit

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[79] The clearest example in this regard is the Suffolk Bank in New England, which de facto acted as a quasi-central bank for smaller banks in the region, offering clearinghouse and reserve deposit services. *See* GEORGE TRIVOLI, THE SUFFOLK BANK: A STUDY OF A FREE-ENTERPRISE CLEARING SYSTEM (1979); GOODHART, *supra* note 68, at 31-36.

[80] GARY GORTON, MISUNDERSTANDING FINANCIAL CRISES: WHY WE DON'T SEE THEM COMING (2012).

[81] Victoria Barnes & Lucy Newton, *The Introduction of the Joint-Stock Company in English Banking and Monetary Policy*, (Henley Business School International Business History, Discussion Paper No. IBH-2016-01, 2016).

[82] Adam Levitin, *Safe Banking: Finance and Democracy,* 83 U. CHI. L. REV. 357 (2016).

[83] GORTON, MISUNDERSTANDING FINANCIAL CRISES, *supra* note 80.

extinction from a practical financial perspective. More specifically, it did not guarantee the payer an increase in monetary assets, which instead could only be achieved if, and when, the note was accepted by a future payee in discharge of the tenderer's debt.

Indeed, in a private monetary system in which the value of the note is not fixed by the State, the monetary value of a bank note can just be equal to the value that a future payee will attribute to it. Thus, when considering whether to accept a note in discharge of a debt, a payee would have had to consider the various risks that might render the note unusable or less valuable in the future. These risks include the possibility of forgery, the transaction costs of redeeming the private note at the issuing bank, which includes the non-negligible costs of travel, and the always existent risk that the issuing bank might not be solvent. While the note holder might have tried to avoid these risks by tendering the note to another payee in discharge of its debt, the reality of commerce – that the note would have to be discharged at one point, if not for wear and tear - would have to be faced at some point.[84]

Thus, the private bank note system was plagued by information asymmetries – not knowing whether the issuing bank had issued the note with enough assets to back it, or whether it was forged, or whether it would be accepted by a future payee in discharge of a debt. The ultimate outcome was that, while private bank notes achieved finality in legal terms, they obtained the opposite from a financial perspective. The payer was assuming a credit risk when accepting bank notes. Moreover, the high transaction costs of checking the note or the costs of travel made them inevitably trade at below par with substantial costs for the users. For instance, in the US, before accepting a note, the payee would have had to consult the 'Bank Note Reporter', a document listing the up-to-date value of each private bank note circulating in the country.[85] This created a complex and uncertain bank notes market in which payments were a hindrance to commerce rather than a means to facilitate it.

The inefficiencies of the private money market led to the progressive centralization of the monetary and payment system, including the issuance of notes, in the hands of the State.[86] Initially, the increased credit risks coming from counterfeit notes and the sometimes-reckless behaviour of note-issuing banks, led to the allocation of the bank notes issuance function to a few trusted banks – the issuing institutions – that had the mandate to organize the orderly and safe issuance of bank notes on behalf of the government.[87] Eventually, the process was progressively centralized into one single institution - the central bank.[88] Central banks became central in the monetary and payment system as they acted as guarantor of the

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[84] GLEESON, *supra* note 46, at 77.
[85] *Id*, at 23.
[86] *See* Helmut Siekman, *Deposit Banking and the Use of Monetary Instruments, in* MONEY IN THE WESTERN LEGAL TRADITION: MIDDLE AGES TO BRETTON WOODS (David Fox & Wolfgang Ernst eds., 2015).
[87] Kokkola (ed), *supra* note 57, at 152.
[88] For instance, the last private bank note was issued by Fox & co. of Wellington in 1922. *See* Roger Outing, *An Introduction to English Banking History,* THE BRITISH MUSEUM, https://www.britishmuseum.org/research/publications/online_research_catalogues/paper_money/paper_money_of_england__wales/english_banking_history.aspx (last visited Mar. 1, 2019).

stability of the payment system for all other banks, thus taking up central clearing functions, lending of last resort, and deposit taking for private banks. [89]

Moreover, central banks took up the fundamental function of converting private bank notes into central bank notes or central bank deposits at par. The convertibility at par of private bank notes was essential to guarantee the stability of the system in that period as it eliminates the credit risks and high transaction costs that arise when multiple private issuers issue notes that are exchanged at different values. The same function remains today when a bank depositor withdraws cash from its banks, thus exchanging deposits for cash.[90] Even now, one of the main benefits of cash is that it does not entail any counterparty risk. This means that holders of banknotes do not need to worry about the solvability of the issuer, which we saw was a critical problem with private bank notes. Even though inflation might over time erode the purchasing power of notes, thus reducing the incentive for saving in cash rather than interest-bearing bank deposits, central banks do strive to keep prices low, thereby reducing the risk that the value of the note will decrease in real terms. Cash payments are final and immediately settled as there is no credit relationship between payor and payee. For this reason, as long as users trust the central bank in managing a stable inflation, cash guarantees solvability.

Another fundamental problem of private bank notes was that they could not rely on a wide network. In order to increase the acceptance and usage of central-bank notes as the main currency in circulation, states made them legal tender.[91] Title 31 of the U.S. Code stipulates:

> "United States coins and currency (including Federal reserve notes and circulating notes of Federal reserve banks and national banks) are legal tender for all debts, public charges, taxes, and dues."[92]

This legal concept defines the attribute that a payment instrument has when, by law rather than agreement of the parties, it discharges the payer's obligation, without any possibility for the payee to reject it when tendered as a payment.[93] More specifically, when currency is given legal tender status, the payer can use it as payment in discharge of an obligation, knowing that the payee cannot sue for the debt or rely on the remedies for non-payment.[94] The practical relevance of legal tender is now surpassed by practice, as in both US law and English law parties can negotiate in the contract for payment to be discharged by any method, and by the fact that courts now imply that payments be made in a commercially

[89] Kokkola (ed), *supra* note 57, at 152-153.
[90] Bank for International Settlements, *The Role of Central Bank Money in Payment Systems*, (BIS Committee on Payment and Settlement Systems Report) 2003 at 8.
[91] *See Legal Tender*, BLACK'S LAW DICTIONARY (10th ed. 2014).
[92] 31 U.S.C. § 5103 (2018)
[93] On the concept of legal tender, see GLEESON, *supra* note 46, at 133-143.
[94] *Id*, at 134.

sensible way.[95] Yet, in the transition from a private to a public monetary system, giving central bank notes legal tender status was essential.

First of all, legal tender solved the information asymmetries of private payment systems. By giving legal certainty that the note could not be rejected as payment in discharge of debt, payers had confidence that they could accept the note without much credit risk – except for the risk of forgery. Moreover, the fact that legal tender could be redeemed at par, in exchange for bank deposits or specie reduced the discount costs of the note to zero, thereby eliminating the inefficiencies of the previous system in which the same note could be traded at multiple values depending on the location. Moreover, the attribution of legal tender to central bank notes, allowed them to achieve the network externalities that a successful payment system requires, thus guaranteeing a large group of users. This was particularly important in the period up until the end of the 19th century where central bank and commercial bank notes were still circulating alongside each other.[96] In sum, while legal tender does not amount to a prohibition of all other forms of money and payments - and indeed various economists agree that in many instances where national currency was declared legal tender, citizens nevertheless still adopted unofficial means of payments - it nonetheless gives a 'boost' to currency with that status.[97]

C. Cash as A Social Equalizer

Until the early 20th century, banknotes were the standard form of payment for most people.[98] What made them so popular was that they did not require the note holder to have a bank account to use them. Although cash ultimately presumes the presence of the banking system underneath it and a distribution network to disperse it across the territory, not all users of cash need to have a direct relationship with a bank through a bank account. What cash needs instead is that its users have trust in the entity backing it: the government. The belief that the piece of paper in their hand is not counterfeited and will not lose its purchasing power over time. Not surprisingly, because of its detachment from the banking system and its anonymity, cash is used by both criminals and children; neither of whom rely on a previous bank account.

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[95] COLIN BAMFORD, PRINCIPLES OF INTERNATIONAL FINANCIAL LAW 17 (2012); Jay Zagorsky, *Do Businesses Have to Accept Cash?* OHIO ST. U: JAY ZAGORSKY'S RES. & BLOG https://u.osu.edu/zagorsky.1/2016/08/05/do-businesses-have-to-accept-cash/; BILL MAURER, HOW WOULD YOU LIKE TO PAY? HOW TECHNOLOGY IS CHANGING THE FUTURE OF MONEY 28 (2015); U.S. DEP'T OF THE TREASURY, *Legal Tender Status*, https://www.treasury.gov/resource-center/faqs/Currency/Pages/legal-tender.aspx (last visited...); BOARD OF GOVERNORS OF THE FED. RES. SYS, *Is It Legal for a Business in the United States to Refuse Cash as a Form of Payment?* https://www.federalreserve.gov/faqs/currency_12772.htm (last visited...).

[96] *See* He Dong et al., *Virtual Currencies and Beyond: Initial Considerations,* 12-15 (IMF Staff Discussion Note, SDN/16/03, 2016).

[97] *See* GOODHART, *supra* note 68, at 20-24.

[98] On the creation of banknotes, see FELIX MARTIN, MONEY: THE UNAUTHORIZED BIOGRAPHY 123 (2013);

The legal genius of negotiable instruments – including banknotes - was indeed that their physical possession equalled their property right. Cash is indeed the property of whoever holds it, as it relies only on the promise to pay embedded in the note.[99] It was this very basic concept that enabled the modern cash system to work so efficiently as a universal payment mechanism for rich and poor. It meant that the simple possession of the note is enough. Moreover, since the note was widely accepted as a medium of exchange, the holder could simply use it to discharge his personal obligations with other persons without converting it. For this reason, cash payments are instantaneous and final, and are perfect for one-to-one small retail transactions of the type common among poor where certainty is key.[100] Moreover, cash does not require any form of identification, which is a fundamental criterion to access a bank account. In this regard, a wide policy literature shows that strict identification requirements do reduce financial inclusion as most unbanked individuals do not hold official identification cards.[101]

Despite the increased use of more technologically advanced payment methods such as debit or credit cards, in most societies, until few years ago, cash was still the most common form of small retail payments.[102] There is limited behavioural economics literature on the usage of cash and why people tend to prefer it for certain transactions.[103] Unlike digital payments and standard banking, cash does not require a basic level of financial literacy, which has proven to constitute a major barrier to financial inclusion.[104] Banknotes and coins are widely understood by everyone and do not require prior understanding of how bank accounts work or familiarity with mobile technology.[105] Not surprisingly, unbanked individuals often consider cash as superior to bank deposits as a form of saving, especially in financial systems where banking crises are widespread and consumer protection legislation is weaker.[106] Moreover, the same studies show that cash has always been the favoured payment mechanism of the poor. This is because it offers a cheap alternative to the traditional

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[99] BAMFORD, *supra* note 95, at 22.

[100] ALFRED ROLINGTON, CASH IS KING: THE DIGITAL REVOLUTION AND THE FUTURE OF CASH (2016).

[101] *See* Asli Demirguc-Kunt, *Making It Easier to Apply for a Bank Account: A Study of the Indian Market,* (World Bank Policy Research Working Paper No. 8205, 2017); Financial Conduct Authority, *Mind the Gap: Consumer Research Exploring Experiences of Financial Exclusion Across the UK* (FCA & ESRO) November 2015, at 21-31.

[102] Cassie Davies et al., *The Future of Cash* (Res. Bank of Aus. Quarterly Bulletin) December 2016.

[103] For an overview, see Frank van der Horst and Ester Matthijsen, *The Irrationality of Payment Behaviour, in* THE USAGES, COSTS AND BENEFITS OF CASH – REVISITED 263 (Deutsche Bundesbank ed. 2014); Helmut Stix, *Why Do People Save in Cash? Distrust, Memories of Banking Crises, Weak Institutions and Dollarization,* 37 J. BANKING & FIN., 4087–4106 (2013).

[104] Adele Atkinson & Flore-Anne Messy, *Promoting Financial Inclusion through Financial Education: OECD/INFE Evidence, Policies and Practice* (OECD Working Papers on Finance, Insurance and Private Pensions No. 34, 2013).

[105] Louise Malady & Ross P. Buckley, *Building Consumer Demand for Digital Financial Services* (CIFR Working Paper No 035, 2014).

[106] Davies et al., *supra* note 102.

banking-centric system from which a large proportion of individuals are excluded, especially in developing countries. [107]

To conclude, it is easy to see how cash is the vehicle through which everyone, rich or poor, banked or unbanked, is able to exert their trading role in the economy. In this light, we can appreciate the role of the State as the guarantor of the cash in circulation. The monopoly function of the central bank in issuing notes serves to provide a last resort payment mechanism for those who do not have a bank account. The State addresses the inefficiency of private payment mechanisms, which rely on private contractual liabilities between banks and their customers and, for this reason, impose a cost on the public in terms of fees and liquidity risks. It does so by taking upon itself the liability of currency in circulation among the population, which is free to transfer liabilities among themselves with no liquidity risks of the likes we see in bank deposits. In sum, by issuing cash, the central bank internalizes the negative externalities of private payment mechanisms and addresses the problems of financial exclusion. Ultimately, the role exerted by the banking system (including the central bank) in issuing notes and managing cash is the closest we can get to a public utility.[108] This function is particularly important in the context of our analysis as I will argue that the same function should be preserved in the transition towards a cashless system.

IV. BANK MONEY AND INCLUSION

The progressive expansion and depth of the banking system throughout the 20th century propelled seismic changes in the structure of the retail payment system. This structural evolution reduced the relative importance of banknotes as the main form of money and increased that of bank deposits. Since the 1970s, evolutions in payment services such as the ATM, credit and debit cards, and electronic bank payments, made cheques and banknotes more expensive and, conversely, bank accounts central in the mechanics of payment.[109] The increased centrality of bank deposit as the main form of money, however, shifted control over the access to the monetary and payment network from the State to the private banking sector. In a system where money was again issued by banks, it was the market, and not the State that influenced the level of access to the monetary system for individuals. The ultimate outcome was that access to retail payments became more challenging for a minority of users, who were left out of the banking system.

A. The Shift Towards Bank Deposits

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[107] Kim P. Huynh & Helmut Stix, *Reports of the Death of Cash Have Been Exaggerated, in* THE USAGES, COSTS AND BENEFITS OF CASH REVISITED 384 (Deutsche Bundesbank ed. 2014).

[108] *See* ANDY MULLINEUX, UK BANKING AFTER DEREGULATION (Rutledge 2012) (1987); Andy Mullineux, *Banking for the Public Good,* 36 INTL. REV. FIN. ANA., Dec. 2014, at 87, 93; Cornelia Holthausen & Jean.C. Rochet, *Incorporating "Public Good Factor" into the Pricing of Large-Value Payment Systems*, (European Central bank Working Paper No 507, 2005).

[109] *See* Douglas Arner, Janos Barberis, and Ross Buckley, *The Evolution of FinTech: A New Post-Crisis Paradigm?* (University of Hong-Kong Faculty of Law Research Paper No. 2015/047, 2015).

Since the 20th century, bank deposits have become more and more widespread among the general public due to the improved regulatory framework, enhanced supervision, and the extended reach of the banking system which was able to cater the large majority of the population. Individuals were increasingly able to open basic transaction accounts into which they could receive salaries and organize savings. The increased availability of bank deposits, coupled with technological innovations, propelled a series of improvements in retail payments which led to a progressive reduction in the number and volume of cash transactions in favour of bank deposit-based electronic payments.

In a very influential essay, '*Commercial Banks as Creators of Money'*, Nobel Prize winning economist James Tobin advanced the idea that modern banks create money, not by issuing notes as they used to, but by creating demand deposits. This view, which was against the standard approach seeing only currency as money, saw banks regaining centrality in the money creation business, this time simply by adjusting the banks accounting records. What Tobin and other economists called 'fountain pen money'.[110] Without delving into the technicalities of how banks' balance sheets lead to money creation, the view that bank deposit accounts act as widely acceptable means of payments is now widely accepted by economists and central banks.[111] According to Bank of England statistics, studies show that at present, the UK monetary base is made 97% by bank deposits, and only 3% by currency.[112]

The shift from cash to bank deposit as the main form of money implied an increased role of banks as the main centre of gravity for the payment system to the detriment of the State. Indeed, in a cash-based system, the central bank has a fundamental role in the issuance of banknotes and in the oversight of the note distribution system. Central banks are in charge of printing, collecting, and controlling the value of the notes.[113] Moreover, given that a banknote is a claim against the central bank and that the value of the note is set and controlled by the government, only the State is responsible for ensuring equality of access of individuals to the cash monetary system. However, the more money takes the form of bank deposit as opposed to banknotes, the higher the relative importance of private banks both as money makers, as well as gatekeepers for access to the payment system.

B. Financial Deepening and Financial Exclusion

This entailed two fundamental changes in the relationship between individuals and money. First, individuals took up more credit risks. As the previous sections showed, when money is issued and intermediated privately by banks, money entails an inherent credit risk. For this reason, controlling the stability of the banking system became an even more central objective of banking and monetary policy. The use of deposit insurance reduces this risk substantially, as the government-backed fund guarantees losses up to a certain amount

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[110] James Tobin, *Commercial Banks as Creators of "Money", in* BANKING AND MONETARY STUDIES 408-419 (Dean Carson ed., 1963).
[111] Hockett, *supra* note 66; McLeay, *supra* note 63; Morgan, *supra* note 36.
[112] Helen Allen & Andrew Dent, *Managing the Circulation of Banknotes,* (Q4 Bank of Engl. Quarterly Bulletin) Dec. 13, 2010, at 302.
[113] *Id.*.

which in the United States is about $250,000.[114] Nevertheless, over that threshold, depositors assume the full risk that their money might be lost in the event of the bank's insolvency. The risk has further increased since the new bank resolution rules treat deposits like any other bank debt and, in theory, make it subject to bail-in.[115]

At the same time, while the widespread availability of bank deposits brought clear benefits in terms of increased credit opportunities, it did nonetheless create a barrier to access of the retail payment system. Indeed, the retail payment system that emerged from the 19th century and still exists today is fundamentally bank-centric. It relies on a system of clearing and settlement among banks, mostly done at the central bank, which allow the transfers of bank clients' money through the banks' respective crediting and debiting of deposit accounts.[116] Payment instructions were typically done with paper and, later on, with telex. However, technological innovations in the transmission of payment instructions, such as SWIFT, made the process of transferring money very quickly.[117] The trend continued with the launch of credit cards in the 1980s, which made cheques obsolete, but it really took off with the advent of the internet and, more recently, mobile phones, which I will discuss in the next section.[118]

In a payment system in which bank deposits are central, individuals' access to the banking system is critical as only those who have access to the banking system – more specifically, the access to a deposit account - can intermediate bank deposits. A monetary system that mostly rests on bank deposits works efficiently insofar as everyone has access to a bank account. Yet, from a regulatory perspective, for a long time, very little was done to foster access to the banking system.

According to the latest 2018 statistics, around 25 million people in the United States remain unbanked. [119]A staggering amount, if we consider that they count for almost 7.5% of the U.S. population. Disappointing results are present also in the United Kingdom, where 1.7 million adults still do not have a bank account.[120] In her illuminating study on social discrimination in banking, Mehrsa Baradaran showed that minorities and low-income families are disproportionally affected by financial exclusion.[121] In a 2017 Federal Deposit Insurance

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[114] *See* Federal Deposit Insurance Act (12 U.S.C.1811 et seq.)

[115] Council Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council Text with EEA relevance.

[116] JOHN ARMOUR ET AL., PRINCIPLES OF FINANCIAL REGULATION CH.18 (2016).

[117] RHYS BOLLEN, THE LAW AND REGULATION OF PAYMENT SERVICES: A COMPARATIVE STUDY 81-83 (2012).

[118] Robleh Ali et al., *Innovations in Payment Technologies and the Emergence of Digital Currencies,* (Q3 Bank of Engl. Quarterly Bulletin) Sept. 16, 2014, at 1.

[119] Gerald Apaam et al., *2017 FDIC National Survey Of Unbanked And Underbanked Households*, FED. DEPOSIT INS. CORP., October 2018, at 1-15.

[120] HOUSE OF LORDS SELECT COMMITTEE, *supra* note 42, at 12-22.

[121] BARADARAN, *supra* note 26; *See* also, Michael S. Barr & Rebecca M. Blank, *Savings, Assets, and Banking Among Low-Income Households: Introduction and Overview,* in INSUFFICIENT FUNDS 3 (Rebecca M. Blank & Michael S. Barr eds., 2009).

Corporation's survey, almost 17% of Black households and 14% of Hispanic households do not have access to a bank account.[122]

Studies show that this is due to a mix of problems. First, unlike cash, bank deposits are subject to strict identification requirements, which force banks to reject applicants who do not satisfy the criteria.[123] As part of the 2001 USA PATRIOT ACT, banks are now required to collect information about their customers before opening a bank account - what is called Know Your Customer (KYC).[124] A similar policy is adopted in the UK and all western countries. Crucially, KYC requires applicants to provide their Social Security number, date of birth, address, proof of citizenship or right to live in the country, credit history, and other personal data. As showed by various studies, this proof of identification is one of the key stumbling blocks for minorities, illegal migrants, and poor individuals from accessing the banking system.[125] Indeed, many of them do not have proof of residence and some of them are in the country illegally. Second, unlike cash, bank deposits and card-based payments linked to bank deposits incur a cost for users. In the US, various studies showed that banks and financial service providers find servicing low-balance accounts very unprofitable.[126] On average, it costs banks between $250 and $400 to establish a new checking account and another several hundred dollars to maintain it each year on average.[127]

C. The Rising Cost of Cash and Monetary Exclusion

The second seismic change that shook the monetary system was the progressive decline of the use and importance of banknotes.[128] This was due to a combination of factors.

First, cash is under increasing scrutiny because of its role in illegal activities. Indeed, the anonymity of cash, its lack of traceability, the ease with which it can be stored and transported, especially with large denomination banknotes, makes it the number one saving and payment instrument for criminals.[129] A number of studies demonstrate that cash is used to finance terrorist activities, corruption, drug trade, money laundering, or human trafficking.[130] Moreover, on a smaller scale, payments with cash can facilitate tax evasion as

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[122] Gerald Apaam et al., *supra* note 119, at 3.
[123] Financial Conduct Authority, *Access to Financial Services in the UK* 58-75 (FCA Occasional Paper 17, May 2016); Financial Conduct Authority, *supra* note 101, at 21-31.
[124] USA PATRIOT Act, Pub. L. No. 107-56, § 326, 115 Stat. 272, 317 (2001); 31 C.F.R. § 103.121(b)(2)(ii); *see also* Mark E. Plotkin & B.J. Sanford, *The Customer's View of "Know Your Customer"*, 1 BLOOMBERG CORP. L.J. 670, 670, 672 (2006),
[125] BARADARAN, *supra* note 26; Baradaran, *Banking and the Social Contract*, *supra* note 34, at 1283.
[126] Aaron Klein, *America's Poor Subsidize Wealthier Consumers in a Vicious Income Inequality Cycle*, BROOKINGS INST., Feb. 6, 2018; Rachel Louise Ensign, *Bank of America: No More Free Checking for Customers with Low Balances,* WALL. ST. J., Jan. 22, 2018.
[127] Klein, *supra* note 126.
[128] Fish, *supra* note 1; ACCESS TO CASH REVIEW, *Is Britain Ready to Go Cashless* 10-15 (December 2018) https://www.accesstocash.org.uk/media/1159/interim-report-final-web.pdf.
[129] Peter Sands, *Making it Harder for the Bad Guys: The Case for Eliminating High Denomination Notes* (M-RCBG Associate Working Paper Series No. 52, 2016).
[130] Financial Action Task Force. *Money Laundering through the Physical Transportation of Cash*, Oct. 2015; ROGOFF, *supra* note 4.

small banknotes can be exchanged undetected and outside the radars of tax enforcement authorities. For instance, in the US alone, it was estimated that cash payments led to a 14.6% tax gap.[131]

Second, innovations in payment methods since the 1950s have increased the cost of cash.[132] First of all, cash is a very expensive form of payment from a technical perspective.[133] Central banks have to print the notes and make sure that they cannot be counterfeited. Notes must then be collected and distributed to various banks, which have to manage their distribution across the network of branches and various ATMs.[134] All this entails costs for the banks and the various cash operators. Moreover, notes must be changed periodically by the central bank when they become worn-out.[135] In the UK, estimates put the overall cost of cash from £5billion to £9billion per year.[136] In a 2013 TUFTS University study, Chakravorti and Mazzotta estimate the costs of cash for US stakeholders to be around $400 Billion.[137] Even though these costs are mostly shared by the central bank, private banks, and merchants, consumers too pay their fair share.[138] Indeed, the government recoups the costs of printing and managing the notes through seigniorage and by charging interest rates on the banks' deposits at the central bank,[139] while private banks transfer the costs of distributing cash through the ATM network onto their depositors through debit card charges and other indirect fees.[140]

The fact that cash places the burden of maintaining the payment infrastructure on third parties rather than on the direct holder makes the usage of cash extremely cheap compared to other options such as bank deposits or credit cards. For these reasons, banks in western countries, including the UK and the US, are increasingly moving away from cash by reducing their network of branches and ATMs, and by focusing all their marketing efforts on promoting non-cash payment products, such as debit cards, bank transfers, and the

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[131] United States Internal Revenue Service, *IRS Releases New Tax Gap Estimates; Compliance Rates Remain Statistically Unchanged from Previous Study* IR-21012-4. January 6, 2012.
[132] Most of the arguments were clearly summed up in ROGOFF, *supra* note 4.
[133] Allen, *supra* note 112, at 302.
[134] Alexei Kireyev, *The Macroeconomics of De-Cashing* 7-9 (International Monetary Fund Working Paper No. IMF WP/17/71, 2017).
[135] Allen, *supra* note 112, at 303-308.
[136] *See* Access to Cash, *supra* note 14, at 64-65; *see also A Cashless Society: Benefits Risk and Issues*, INSTITUTE AND FACULTY OF ACTUARIES, Jan. 22, 2018.
[137] Bhaskar Chakravorti & Benjamin D. Mazzotta, *The Cost of Cash in the United States*, THE INSTITUTE FOR BUSINESS IN THE GLOBAL CONTEXT, (2013).
[138] On the breakdown of costs of cash among stakeholders, see Olivier Denecker, Florent Istace, & Mar. Niederkorn, *Forging a path to payments digitization,* MCKINSEY & CO, March 2013; Heiko Schmiedel, Gergana Kostova Weibe Ruttenberg, *The Social and Private Costs of Retail Payment Instruments*, THE EUROPEAN CENTRAL BANK, (ECB Occasional Paper 137, 2012).
[139] JOSH RYAN-COLLINS ET AL, WHERE DOES MONEY COME FROM? A GUIDE TO THE UK MONETARY AND BANKING SYSTEM 72-73 (2011); On seigniorage, see Richard C.K. Burdekin, *Seigniorage, in* 1 THE PRINCETON ENCYCLOPEDIA OF THE WORLD ECONOMY 992 (2009).
[140] CAROL REALINI & KARL MEHTA, FINANCIAL INCLUSION AT THE BOTTOM OF THE PYRAMID 3-5 (2015).

various digital payment apps.[141] This has led to such a fast disappearance of ATMs, especially in rural communities, that in certain countries the Central Bank had to intervene to discourage banks from eliminating their cash-related services.[142]

This created a problem of financial exclusion that affected a minority of the population who did not have access to the standard banking system. For them, using cash became extremely expensive. Studies show that in western countries unbanked individuals pay a premium for every transaction. Indeed, a standard non-cash payment almost requires the payer and the payee to be banked — i.e., to have a bank account — if they do not want to pay excessive fees for their payments to be processed. In a recent book, Candice Choi, a New York journalist who tried to live for a month without a bank account, showed that the cost of being unbanked could be extremely high. Banks would charge a non-customer much higher fees compared to that charged to depositors, even if the transaction is of very low value.[143] Ultimately, unbanked individuals are forced to be paid in checks, which have to be converted in cash, always for a high fee. Retail stores, for instance, charge around 1.5% to 3.5% of the face value of the checks.[144] Moreover, if they need to transfer money, unbanked individuals need to rely on money-transfer services, such as Western Union, which typically charge much higher fees compared to banks. In an often-quoted study, Barr and Blank estimate that an unbanked individual with an annual income of $12,000 might end up paying around 2% to 5% of their annual income on payment fees alone.[145]

In addition, as reported by the 2017 FDCI Survey, 18.7% of the U.S. households — a staggering sixty-five million individuals — are forced to access more expensive non-bank payment services despite having access to a bank account.[146] These 'underbanked' households are forced to bypass the traditional banking payment network because they are mostly unable to access the services due to physical distance from the bank.[147] Some commentators suggest that this is the result of the progressive disappearance of bank branches in rural areas.[148] The phenomenon of 'underbanking' is nothing new. Since the

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[141] Simon Read, *Cash Machines Closing at Record Rate*, BBC NEWS (Sept. 12, 2018), https://www.bbc.co.uk/news/business-45483637; Ruki Sayid, *Cash Machines Are Vanishing at Alarming Rate as Thousands Close Each Year*, MIRROR (Feb. 12, 2019, 05:00), https://www.mirror.co.uk/money/atms-vanishing-alarming-rate-thousands-13985723.

[142] *Introduce a Legal Requirement for the Banks' Cash Service,* SVERIGES RIKSBANK (Media release) Mar. 16, 2016; Davies, et al., *supra* note 102.

[143] Realini, *supra* note 140.

[144] Barr, *supra* note 121; Ricks, *supra* note 36, at 828.

[145] *Id.* at 4.

[146] Apaam, *supra* note 119.

[147] An Examination of the Availability of Credit for Consumers: Hearing Before the Subcomm. on Fin. Insts. & Consumer Credit of the H. Comm. on Fin. Servs., 112th Cong. 141 n.1 (2011) (prepared statement of Robert W. Mooney, Deputy Director, Consumer Protection and Consumer Affairs), http://www.gpo.gov/fdsys/pkg/CHRG-112hhrg72606/pdf/CHRG-112hhrg72606.pdf; see also Annamaria Lusardi et al., , *Financially Fragile Households: Evidence And Implications,* THE BROOKINGS INST 1 (2011), http://www.brookings.edu/~/media/Projects/BPEA/Spring%202011/2011a_bpea_lusardi.pdf

[148] *See e.g.,* JOHN P. CASKEY, FRINGE BANKING: CHECK-CASHING OUTLETS, PAWNSHOPS, AND THE POOR 87–88 (1994); Glenn B. Canner & Ellen Maland, *Basic Banking*, 73 FED. RES. BULL. 255, 255–56 (1987); Ricks, *supra* note 36 at 831.

1980s, US financial regulatory agencies, individual States and the US Treasury Department have launched initiatives to expand the reach of deposit accounts.[149] Programmes such as the Electronic Transfer Accounts, the First Accounts Program, Model Safe Accounts Pilot have tried to offer individuals basic bank deposit account services with minimum costs. However, for a variety of reasons, they never really took off.[150]

V. DIGITAL FINANCIAL EXCLUSION

The increased importance of digital payments added an additional layer of complexity to the debate of monetary inclusion. FinTech is almost unanimously welcomed as a smart solution to a variety of problems affecting the financial sector.[151] Data show that 80% of the UK population, in one way or another, benefits from digital financial services.[152] In developing countries, digital finance has been heralded as one of the key solutions to economic development. Payments, in particular, is probably the sector that was most impacted by the digital revolution, as it benefitted greatly from the complex technological interaction between financial and mobile technology.[153] Companies such as PayPal, Venmo, or Wepay in China have established themselves as pillars of the new digital payment ecosystem, enabling individuals to make fast and cheap payments from their computer or mobile phone. Payments which, until not long ago, would have required a visit to the bank branch. The advent of the internet and the app-economy allowed banks to reach their customers through digital means, mostly through their computers and mobile phones. This reduced the need for depositors to use bank branches to conduct basic payments operations such as transferring money, withdrawing cash, or even depositing a cheque.[154]

Yet, as I will demonstrate in this section, digital payment presents unique features that, while expanding access to payment services for the majority of users, nonetheless add further barriers of access for others. This latter group is the remaining 20% of the statistics that is not usually reported in the news. Without the possibility of using digital payment tools, alongside the rising costs of using cash, un-cashed individuals are pushed further on the verge of monetary exclusion.[155]

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[149] Interagency Policy Statement on Basic Financial Services, 52 Fed. Reg. 7,024, 7,024 25 (Mar. 6, 1987); FED. DEPOSIT INS. CORP., FDIC *Model Safe Accounts Pilot: Final Report* 1 (Apr. 2012).

[150] See Joseph J. Doyle, Jose A. Lopez & Marc R. Saidenberg, *How Effective is Lifeline Banking in Assisting the 'Unbanked'?* 4 CURRENT ISSUES IN ECON. & FIN. 1, 3 5 (1998); BARADARAN, *supra* note 26; Edward L. Rubin, *The Lifeline Banking Controversy: Putting Deregulation to Work for the Low-Income Consumer*, 67 IND. L.J. 213, 215 16 (1992); Ricks, *supra* note 36, at 831-833.

[151] For a good overview of the benefits of FinTech, see BRETT KING, BANK 4.0: BANKING EVERYWHERE, NEVER AT A BANK (2019).

[152] *See* Access to Cash, *supra* note 14.

[153] Manji, *supra* note 5.

[154] For instance, a few UK bank apps allow users to deposit cheques by simply scanning it via the app.

[155] In the recent 2019 Access to Cash Review report, experts recommended a number of proposals to preserve the flow of cash, including the creation of a cash regulator, restructuring the wholesale cash infrastructure, and giving incentives to retailers to accept cash. *See* Access to Cash, *supra* note 14.

A. The Digital Financial Inclusion Myth

One of the key arguments in favour of e-payment systems is that they increase financial inclusion.[156] This basic argument posits that unbanked individuals who are unable, for geographical or administrative reasons to sign up for a bank account, will be able to access long-distance payment infrastructures through mobile phones.[157] Thus, by bypassing the bank-centric payment system, they will be able to reduce their reliance on cash and the practical constraints that a cash-based economy imposes. The inclusion argument is behind the allure of mobile banking and e-payments, especially in developing countries. However, it is based on a fundamental misconception: that digital payment systems bypass the banking system. Nothing can be further from the truth. The reality is that digital payments are a parasitic system that necessarily relies on the existing monetary and banking system to work.[158] In other words, it requires users to be financially included to work. In order to understand why, it is first necessary to explain the dynamics of e-payments accounts.

1. Bank-to-Bank Cashless Payments

There are roughly three types of e-payment transactions. The first type is e-payments that simply entail a transfer of bank deposits from one depositor to another through the use of a digital platforms. This typically can be performed through banks' websites or apps. A recent evolution of internet payments is electronic wallets or 'e-wallets' such as *Apple Pay* or *Android Pay*, which are third-parties' software applications usually available on phones or mobile devices. Unlike internet or mobile banking, e-wallets do not intermediate deposit money directly, but simply provide payment authorization data for credit cards or bank deposits accounts, thus acting as a traditional payment card.[159] As succinctly described in a very influential financial law textbook, these services are simply "new technologies running on old rails".[160]

Unlike traditional payment cards, however, e-wallets can contain additional data, such as loyalty programmes, coupons, and offer geolocation services to transmit real-time information to the consumer.[161] The bank-based model, which accounts for the large majority of e-payment transactions in the developed world, can then be developed further to accommodate the reality of rural villages, which suffer from less telecom and banking infrastructures. In developing countries, this entails the use of agents which, upon receiving

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[156] *From Cash to Digital Transfers in India: The Story So Far,* CGAP, February 2015; *Digital Finance for All: Powering Inclusive Growth In Emerging Economies,* MCKINSEY GLOBAL INSTITUTE September 2016.

[157] For instance, in the U.K. banks refuse to offer deposit accounts to individuals without adequate identifications.

[158] On this argument, see Izabella Kaminska, *The Finance Franchise and FinTech (Part 2),* FINANCIAL TIMES, August 18, 2017; Izabella Kaminska, *Why There is No Such Thing as A Trustless Financial System*, FINANCIAL TIMES, July 31, 2017; Hockett, *supra* note 66, at 1202; Ricks, *supra* note 36, at 833-836.

[159] Levitin, *Supra* note 24, at 307

[160] MICHAEL S. BARR ET AL, FINANCIAL REGULATION: LAW AND POLICY 162, 787 (2016).

[161] Levitin, *Supra* note 24, at 308

the electronic bank transfer, disburse cash, essentially acting as an ATM.[162] Deposit-linked e-payments clearly do not bring any benefit to financial inclusion as they require users to already have a bank account to perform the transaction, thus relying on already existing deposit money.

2. E-Money Cashless Payments

More complex is the analysis of the second type of e-payment transaction, which entails the transfer of e-money rather than bank deposits. In simple words, e-money is a digital representation of money denominated in fiat currency that acts as a surrogate for coins or banknotes, to be used only for electronic payments. [163] In this case, the issuing institution, usually a telecom company or an independent payment provider such as PayPal, issues the virtual currency the 'e-money' - in exchange for cash or deposit money.[164] The e-money is then stored as a digital representation of value in a virtual account, which acts as a consumer card to be used for retail purchases. Also in this case, the e-wallet is nothing more than a service to store and visualize the quantity of e-money available to the user, and to perform payment transfer of e-money to other e-wallets holders.[165] Even though e-money payment solutions seemingly operate outside of the bank-payment system and, for this reason, do not require the user to be subject to credit checks, they nonetheless need a banking system underneath. [166] From a monetary perspective, e-money payments do not actually create any additional monetary base, as the money already existed in the form of cash or prior deposit that is then converted. More simply, these e-payments swap existing money (mainly deposits) for electronic tokens which can be reconverted as cash or transferred to other customers. In essence, e-money payments offer a custodial service in which "real" money is stored and denominated in virtual currency. But nothing more.[167]

3. Cryptocurrency Payments

The third type of e-payment transactions entails the transfer of cryptocurrencies. Since the creation of Bitcoin in 2009, a number of cryptocurrencies such as Ripple or Ethereum have mushroomed.[168] Unlike e-money, cryptocurrencies are digital representations of value

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[162] Evan Gibson, Federico Lupo-Pasini, and Ross P. Buckley, *Regulating Digital Financial Services Agents in Developing Countries to Promote Financial Inclusion*, SINGAPORE J. LEG. STUD., January 2015, at 26.

[163] Electronic money (e-money) is defined in the UK as 'electronically (including magnetically) stored monetary value, represented by a claim on the issuer, which is issued on receipt of funds for the purpose of making payment transactions.' Electronic Money Regulation 2011, s 2(1).

[164] CRANSTON ET AL., *supra* note 46, at 365-369.

[165] On this *see* Biagio Bossone, *Electronic Money versus Money: An Assessment of Regulation*, in VOX CEPR's Policy Portal, Jan. 25, 2017.

[166] Not surprisingly, it is regulated, inter alia, in the EU Payment Services Regulation 2017, No. 752.

[167] Levitin, *Supra* note 24.

[168] *See* PAUL VIGNA AND MICHAEL J. CASEY, CRYPTOCURRENCY: HOW BITCOIN AND DIGITAL MONEY ARE CHALLENGING THE GLOBAL ECONOMIC ORDER (2015).

developed privately and denominated in their own unit of account.[169] These currencies are developed as a parallel form of money totally independent from the state and can be used only among a restricted group of users for payment transactions.[170] In theory, cryptocurrencies give rise to a new stateless form of money. However, there are two main objections to this argument. First, the large majority of cryptocurrencies in circulation are purchased by users with deposit money through the various virtual coin exchanges, and then cashed out or used to pay for services. This is no different than purchasing e-money, as discussed before. Second, even when virtual currencies are created 'out of thin air' a process called 'mining' they are actually financed with existing money.[171] Indeed, mining entails a cost in terms of energy, which has to be paid somehow to the energy provider. Presumably, with real money. Moreover, since most cryptocurrencies have a limited total supply, their fees will soon be covered by the final users. Those fees could be quite high as the marginal cost of maintaining the digital monetary ecosystem will increase substantially as the total digital money base increases over time with the use.[172]

Thus, the various digital payment instruments are nothing more than a super-structure that sits above and depends for its operations on the core payment system made of bank deposits.[173] This leads us to conclude that e-payment systems do not provide the fundamental benefits of the real monetary system: credit creation. Yet, the financial inclusion myth has equivocated the cash security function of e-payments intermediaries, which somehow mirrors deposit taking, for the issuance of new money. The ugly truth is that, still, only central bank and licensed banks can do so. The former because of its statutory powers. The latter due to their unique role in the monetary system which allows them to generate loans, thus achieving the money multiplier effect that economic textbooks

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[169] Dong et al., *supra* note 96, at 7.

[170] Most virtual currencies rely on an underlying decentralized payment system, the blockchain, which exerts the recording and settlement functions normally done by the central bank for state-backed money. In order to guarantee anonymity, recording on the blockchain is usually achieved by cryptographic means. For this reason, they are defined as 'cryptocurrencies'. PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW: THE RULE OF CODE (2018).

[171] John Barrdear & Michael Kumhof, *The Macroeconomics of Central Bank Issued Cryptocurrencies*, 7 (Bank of England Staff Working Paper No. 605, 2016).

[172] Unlike other forms of digital payments, such as cards or bank transfers, trading bitcoin is cheap because the costs incurred by the miners in verifying the transactions are covered by the additional unit of bitcoin they earn. However, since most cryptocurrencies have a limited total supply, their fees will soon be covered by the final users. Those fees could be quite high as the marginal cost of maintaining the digital monetary ecosystem will increase substantially as the total digital money base increases over time with the use. In a private market, in which the state is absent, and the supply of e-money is left to private institutions, e-money suppliers will have to compete with traditional payment methods such as debit cards and cash to keep the costs low, otherwise users will simply switch to cash. As the BoE suggests, with their high transaction costs, decentralized money systems will not be able to compete with centralized systems such as the central banks, unless they become monopolies, thereby defeating their original purpose of being decentralized. *See* Barrdear, *supra* note 171; Robleh Ali et al, *The Economics of Digital Currencies,* (Q3 Bank of Engl. Quarterly Bulletin) September 2014, at 276, 281-282.

[173] On this point see Hockett, *supra* note 66, at 1202; Levitin, *Supra* note 24.

describe.[174] It is precisely this latter quality that makes banks so special and requires them to operate with a licence.[175]

B. Behavioural Insights into Digital Payments

Another critical aspect of digital payments is that they require a different mode of interaction with users. The new interface of digital payments, based on software solutions and mobile apps, while much easier to approach for the large majority of users, is nevertheless extremely difficult for a sizeable minority.

Behavioural studies give a very interesting glimpse into the challenges that certain users face with regard to digital payments. First of all, while most of us take internet and digital products as a constant presence in daily life, there is a minority of the population that does not and is not comfortable with this trend. Recent data from the United Kingdom clearly show clearly that, as of 2019, there is still a substantial part of the population that is digitally illiterate. As of 2017, a quarter of UK households do not have access to broadband, while a tenth of the population has never used internet. Statistics also show that more than forty percent of disabled people are digitally inactive.[176] While the intergenerational gap might reduce over time, as digitally active generations grow older, there will always be a percentage of individuals, especially disabled or elderly, who will still be unable to be perform digital payments. Studies show that mental health issues make it very difficult for affected individuals to use digital technology, thus increasing the risk of payment errors or financial exclusion.[177]

In interviews, it is often reported that cash makes budgeting easier as users can more readily contextualise the financial impact of their purchases on their savings; in other words, it gives them a sense of control.[178] On the other hand, even for digitally-savvy individuals, it is sometimes more challenging to track various expenses and understand how they reflect on their account, as most digital payment mechanisms do not show this. Likelihood is that new apps might address this problem in the future. Yet, for persons suffering from compulsive behaviours, the ready availability of digital money might lead to extra spending, even in the presence of apps.[179] Indeed, in many of the focus groups organized by the UK Parliament and the House of Lords Financial Inclusion Committee, the risk of extra-spending and increased debt with digital payments was highlighted as one of the greatest risks.[180] Since the business model of digital payment services is based on very low consumer fees, most of their revenues come from charging fees on overdrafts and selling consumers' data. The

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[174] Hockett, *supra* note 66; McLeay, *supra* note 63.
[175] Prasad Krishnamurthy, *George Stigler on His Head: The Consequences of Restrictions on Competition in (Bank) Regulation*, 35 YALE. J. REG 823 (2018).
[176] HOUSE OF LORDS SELECT COMMITTEE, *supra* note 42, at 69.
[177] Access to Cash, *supra* note 14, at 19, 49.
[178] *Id.*
[179] *Id.*, at 24.
[180] *Id.* at 26, 43, 49.

ultimate outcome of this is that those groups that are more prone to overspend, would end up subsidizing the cost of the service for everybody else.

C. Network Deficiencies

As I have argued in the previous section, network efficiencies are fundamental for the success of a payment system. However, for technical and regulatory reasons, these are very difficult to achieve for digital payments.

1. Interoperability

Contestability is a key problem in network-based systems such as payments, as they tend to lead to monopolies or oligopolies.[181] In certain countries this does not constitute a problem. For instance, in Sweden the efficiency of the network is due to the well-established history of cooperation between banks, which together run the payment system. In other cases, however, this is the result of a de-facto monopoly or oligopoly. For instance, in Kenya, the success of M-Pesa was due mainly due to the market position of Safaricom, which was the leading telecom operator in the country. In China, Alipay's success is similarly due to Alibaba's commercial power.[182] At present, the competition of cash keeps e-payment providers' fees low.[183] Yet, experience suggests that in the long term, a monopolistic position will inevitably lead to higher costs and fees for consumers.

In order to guarantee network effects, while maintaining contestability among the various e-payment providers, interoperability between providers is key. Yet, at present this is far from being guaranteed.[184] Interoperability in payments refers to the ability of service providers to operate with users outside their network: merchants, end users, governments, and firms. Not all retail payment systems require interoperability. Cash and inter-bank payments, for instance, bypass this problem by relying on a single infrastructure: the central bank. Yet, since the development of electronic payment services in the 1970s with competing credit and debit cards issuers, electronic payments have largely developed as separate silos. This has led to a number of restraints for users and merchants, who in certain cases could only operate within a specific card issuer's system or else be forced to pay higher fees.[185] This problem has persisted and, perhaps, increased with the advent of new types of e-payments systems such as contactless cards and e-wallets, which rely on competing underlying technology.[186]

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[181] Weinberg, *supra* note 50.
[182] Ernst & Young and DBS, *The Rise of FinTech in China: Redefining Financial Services* (2016).
[183] Engert et al, *supra* note 3.
[184] Matthew Leavenworth, *Why Is Interoperability Important*, PAYMENTS. J., May 15, 2018; Vahid Monadjem, *From Credit Cards to the ATM: Why Interoperability is the Critical Next Step for Mobile Payment,* NEXTBILLION, Mar. 12, 2019.
[185] *See* Levitin, *Priceless: supra* note 24.
[186] *See* Levitin, *Supra* note 24.

In a digital ecosystem, only e-payments relying on an underlying bank account will benefit from the retail payment infrastructure through the central bank, and thus allow users with different payment accounts to perform their transaction. Indeed, their payment, while performed online, will simply require a simple clearing and settlement operation through the crediting and debiting of payer and payee's banks' central bank accounts. However, this does not seem to apply to a lot of digital payments offered by e-money issuers. Since e-money issuers are not banks, and e-money is not a bank deposit, it is impossible for e-money issuers to operate on the clearing and settlement infrastructure used by banks.[187] This means that e-money users will be able to operate payments only among users of the same operator. This greatly reduces the network externalities of the entire e-payment system.

Moreover, the lack of interoperability between different e-money providers greatly increases costs as it forces users of different providers to convert their e-money into a different virtual currency. In sum, it acts as a tax on e-money usage. We can again find some similarities with the history of private banknotes in the 19th Century. Gary Gorton reports that prior to the National Bank Act 1863, which established the US Dollar as the national currency, in the US alone there were 1500 different bank notes traded in the economy at varying discounts from par.[188] One of the main reasons why private bank money did not work, was that individuals were forced to consider the costs of redeeming the notes when using their banknotes. This meant that the $5 note issued by a bank in New Orleans was trading below par in New York. Since the holder was forced to spend time and money to travel to New Orleans, the actual value of the note, when traded, was much less than its face value. The transfer of the monopoly on the issuing of money to central bank fixed this problem by withdrawing money issuing rights from the banks.

2. Coverage

Another key challenge of digital payments is the risk of network disruption.[189] One of the key ideas in the original notion of legal tender is that money will be accepted as lawful discharge of debt anywhere and anytime. Guaranteeing users the ability to pay irrespective of their location or the time of day is essential from an economic perspective, especially when it comes to small payments. Most of us take this for granted, as banknotes are by nature independent from external infrastructure at the point of sale. Once notes are withdrawn from the cash machine, they can be used anywhere, even during emergencies.[190] Yet, the history of money shows very well that even small disruptions in the payment system or the circulation of banknotes can create havoc and lead to substantial negative economic

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[187] On this see Bossone, *supra* note 165.

[188] GORTON, MISUNDERSTANDING FINANCIAL CRISES, *supra* note 80, at 11

[189] Liz Moyer & Jessica Silver-Greenberg, *RushCard Breakdown Affects Thousands of Prepaid Debit Card Users*, N.Y. TIMES, Oct. 20, 2015; Stacy Cowley, *Senators Press for Answers After Prepaid Debit Cards Fail*, N.Y. TIMES, June 28, 2016.

[190] For instance, cash was fundamental during Hurricane Katrina in 2005 and the tsunami in Japan in 2011 and is now included in survival kits during emergencies. *See* US FED. EMERGENCY MANAGEMENT AGENCY, http://www.fema.gov/media-library-data/1390846764394-dc08e309debe561d866b05ac84daf1ee/checklist_2014.pdf (last visited...)

effects.[191] For instance, the 2016 demonetisation in India led to days of pure mayhem as neither banks nor ATMs had enough cash to disburse.[192] The ultimate outcome was months of financial chaos and a drop in GDP.[193]

The problem of e-payment network coverage, alongside that of cyber-security, is a fundamental challenge for cashless societies and the technical complexity of cashless payment infrastructures might give rise to a number of problems. For instance, the magnetic strip might not work, the retailer equipment might be out of service, the account linked to the app or card could be blocked because the issuer had detected suspicious transactions, or because the card had reached its limit.[194] In the UK, where the wireless broadband system is very well developed, poor connectivity is still an issue for part of the population.[195] In the United States, the Federal Communications Commission reported that in rural areas, only 65% of users have access to high-speed internet, while in Tribal land, the percentage reduces to 60%. Overall, around 30 million Americans are left out by the digital economy. Moreover, in a cashless system, technological disruption would entail much more disastrous effects.[196] One of the benefits of cash is that it is decentralized. This means that in the case of an attack on the central bank, the currency in circulation will not be affected.[197] On the contrary, if a centralized e-payment system was attacked or hacked, it would automatically affect the entire stock of e-money in circulation.

D. Consumer Risks

In addition, digital payments present unique consumer risks.[198] In the event of an e-money issuer's collapse, users would face an immediate liquidity problem. Assuming that those e-money users would not have access to any other form of money, they would be totally excluded from the payment system and unable to purchase their necessities or make any other payment. Deposit insurance would cover them, but not immediately. Hence, deposit protection in a cashless environment must necessarily be structured differently, as e-money users need to be guaranteed an immediate switch from their issuer to the deposit insurance fund. One possibility in this regard, is to provide emergency liquidity funding to payment

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[191] The classical example in this regard is a bank run.

[192] *See* C. RAMMANOHAR REDDY, DEMONETISATION AND BLACK MONEY (2017); JAYATI GHOSH ET AL., DEMONETISATION DECODED: A CRITIQUE OF INDIA'S DEMONETISATION EXPERIMENT (2017).

[193] Amy Kazmin & Simon Mundi, *India struggles to digest withdrawal of high-value banknotes*, FINANCIAL TIMES, Nov. 9, 2016; Amy Kazmin, *Counting the cost of India's cash shortage,* FINANCIAL TIMES, Dec. 5, 2016; Kiran Stacey & Alyia Ram, *India cash recall sparks jobs crunch, says industry body*, FINANCIAL TIMES, Jan. 9, 2017.

[194] Agis Consulting, *Cash Essentials: Beyond Payments* (2016), at 38

[195] Access to Cash, *Supra* note 14, at 37-39

[196] FEDERAL COMMUNICATIONS COMMISSION, *Bridging The Digital Divide For All Americans,* https://www.fcc.gov/about-fcc/fcc-initiatives/bridging-digital-divide-all-americans (last visited...)

[197] Engert et al, *supra* note 3, at 16.

[198] *See* Levitin, *Supra* note 24, at 336-343; *See also*, Morgan Ricks et al, *A Public Option for Bank Accounts (Or Central Banking for All)*, VANDERBILT. L. RES. P. 18-33; UC HASTINGS RES. P. NO. 287, Dec. 2, 2018, https://ssrn.com/abstract=3192162 or http://dx.doi.org/10.2139/ssrn.3192162

companies as well as banks so that continuity of service will be maintained. Another option, which I will discuss in the next section, is for the central bank to offer e-money deposits, as a central bank is by definition 'never illiquid'.[199]

Another important aspect of consumer protection — which applies also to bank payments — concerns the lack of anonymity of digital payments and the potential abuse of consumers' data.[200] Cash is anonymous as it does not require the disclosure of personal information between the parties of the transaction. This attribute is both a blessing and a curse as it can conceal illegal or fraudulent activities, and thus protect criminals. Indeed, one of the key arguments of the proponents of cashless economies is that a world without cash will reduce the attractiveness of crime, as criminals will not be able to store the proceeds of their crimes.[201] At the same time, however, digital payments are able to track users' financial lives, without their full understanding of what digital transparency implies.[202] The digital economy thrives on the use of big data, which are used to achieve better consumer profiling. Yet, as the recent scandals have shown, misuse of personal data is a very high risk. In the app economy, data can be used without the individual's consent and without firms properly rewarding consumers for what Shoshana Zuboff defines as their 'behavioural surplus'.[203] It is too early to gauge the full implication of this trend, as neither economic thinking nor the law have caught up with the complexity of the data economy. Yet, it is clear that at present, the implication of the data-for-service bargain that payment firms offer is not well understood from the customer's perspective.

VI. REGULATING MONETARY INCLUSION TODAY

The previous sections showed that the transition from a banknotes-based economy to a cashless economy corresponded to a reduced level of access to the payment system for a number of individuals. This is due to the difficulty that some individuals and firms experience in accessing bank deposits and, more recently, because of the peculiar structural and behavioral challenges of digital payments. The dangers of monetary exclusion are becoming even more pressing with the progressive disappearance of cash, which leaves unbanked individuals with no real means of monetary inclusion. Underneath these structural changes lies the progressive reduction of the perimeter of state intervention as issuer of money, which was replaced by private institutions, chiefly banks. How can we guarantee monetary inclusion in a future cashless society?

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[199] Aleksander Berentsen & Fabian Schär, *The Case for Central Bank Electronic Money and the Non-case for Central Bank Cryptocurrencies*, 100 FED. RES. BANK OF ST. LOUIS REV. 97 (2018).
[200] Charles A. Kahn, *Payment Systems and Privacy,* 100 FED. RES. BANK OF ST. LOUIS REV. 337 (2018).
[201] ROGOFF, *supra* note 4; KENNETH ROGOFF, COSTS AND BENEFITS TO PHASING OUT PAPER CURRENCY (2014).

[203] SHOSHANA ZUBOFF, THE AGE OF SURVEILLANCE CAPITALISM (2019).

A. Why Combating Cash Discrimination is Not Enough

As the previous sections show, cash possesses fundamental economic and legal attributes that still make it the method of choice for a number of people - and for disadvantaged groups, especially.[204] In this light, one of the first, and most simple, legal initiatives to combat monetary exclusion is to address cash discrimination.[205] In various countries, legislation preventing discrimination against cash buyers is currently being enforced in various forms.

Virtually all countries have in place monetary legislation that makes coins and banknotes legal tender. However, as explained earlier, the definition of legal tender is very limited. Contrary to common belief, legal tender does not impose a requirement upon the parties for payments to be carried out with only the designated tender – the national cash and banknotes. Instead, legal tender legislation mostly serves to prevent a situation where a payer who buys goods with legal tender is then sued for the debt.[206] Yet, nothing prevents two parties from agreeing that the discharge of the debt can only be done via transfer of monetary value through digital payments or through electronic bank transfer. For instance, if a restaurant serves food only after the consumer hands over the payment, as most fast foods do, a requirement to pay only through digital means would be totally legal.[207] Moreover, legal tender legislation is rarely enforced as courts typically allow businesses to decide autonomously how to organize their payments.

So, despite cash and banknotes being legal tender, opportunities for cash discrimination are still present. Certainly, legislation that positively bans discrimination against cash is more effective. For instance, in the United States, the *Payment Choice Act 2019*[208] and the *Cash Always Should Be Honored Act 2019*[209] which are under discussion at the Congress, would make bans on cash outright illegal. Under the Payment Choice Act, individuals would also be able to sue a retail establishment for refusing cash payments.[210] If these two pieces of legislation were passed, coins and banknotes would automatically have a superior legal status over other payment methods. The threat of monetary exclusion would surely be reduced, albeit in the short term.

Yet, combating monetary exclusion simply by keeping cash alive is limited and short-sighted in many ways. First of all, while keeping cash as a public good does undoubtedly provide relief to disadvantaged groups, it does not address the actual lack of access that these group experience with regard to digital payments. If the problem of digital and banking exclusion is not addressed, we will soon find ourselves living in an economy in which the large majority of the society is able to benefit from the externalities of digital payments, while a minority will be more and more marginalized. Payments innovations will not stop simply because a

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[204] For instance, in the hierarchy of demand of financial products, payments are required by 100% of the population. *See* Committee on Digital Payments, *supra* note 49, at 28.
[205] On this see Erlanger, *supra* note 23
[206] GLEESON, *supra* note 46, at 136-141
[207] Erlanger, *supra* note 23, 191
[208] Payment Choice Act of 2019, H.R. 2650, 116th Cong.
[209] Cash Should Always be Honored (CASH) Act, H.R. 2630, 116th Cong. (2019).
[210] Payment Choice Act of 2019, H.R. 2650, 116th Cong § 5104

minority of users cannot benefit from them. Quite the opposite: there is little doubt that e-payments' economic efficiencies are a blessing for consumers and financial institutions and will soon reduce the need for cash even further. Not surprisingly, many central banks around the world are openly considering reducing reliance on cash and moving progressively towards a full electronic payment system.[211] Hence, given the constant progress in payments technology, over time the gap between cash users and everybody else will only widen.

As it was succinctly put in the *Access to Cash* report, the issue is how to achieve a digital payment system that works for everyone, and not only for the 80%.[212] The next sections will argue that the state should regain its centrality in guaranteeing access to the monetary system and addressing the inequalities of modern payments.

B. The Rationale for Supply-Side Regulation

When it comes to the actual market structure and organization of payment and banking services, the regulatory model in the western economies such as the UK and the US is based on a free market and pro-competition model. In principle, regulators leave banks and payment operators to decide autonomously how to offer their services to retail or institutional clients. This means that authorized firms are free to decide how to structure their offer in terms of services, price, and location. As Baradaran acutely demonstrates in her book, *How The Other Half Banks*, for most US banks, keeping small checking accounts is unprofitable. Thus, banks either charge high fees for their services, or simply refuse to open accounts to individuals with a bad credit history.[213] Credit cards and digital payment providers too do not have any obligation to offer universal services. In the UK, the *2017 Payment Services Regulation* requires payment operators to guarantee non-discriminatory and fair direct and indirect access to their network to other operators.[214] This essentially entails a commitment to keep the financial infrastructure of payments systems open to banks, e-money issuers, smaller banks, and any other payment services firms and thus to create a dynamic and competitive payment ecosystem.[215] However, the open access requirements do not extend to the end-users of payment services — the consumers - who are free to use the method of payment that they find most convenient.

The absence of demand-side constraints means that in a free market model, there is no guarantee on the minimum level of access for consumers. Payment operators and banks will naturally offer services that make a profit and locate them strategically to achieve economies of scope. Not surprisingly, low income communities and rural areas are immediately cut off

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[211] Among them, the Monetary Authority of Singapore, the European Central bank, the Swedish Central bank. See, for instance Hanna Murphy and Yuan Yiang, *Patents Reveal Extent of China's Digital Currency Plans*, Financial Times (12 February 2020)

[212] Access to Cash, *Supra* note 14.

[213] BARADARAN, *supra* note 26, at 140-143

[214] *The Payment Services Regulation 2017*, ss 102-105; See also, Payment Systems Regulator, *Access and Governance Report on Payment Systems: Update on Progress and Areas for Ongoing Focus* (March 2017)

[215] This is to guarantee competition among the various providers and access to new entrants in light of the monopolistic tendencies of payment systems.

the bank's branch network. In the UK, for instance, only the Post Office has a statutory obligation to extend its network coverage even in unprofitable locations, which is offset by a state subsidy. Banks are instead free to decide where to open a branch. In the transition from traditional to digital financial services, the lack of mandatory public service provision has already led to a number of problems for consumers, including the steep reduction of bank branches across the country, and the progressive disappearance of ATMs.[216] The problem with free market supply was clearly explained in the recent UK *House of Lords Financial Inclusion Report*.[217] In one of the interviews, Responsible Finance, a consumer group stated: 'The costs of entering the financial services markets are significant so it is hard to see how, without any incentives, new players would provide services to financially excluded groups who are often (although not always) higher risk."[218]

Tackling the problem of monetary inclusion essentially requires the regulation of the supply side of finance. It requires the rethinking of the system of incentives driving firms' decisions in order to put the need of end-users at the forefront. In sum, it requires regulation of the system as opposed to individual payment operators. The main element of this new framework is to guarantee universal access to monetary and payment services.[219]

C. Access as A Statutory Right in a Cashless World

In a cashless payment system, the absence of banknotes means that the entirety of the money in circulation would be in the form of bank deposits and central bank reserves only.[220] In such a system, ensuring that all citizens have equal means of payment requires a guarantee of access on two levels: the banking system, and the payment system.

1. Access to The Monetary System

In a digital payment system that works for everyone, equality of payments requires full financial inclusion. Without guaranteeing that all citizens have access to the banking system, no universal payment system is possible, as there would no longer be the possibility of converting cash into the digital money that is tendered for payment. This means that all individuals will have to be 'banked'.

How to achieve full financial inclusion in a digital ecosystem has been subject to wide debate and is still unclear. It is not the scope of this article to discuss the problems of financial inclusion and access to credit. However, it is worth discussing a few proposals as relevant to the payment system. We can identify two main streams of literature. On the one hand, a few commentators suggest franchising the deposit-taking function of banks like a public utility[221].

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[216] Access to Cash, *Supra* note 14.
[217] HOUSE OF LORDS SELECT COMMITTEE, *supra* note 42.
[218] *Id.* at 71.
[219] A similar proposal was recently made by the IMF. *See* Tommaso Mancini-Griffoli, *Casting Lights on Central Bank Digital Currencies*, 15-17 (IMF Staff Discussion Note SND/18/08, 2018).
[220] McLeay, *supra* note 63.
[221] Ricks, *supra* note 36.

Essentially, deposit-taking will be conducted by banks and other deposit-taking institutions on behalf of the government and subject to conditions that guarantee the universality of access. In order to limit risks, franchised banks will ring-fence deposits and operate as narrow banks so that no credit risks will be imposed on depositors. Proponents of this option suggest that financial institutions could make their profits by engaging in the lending side of the business. A similar proposal envisages the Post Office, which is a public utility in most countries already with presence all over the country, to take on basic deposit-taking services in competition with banks. Thus, individuals will be able to open state-subsidized deposit demand accounts at no cost.[222]

A very different option is for central banks to issue deposit accounts to individuals.[223] At present all central banks are discussing how a fully digital monetary system would look.[224] Given the need to control the money supply, central banks could substitute token-based fiat currency with an equivalent amount in digital form. To do so, one of the strategies discussed in the literature is for central banks to offer deposit account services to citizens.[225] This proposal, which builds on much older ideas predating the rise of digital finance, entails the central banks taking on the deposit-taking function of banks as monopolists or in competition with the financial sector. The benefit of this model is that it will guarantee access to bank accounts to otherwise unbanked individuals, while at the same time using the central bank settlement infrastructure to mobilize payments in a similar way to what it already does with bank's central bank reserves. Thus, individuals and banks will be issued central bank money and will be able to use it to pay with one of the various payment apps no differently to how they already do with their bank deposits. At present, the literature is still uncertain as to which precise form this model will take and the implications it poses for financial stability, monetary policy, and infrastructure management.[226] While the proposal seems to be efficiently addressing the problem of inclusion on paper, central banks do not seem to consider it practical, as it would give rise to problems of competition, credit allocation, not to mention the massive increase in the already oversized central banks'

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[222] BARADARAN, *supra* note 26; Baradaran, *Banking and the Social Contract*, *supra* note 34, at 1283; Mehrsa Baradaran, *It's Time for Postal Banking*, 127 HARV. L. REV. FOR. 165 (2014).

[223] James Tobin, *The Case for Preserving Regulatory Distinctions*, in RESTRUCTURING THE FINANCIAL SYSTEM 167, 172 (1987).

[224] Mancini-Griffoli, *supra* note 219; Michael Kumhof & Clare Noone, *Central Bank Digital Currencies – Design Principles and Balance Sheet Implications*, (Bank of England Staff Working Paper No. 725, 2018); Sveriges Riksbank, *The Riksbank's e-Krona Project*, Report 1 (2017); Sveriges Riksbank, *The Riksbank's e-Krona Project*, Report 2 (2018); Berentsen, *supra* note 199.

[225] BEN DYSON & GRAHAM HODGSON, DIGITAL CASH: WHY CENTRAL BANKS SHOULD START ISSUING ELECTRONIC MONEY 15-16 (2016); Morgan Ricks et al, *supra* note 198; Dirk Niepelt, *Reserves for Everyone—Towards a New Monetary Regime?* VOX (Centre for Economic Policy Research) Jan. 21, 2015; Nick Gruen, *Central Banking for All: A Modest Proposal for Radical Change*, NESTA, March 2014; *Central Banks Should Consider Offering Accounts to Everyone*, THE ECONOMIST., May 26, 2018; Mancini-Griffoli, *supra* note 219, at 8.

[226] Kumhof, *supra* note 224.

balance sheet.[227] Given the abovementioned challenges, a more feasible option would entail the central bank issuing Digital Cash Accounts.

2. Access to The Payment System

Second, individuals will need to have guaranteed access to the actual retail payment services. Access to the payment infrastructure poses very different challenges, as it has to do with the ability of individuals to intermediate money via digital payment technology. From a practical perspective, access requirements operate on two fronts.

On one level, digital payment instruments need to be universally accessible to users. Universality of access can be described as the requirement imposed on payment operators to guarantee that all users will be able to use the payment service without undue burden. In practical terms, this would require the availability of digital payment platforms that can be understood and easily operated by everybody. In this regard, there is a lot of evidence that certain groups such as the elderly, visually impaired, or people with cognitive disabilities may not be able to operate more complex digital payments applications and might instead benefit from having access to basic apps or tokenized forms of payments like cards that give a sense of 'cash'.[228] Digital payment operators should not therefore structure their product based on the assumption that all consumers are digitally literate. Instead, they should be required to provide inclusive services that are demonstrably easy to use.

The UK and the US are in the best position to lead on this issue, as both countries are at the forefront of digital innovation in financial services. From a regulatory viewpoint, the UK Financial Conduct Authority has paved the way in the supervision of FinTech firms, and it is one of the world leaders in the regulation of digital financial services. Various FCA projects such as 'Innovate' or the 'Regulatory Sandbox' have enabled start-ups and established firms to test new products in a regulated and safe environment before launching them to the mass market.[229] In the US, the Financial Consumer Protection Bureau has followed on the UK lead and opened the first US regulatory sandbox in 2018.[230] In this light, it is not difficult to envisage a more structured role for both the FCA and the FCPB as the controller of the quality of the digital products offered in terms of the consumer perspective.

On a different level, universal access to payments technology requires the presence of a payment infrastructure that guarantees the acceptance of digital payment by retailers and individuals. Indeed, a digital payment system would be inoperable without the assurance that the digital payment tendered in discharge of debt will be accepted as valid and final by the payee. Achieving universality of access requires both legal innovations, and an upgrade

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[227] Paul Tucker, *The Political Economy of Central Banking in the Digital Age*, SUERF (Policy Note Issue No. 13) June 2017, at 9 10; Benoit Coeuré, Speech Delivered at the International Center for Monetary and Banking Studies, Geneva :The Future of Central Bank Money (May 14, 2018); Kumhof, *supra* note 216

[228] Access to Cash, *Supra* note 14, at 96-100

[229] FINANCIAL CONDUCT AUTHORITY, *FCA Innovation: fintech, regtech and innovative business,* https://www.fca.org.uk/firms/fca-innovate (last visited...)

[230] Anthony Peyton, *CGPB Launches Fintech Sandbox in the US*, Fintech Futures (20 July 2018)

of the payment system. One option to guarantee access to digital payments is to declare e-money as legal tender.[231] At present, the lack of interoperability between rival digital payment systems, and the likelihood of different incentive structures among rival digital payment methods, could lead to fragmentation of the market, with some retailers accepting one method and not others.[232] Adopting a rule whereby all digital payments must be accepted as valid tender would solve the network problems of cashless economies, and at the same time give a boost to the use of digital cash in the transition to a full cashless society. It is indeed customary that when a new currency is created, more recently the Euro, the issuing government declares it legal tender and obliges everyone to accept it as valid payment. Not surprisingly, most working papers on central bank digital currencies suggest the future sovereign digital currencies as having full legal tender status.[233]

VII. CONCLUSION

Because of their key economic function, payments are usually considered the most essential financial service. Indeed, they are used by the quasi-totality of the population to transfer value, from the simple act of buying milk to the purchase of a house. The availability of payment instruments to discharge debt obligations is therefore indispensable for individuals and firms, as it enables them to participate actively in the economy as both consumers and traders. Thus, ensuring a level playing field among individuals in the access of payment system is fundamental for a society that wants to guarantee individuals' socio-economic equality. This essay argues that the state should regain its central role in the payment infrastructure and put financial inclusion at the core of the regulatory agenda.

[231] Riksbank, *supra* note 216, at 36.

[232] A digital payment system presents very high transition costs, as users on both sides of the payment transaction will naturally resist innovation unless they receive a direct benefit in terms of reduced costs or wider networks.

[233] Mancini-Griffoli, *supra* note 219, at 7; Riksbank, supra note 224, at 36; Michael Bordo & Andrew Levin, *Central Bank Digital Currency and the Future of Monetary Policy,* 2 (NBER Working Paper No. 23711, 2017); Ben S. C. Fung & Hanna Halaburda, *Central Bank Digital Currencies: A Framework for Assessing Why and How*, (Bank of Canada Staff Discussion Paper 2016-22, 2016).