Making a Statement with Payments: Re-embeddedness of Money through Platforms

By

Lorant Kiss

Submitted to the Central European University Department of International Relations

In partial fulfillment of the requirements for the degree of Master of Arts.

Supervisor: Dr. Dora Piroska

Vienna, Austria
2024

Abstract

Contrary to former conceptualizations of money as a tool of rationalization and ordinalization, in the platform economy money is becoming a cultural experience endowed with meanings both by platforms mediating money practices (i.e.: payments) and users trying to domesticate money. Earlier narratives of the 'disembeddedness' view emphasized that money belongs to a neutral and impartial domain, the economy, independent from social contexts. Modern narratives of ordinalization highlighted how money is becoming central to a classification system in which value judgements are expressed through quantitative hierarchies and the subject is turned into a calculative, self-regulating agent which interiorizes stratified rankings. However, I argue that money is increasingly an experience which is shaped by platforms anticipating that it must be domesticable by the user. Platforms, therefore, do not counter users' attempts at domestication of money, instead, they attach meanings and values to money practices which can be successfully reanimated by users with their own meanings. The ultimate goal of platforms is to make money practices mediated by them integrated into users' everyday experiences, therefore, they design attractive experiences which users could find convenient, familiar and smooth rather than exclusive, alarming or disciplinary. In the language of subjective resistance to financialization, meanings are increasingly articulated by platforms. I call this process 're-embeddedness of money' as it manifests a paradigm shift compared to earlier money practices facilitated by market participants.

Acknowledgments

I owe a debt of gratitude to my dissertation supervisor, Professor Dr. Dora Piroska for opening new traces into the political economy of the digital everything, traces which still guide me ever since. Also, I am sincerely grateful for her patience and encouragement throughout my studies. I am also thankful for the support of my peers at CEU and the thought-provoking discussions in class. The Department of International Relations showed me that knowledge can be healing, and competition can be gentle. Also, I would not have been able to cope during the quarantine without the help of my mother and our cats who domesticated us more than we domesticated them.

Table of Contents

Introduction

The purpose of this contribution is to understand the new position of money in the platform economy. As platforms are gaining an increasingly important role in mediating practices of everyday life, practices of money, like payments, are also becoming included into platform ecosystems. In such platforms, money practices are embedded in a culturally charged experience which is in contradiction with earlier conceptualizations of money as an instrument of rationalization. Also, while the current literature describes money as a tool of turning value judgements into a seemingly impartial and objective hierarchy through ordinalization, financial subjects are reluctant to be turned into calculative, self-regulating agents in ordinal hierarchies. Instead, they aim to domesticate money and money practices embedding them into their own everyday experiences and meanings. In this contribution, I present case studies of fintech platforms observing the way they turn money practices into subjective experiences with the most important of the analyzed cases being the product design process of the N26 metal card. I will show that instead of trying to create the rational, self-regulating agent through ordinalization, platforms anticipate that users will attach their own meanings to money practices, and instead of acting against it, they make room for such attempted domestications and endow money practices with culturally charged meanings for the users to seamlessly integrate the experience of money practices offered by platforms into their everyday life. I call this the 're-embeddedness of money' as it marks a shift from the disembeddedness of money towards a reintegration of money into social and cultural contexts.

Typologies of Money: The Disembeddedness View and Its Discontents

Money has always been and still is a puzzling concept for economists. While there is no agreement on what money is, it is commonly defined based on its functionalities, as "money is

what money does" (Banque de France, 2021). There is a huge body of literature dealing with the topic, but according to the most widely accepted work definition, money is a "(1) medium of exchange, (2) unit of account, (3) store of value, and (4) standard of deferred payments" (Melitz, 1970:1020). These aspects are highly debated as they are diverging, sometimes even contradictory. For example, according to Gresham's law (Selgin, 2020) if money is good store of value, it might function less as a means of payment because consumers expect its value to increase over time, therefore they keep it for wealth accumulation and for payments they use something which they anticipate not keeping its purchasing power over time.

There are many different conceptualizations of money. The debate of the 'commodity theory' and the 'token theory' of money puts trust at the center of the discussion on money. So-called commodity theory of money, for example, states that money is a "commodity with an exchange value independent of its form as a currency" (Ingham, 1996:512), therefore, money is independent from trust in other people in society. On the other hand, token theory of money argues that money is merely a technology of record-keeping and a prothesis for collective memory, and any kind of effective record-keeping devices can serve as money from credit cards (Kocherlakota, 1998) to telecommunication networks (Kregel, 2021) if there is a large enough institutional framework to which trust in the other person (i.e.: payer or the payee) can be projected. Both are rooted deeply in history and still manifested in the current financial system.

The commodity logic underpins crypto assets where the precondition of scarcity and the hardship to create (or 'mine') coins legitimize its value giving rise to a sense of staying outside the traditional financial system within a closed and guarded community of 'just us' without the need for intermediaries or complex social relationships (Nelms et al., 2018). On the other hand, the extensive network of public and private institutions forming an alliance over replacing trust with seemingly objective quantitative methodologies (i.e.: credit bureaus, banks, state

regulations such as deposit insurance, etc.) (Carruthers, 2022; Federal Deposit Insurance Corporation, 1998) manifests the view of money as a mere token which requires a large institutional system of administration to ensure the proper functioning of the economy. Both agree that subjective experiences, such as trust should be replaced with something impartial, the debate concerns what this system should look like.

In the following, I would like to focus on this view presenting money as objective and impartial independent from social and cultural values and contexts. I will call this view 'the disembeddedness view'. I will present its core arguments, most important dimensions and their critique. Also, at the end of this part, I will present how the disembeddedness view and its criticism is synthetized by the 'ordinalization view'.

From Qualities to Quantities: the Disembeddedness View

The disembeddedness view of money is the description of money as a tool of rationalization and quantification which makes economic relations, including trade and financial transactions, disembedded from other sectors of the social organization, like the family or the community. This approach outlines the history of money as moving from an ancient state in which economic relations were governed by cultural and social ties rather than the maximisation of economic benefits - the so-called reciprocity - to the modern condition in which the economy is independent or 'disembedded' from society with its own rules and motives. Money, in this framework, is one of the three most important mechanisms which drives the separation of economy from the social fabric. According to Polányi (2001) these are the commodification of land, labor and money. He describes that before modernity land, labor and money used to be governed by social laws (i.e.: feudal customs) rather than the laws of the market (i.e.: supply and demand). He argues that modernity started with an attack from the trading classes on land, labor and money called movement which aimed for their commodification. During the process,

they had become disembedded from the social fabric, in modernity they can be bought and sold on markets subject to the profit motive just like every other commodity in the economy.

The disembeddedness view outlines the history of money as an evolution from an instrument determined by the purpose and quality of the interaction it facilitates to an abstract, quantitative value. According to this view, money is becoming a context-independent instrument, independent from the purpose it is used for. Money in its clear disembedded state homogenizes all economic relations as it subordinates every good and service to its quantitative hierarchy. In the following, I will describe the disembeddedness nature of money by focusing on its various aspects, namely rationalization, commodification, abstractness and alienation.

Money as a tool of rationalization: disembeddedness through religious culture

Disembedded money offers an impartial and independent quantitative hierarchy against which qualitatively different interactions and objects (i.e.: different kinds of products and services from plants to animals and to human capacities such as intelligence and physical strength) can be measured, and ultimately, ranked. According to Weber, this is part of the general process of rationalization in modernity. Rationalization refers to the general calculability of life of which money is the purest abstract and impersonal form (Deflem, 2003). The ultimate goal of rationalization is the organization of social and economic activities based on efficiency which is independent from partial interests and values other than the value of pragmatism itself.

For Weber, rationalization paves the way for capitalism, both originated at the Protestant ethic which is directed toward the accumulation of wealth in a pragmatic way. The Weberian framework, therefore, holds a deep paradox, namely that the Protestant subject is religiously driven to work in a pragmatic and disciplined way. This irrational zeal (called value-rationality in the Weberian framework) serves as the basis for the bureaucratic culture of the modern state and the means-rationality of the modern subject. As Kalberg (1980:1163) describes:

> "In this unusual and significant case, the Puritan's selection of the means-end rational means (a constellation of impersonal values) to fulfill his goal of resting secure in the certainty of salvation (a goal that could be realized only by the acquisition of wealth) eventually provided one impetus for the formal rational organization of economic enterprise"

Therefore, the starting point of rationalization is an irrational choice of a particular set of values which provides the cultural background for rationalization. However, due to rationalization most processes have their own rules and order, "this rationalization comes to undermine reason's own promise of meaningful activity, since we lose motives external to the activity, as well as any way of evaluating those motives" (Lunt, 2012:492). In this sense, rationalization originates from and gives birth to self-referent belief systems which govern social relations.

In such systems money is the ultimate instrument which is "creating the possibility of rational calculability, the possibility of assigning money values to all goods and services, which creates impersonal relations of exchange between the participants in the market" (Deflem, 2003:77). According to Weber, the ultimate purpose of the disembeddedness of money is the creation and legitimation of such a self-referent system. The process of disembeddedness, however, is ultimately driven by the Protestant ethics which valued wealth accumulation and calculability, therefore, it "made money clean, or at least, religiously neutral by freeing it from the traditional ethical system" (Turner, 1986:107).

The paradox of the Weberian framework, namely the emergence of rationalization as a set of values chosen out of religious zeal shows that at the fundamental level, money is shaped by communal standards and qualitative hierarchies. In fact, the quantitative and impartial nature of monetary systems is defined by particular values and beliefs. In an attempt to overcome this puzzle, we shall shift our focus to a conceptual framework more focused on the politico-economic motives of the disembeddedness of money.

The commodification of money: disembeddedness kept at bay

A different conceptualization of the disembeddedness of money might shed light on broader political and economic contexts. The essence of the disembeddedness view is the idea that the sphere of money transactions is becoming an independent domain of the social organization. The birth of the economy, as an autonomous network, or as Polányi (2001) called it 'the self-regulating market', is based on the incorporation of resources into the market logic which were previously embedded into social networks including money.

Money in the Polányian framework is regarded as purchasing power, the token of transactions "which, as a rule, is not produced at all, but comes into being through the mechanism of banking and state finance" (Polányi, 2001:75-76). Polányi, states that purchasing power cannot be governed by laws of the market, because the fact that money has a finite supply the same way commodities do would result in liquidity shortage on markets. Lack of liquidity would mean that market participants cannot access proper financing, therefore, they cannot invest in production facilities. Such a situation can easily lead to a self-enforcing cycle of debt events and job losses just like it did during the Great Recession when the gold standard mentality worsened the problem and the solution was brought about by the devaluation of currencies and the abandonment of the gold standard which allowed for boosting consumption and investments (Eichengreen and Temin, 2000).

In Polányi's framework commodification is part of the so-called movement executed by trading classes to create a so-called 'self-regulating market' where everything is a commodity to be bought and sold in accordance with the profit motive. It is aimed at turning everything into commodities, even those fundamental building blocks of the social organization (land, labor and money) which shall not be treated as subject to supply and demand because they need to be stable). The self-regulating market, however, would be, in fact, self-undermining, as it would lead to structural problems (i.e.: the lack of liquidity during the Great Recession).

Against the disastrous consequences of commodification, a countermovement arises supported by the landed and the labor class. They aim to protect land, labor and money from being commodified. The true novelty of the Polányian framework lies not in the depiction of such contradiction but in the way the state mediates between movement and countermovement. These two, the push for commodification and the contradictory pressure to protect the social fabric constitutes the double movement where the state aims to maintain the balance. As such, the state intervenes to support both commodification and the countermovement.

In the case of money, one of the most important features of monetary protectionism is the central bank which ensures that the monetary system is stable and resilient to shocks. While this might be seen as a measure of countermovement, in the long run, it ensures that commodification only happens to the degree it is not lethal to the social fabric. Therefore, while some boundaries are set to commodification, it is also legitimized to a certain extent. According to Polányi, the end of this process is the birth of the all-purpose money, an instrument where all money functions are performed by a single currency (Melitz, 1970). The status of money as disembedded money is maintained by private and public agents, however, is always challenged by particular social and political contexts (i.e.: how much harm the commodification of money is doing to the social fabric). Therefore, as in the Weberian framework, in Polányi's explanation, the social aspect lurks in the shadows.

The Polányian account proves to be robust in explaining the dynamics of today's financial policies, namely, the seeming paradox of increasingly strict regulations on banks (Mackintosh, 2015) and government policies favoring disruptive solutions in finance (Brown & Piroska, 2022). Also, similarly to the Weberian framework, the Polányian description implies that the disembedded money is not completely disembedded from the social fabric. Therefore, we shall examine the role of money in the social fabric to understand the actual nature of its disembeddedness.

Alienation: disembeddedness through abstraction

Marx depicts the role of money in the economy similarly to the disembeddedness view. He emphasizes that modernity "pitilessly torn asunder the motley feudal ties that bound man to his — natural superiors and has left remaining no other nexus between man and man than naked self-interest, than callous — cash payment" (Marx, 1969:30). In such descriptions money relations are reductive and belong to the bare and impersonal logic of production as opposed to the more complex and personal social and political relationships of feudalism which determined not only the matters of economic production, but a wider domain of life (i.e.: social reproduction) including religion and the household. In Marx' account, money is a destructive force which makes every aspect of life part of the same calculative logic of production and capital accumulation.

In a Marxian framework, money is the instrument which enables the process of alienation. Alienation is a key concept of Marxism, and it refers to workers becoming alienated from the product of their labor (Oversveen, 2022). In Marx' theory of value, workers produce goods, however they only receive a fragment of the value of the products they create as compensation, the remainder 'surplus value' is appropriated by capitalists who own the means of production (i.e.: factories and technology). In the post-Marxist tradition, alienation is becoming a term referring not only to the economic phenomenon of the appropriation of the surplus value but to the subjective experience of this phenomenon in society and its consequences to the individual (Marcuse, 2003).

Money, according to Marx, can only function without leading inevitably to crises of capitalism, when it enters circulation as income or purchasing power. Otherwise, money only serves the formation of capital which leads to further surplus value as a self-referent process (Ivanova, 2020). Similarly to Polányi, Marx regards money as purchasing power and thinks that the inclusion of money into the production circle (i.e.: to produce commodities only to produce

more money) would undermine the very system making this process possible. In this sense, there is a distinction of money as purchasing power (income) and money as surplus value (credit or capital). In the Marxist framework, money is not a commodity, but it allows for commodities to be interchangeable and labor power to be turned into a commodity (Deflem, 2003).

For Marx, money, in the form of capital, has detached from social relationships and only manifests movements of capital and relations extracting surplus value from production. Money, therefore, ultimately leads to the destruction of the social fabric, but in a slightly different way than according to Polányi. It is not the commodity feature which marks the disembeddedness of money, but exactly the opposite. It is the abstract nature of money which allows for the commodification of labor and the extraction of the surplus value leading to the emergence of self-referent production processes and the creation of commodities only for the sake of more surplus value. From a Marxian point of view, money is not subordinated to the commodity logic, it is, in fact, the prerequisite of such logic to thrive. It is not the concreteness of money as an object (i.e.: gold) which leads to crises, but exactly the abstract nature of money.

The abstract nature of money: growing inward and blossoming into credit scores

The conceptualization of money by Simmel attempts to address the abstract nature of money. Simmel (1991:18) describes the disembeddedness of money in the context of the difference between the feudal and the modern economy. In his account, the disembeddedness of money is the transition from a land-based economy to a money-based economy. In feudalism, value (land) and its exchanges are embedded in social and cultural contexts, as only the members of the nobility could acquire land through various sources such as donation from higher levels of the feudal order in exchange of different economic and military services. There is, therefore, an inherently subjective character to value in the feudalist economy because it is based on a relationship between master and servant.

On the contrary, according to the disembeddedness view, the modern economy "interposes the perfectly objective and inherently qualityless presence of money and monetary value between the person and the particular object". Modern monetary transactions, as Simmel describes, do not depend on social networks, such as the relationship between master and servant, but can happen from great distances between parties who do not know each other, as one "can receive income in Berlin from American railroads, Norwegian mortgages and African gold mines" (Simmel, 1991:18). Money, according to the disembeddedness view, is becoming an alien agent in itself which has its own life and purpose. As Simmel (1991:25) puts it, money "grows inwardly from a mere means and a presupposition to an ultimate purpose".

Despite emphasizing money as an object of rationalization and rightly acknowledging the proliferation of public and private institutions aiming to replace trust with seemingly objective quantitative methodologies in payments (Carruthers, 2022), Simmel also observes that "every monetary relationship in one way or another is expressive of modern culture" (Allen & Pryke, 1999:51). Simmel realizes that the role of money as an agent of disembeddedness is itself not a natural phenomenon, but the result of the culture of quantification and rationalization similarly to Weber as mentioned above. In this sense, money as a tool of rationalization is, at the same time, embedded in cultural contexts and, being more than a tool of turning qualities into quantities, it manifests a particular money culture.

In the next section, I will describe how money in the modern economy is necessarily embedded in qualitative regimes which are turned into hierarchies through money's quantitative system. While such analyses highlight the importance of the cultural aspect of money as an abstraction, they still treat the relationship of money and society as static and structural rather than dynamic and context dependent. In the next section, I would like to look at conceptualizations of money which overcome such limitations.

From Quantities to Qualities: the Critique of the Disembeddedness View

The disembeddedness view presents money as a tool of rationalization and creating a quantitative, unified and impartial hierarchy out of qualitatively different objects, products and services. Based on this view, an extended network of public and private institutions proliferated to administer different money practices, such as payments or lending, and perform the financial system, a process well-documented in the literature (Braun, 2016; Carruthers, 2022). However, it is also revealed by research that on the level of households and the individual, money is imbued with qualities beyond mere quantitative calculations influencing financial decisions. This can either be based on individuals' needs, but also on social and political hierarchies.

Money as subjective mental experience

Focusing on money practices on the individual level rather than on the institutional level reveals that people group their money practices into different accounts with different qualities attached to them. This process is referred to as 'mental accounting' and can seriously influence consumption patterns of individuals (Thaler, 1999). Many experiments have been conducted with regards to the relationship between mental accounting and consumer behavior. For example, Xiao and Olson (1993:106) show that out of accounts grouped based on necessity, individuals "tend to save the most in the account at the least basic level and save the least in the account at the most basic level over a period of time".

While this approach is mainly influenced by rational choice theory as it aims to expand neoclassical life-cycle consumption theory (see Thaler, 1990 or recommendations for future research by Xiao and Olson, 1993) to create a more nuanced yet still quantifiable model of consumer behavior, experiments uncovered how particular moral hierarchies shape mental accounting. For example, some accounts might be "intentionally set 'too low' in order to help deal with particularly insidious self-control problems" (Thaler, 1999:195). As Thaler (1999)

presents, while buying expensive bottles of wine might have higher utility than buying cheap wine, the latter strategy might be chosen as some agents might reduce the amount they spend on wine intentionally because they aim to set a maximum target to obey as otherwise they might spend too much on wine. This approach, while valuable in the sense that recognize that consumer choice and money practices might be influenced by qualitative judgements (i.e.: intentionally decreasing welfare because self-control is more valuable), it is still heavily individual-focused and is not interested in the social and political context of such values.

Money as multiplicity of social positions

Beyond individual mental accounting, money practices are influenced by social networks as individuals do not exist in a vacuum but have particular roles and positions in society with different degrees of agency, power and possibilities. Zelizer (1989) pointed out that contrary to what the disembeddedness view holds, money is not unified in the sense that not all monies are the same in society. For example, Zelizer shows that parallelly to the proliferation of the financial system in the US, which was intended to make monetary relationships impartial, money performed by women are treated as of lesser significance in the household.

Her analysis, focusing on monetary relationships within the household between men and women in the United States between the end of the American Civil War and the Great Depression, reveals that wives "never had a legal claim to any proportion of domestic money" (Zelizer, 1989:356). The only money practice women could perform was purchasing necessities for housekeeping which was in accordance with the forced social role they had to fill as a source of comfort and order within the household. Even when women had their own income (i.e.: from care work done in a hospital), their earnings were not considered independent income and legally it belonged to their husband. Women's earnings were "still defined as pin money, categorized as supplementary income, used for the family's extra expenses" (Zelizer, 1989:367).

Zelizer (1994) concludes that money has no uniform, objective, impartial meaning, rather, the purposes on which money can be spent is always defined based on social hierarchies. The process through which different meanings are attached to money in different situations (i.e.: considering women's earnings pin money) is 'earmarking'. Therefore, qualities based not only on individual preferences but on (forced) social roles (often codified by state law as in the case of US women) are attached to money, fundamentally influencing the possible money practices.

Combining Qualities and Quantities: Ordinalization

The disembeddedness view, therefore, is not complete as it overlooks that based on extraeconomic hierarchies, qualitatively different monies make possible different money practices for different actors. These qualitative differences, however, as Zelizer (1994) emphasized, are not horizontally distributed based on individual preferences, but hierarchical. The qualitative differences between money practices are ranked based on a hierarchical scale and this ranking makes particular money practices impossible for certain actors (i.e.: women). The hierarchical ranking of different qualities is called ordinalization by Fourcade (2016).

Ordinalization is somehow a mixture of recognizing different qualities and sorting these qualities into hierarchies which can be quantitatively represented. As Fourcade (2016: 178) argues "ordinal relations imply different valuations, a distinction of (at a minimum) two levels, highest and lowest, above and below". As she notes, money is a typical example of ordinal hierarchies, as it is "a particularly efficient instrument of commensuration, trapped between a simple count and a metric with a moral valence of its own" (Fourcade, 2016:178).

Through ordinalization, qualitatively different characteristics can be measured on a comparable ranking scale which, on the social level, serves as a basis for meritocratic endeavors to rule out specific social backgrounds (race, gender, etc.) only considering actually measurable performance. For example, standardized tests offer a seemingly neutral platform to make

students' performance measurable, abstracting away from any other factor than the ability to perform on the test. Also, the 'colorblindness' of ordinalization reflects a complete negligence of structural factors, such as systemic injustice, and an overemphasis of individual agency. For example, credit scoring algorithms often give people who suffered from a one-time negative external shock (i.e.: natural disaster, illness or job loss) an overly poor rating which is hard to counterbalance in the future (Gilman, 2020). Ordinalization not acknowledging systemic errors which are beyond the control of the individual punishes poor people who lack the resources to insure themselves against such events provoking response from activists and lawyers (Hao, 2020).

In terms of monetary relationships, ordinalization endows different money practices with quantitative values or scores. Behavioral patterns and activities all receive scores which can be easily translated into monetary values. This creates hierarchies which are presented as neutral, impartial, and scientifically proven, however, in fact, they are based on already established social structures and arbitrary value hierarchies. For example, the historical negligence of Black patients' needs in healthcare and poor people's lack of access to financial services is not discontinued by scoring practices which take these heritages as given and punish already marginalized people for their marginalized position resulting in a vicious circle of marginalization (Benjamin, 2020). Also, fraud detection systems often look for 'unusual behavior' in transactions establishing a norm to which the deviation can be compared. Fourcade and Healey (2017) describe a situation when an affluent customer could not use her credit card at a low-income neighborhood gas station, while it was usable again in Berkeley. The customer was told by the bank that this happened due to the area being 'suspicious' for the Visa fraud detection system.

Ordinalization, however, is not only repressive. It also sends a participatory invitation to the subject. Fourcade (2016) outlines three components of such appreciation: (1) accounting

referring to the measurement of individual abilities by scores, (2) investment meaning that individuals regard themselves as assets which can be upgraded or downgraded, (3) entrepreneurship, or the risk management of the whole process being done by individuals. Ordinalization is in line with the Foucauldian idea of the 'government of the self' (Foucault, 2010) meaning that individuals are altering themselves to achieve higher monetary or social status based on external hierarchies which they take as given. This practice is also increasingly popular in financial services which are experimenting with incentivizing loan repayments by showing borrowers their credit scores real time (Homonoff et al., 2021).

Money, therefore, is not neutral. It manifests hidden hierarchies based on particular values which are disguised as impartial and objective strata. While ordinalization is repressive in the sense that it subordinates qualities to hierarchies, it also invites people to participate in the system and potentially improve their own scores. The underlying social imagination, therefore, presupposes on the side of society a general, objective, and impartial hierarchy, a 'clear vision' which can measure people's 'true intentions and abilities' with no regards to social or political contexts, and on the side of the individual an active agent altering themselves constantly through complying with the hierarchies manifested in scores. As platforms are mediating a growing part of everyday life, the logic of ordinalization can spread from finances virtually to all aspects of one's life. In the next section, I will present the rise of platforms and the way lifestyles have become important raw material for finances.

Platformization in Finances: Surveillance, Ordinalization and Governance

Platforms are becoming increasingly integral to the economy. An increasing number of products and services can be accessed through platforms, and production is also facilitated more and more in the platform format. In fact, platforms fuse production and distribution as

customers' consumption choices become informative for the planning of production including product development, market segmentation, distribution, and advertisement. For this reason, an emerging literature started to refer to contemporary economic organization infested by the platform model as 'platform capitalism' (Srnicek, 2016). The purpose of this part is to present the rise of the platform model as an experimentative process jointly managed by public and private actors with the purpose of incorporating people's everyday life into predictable and governable financial services.

In platform capitalism, the noneconomic everyday life of the individual including their meanings, social relationships are mobilized by platforms. Firstly, the need for the mass generation of data which drives the proliferation of platforms leads to the incorporation of an increasing part of the customers' life into the database. This way, ordinalization can happen at an ever-larger scale turning lifestyles and behaviors into financially interpretable data. Secondly, since everyday life is becoming an object of inquiry, this social element is incorporated into market operations making the social part of the economic organization. In this way, money is becoming, at the same time, data for the platform algorithms and experience for the customer. The explanation for this is the focus of the third (and last) part.

Datafication and Platformization: the New Normal of Capitalism

Datafication: from means to an end

The disembeddedness view and its critics still agree on the fact that as soon as the 'economy' became a sphere independent from the social organization, it required careful administration and management. As states already possessed the infrastructure to collect such data for military-related purposes, they supplied the newly emerging private economic actors with such data acquired by public infrastructure (Polanyi, 2001; Foucault, 2010). In fact, the 'freer' the market is, the more extensive bureaucratic apparatus it requires (Fisher, 2009). This is exactly

because economic agents (i.e.: companies) aim to carefully design their operations to be able to maximize their profits and minimize their risks which requires a wide range of specialized workforce (the so-called experts). Experts utilize mathematical and statistical methods to be able to create plans for production (Phillips and Rozworski, 2019) and predict future outcomes. The punctuality of these algorithms depends on the data fed into the statistical apparatus.

While acquiring and sorting data has always been a key element of the economic organization from the beginning of modernity, it is increasingly turning from a means to an end. While this process is often associated with the rise of platforms, the material and conceptual foundations of the 'data imperative' or the need for excessive data collection and storage (Fourcade & Healey, 2017) were laid in the 1970s and 80s. Corporate-level data management in the 60s was characterized by the 'application model', namely "programming of individual computer applications that satisfied a specific output requirement (for example, payroll, reporting) (Kerssens, 2018:13)." This framework reflected the view of data as information which is specific to a particular segment of the organizational infrastructure and should be processed as part of that particular task. However, organizational management often relied on a more flexible decision-making process, therefore required an underlying data management vehicle which is more independent from the actual, task-specific output. This gave rise to the 'database approach' where instead of processing data as digital representation of information associated with specific tasks within the company, the focus had been put on the creation of large databases regardless of any specific task or output in mind. In this approach, data is not mere information anymore which supports a specific step in the decision-making process, but the representation of reality itself which can be subject to experimentation and flexible organizational management (Kerssens, 2018). This transformation was also visible in the banking industry: in Credit Suisse, for example, from 1972 onwards, computers were not only used for automation of specific tasks, but as a more general platform for the "computer-based

automation of the whole bank" (Gugerli, 2010:126). In the subsequent years the bank conducted surveys of its clients and created operational scenarios for the future. As a result of the 'database revolution', data "would now become accessible simply by dint of the user's questions and analytical intentions" (Gugerli, 2010:129) which allowed for greater degree of experimentation and flexibility of product development and planning.

Beyond being a mere tool for economic organization, data is becoming a form of capital which is subject to accumulation for its own stake. Often new digital products only exist not to generate profit in financial terms, but to generate data on customers which can later be utilized for a wide range of purposes including the prediction of behavior (Sadowski, 2019; Zuboff, 2019). This process is called datafication (Sadowski, 2019). As data is an abstraction, it requires sensors that record it, a set of criteria that break it down to an easily quantifiable format and an algorithmic apparatus which endows data with predictive power. Also, datafication has an extractive aspect: individuals are monitored without consent and their behavior and lifestyle is aggressively turned into data. Data extraction "capitalizes on people's differentiated dispositions and practical habits" (Fourcade & Healey, 2017:17) and creates a new type of capital called 'übercapital'. The creation of übercapital, therefore, requires an efficient way to extract data from many aspects of customers' lives. Also, the process must be managed in a controlled environment where a wide range of agents are monitored (*surveillance*) and encouraged to participate (*governance*) and evaluated (*ordinalization*) so the largest possible amount of data can be extracted and utilized.

Platformization: surveillance, governance and ordinalization

Platforms offer all three functionalities. Originally, unlike previous forms of economic organization (i.e.: the Fordist factory), platforms are not sites of production, but matchmakers between different economic agents. In this sense, platforms provide infrastructure for producers and consumers profiting from being marketplaces rather than being on the market. For

example, “Facebook and Google connect advertisers, businesses, and everyday users; Uber connects riders and drivers; and Amazon and Siemens are building and renting the platform infrastructures that underlie the contemporary economy” (Srnicek, 2017:4). Platforms are ultimately privately managed marketplaces which grow as they become attractive to more and more economic agents and “if successful, a platform creates its own marketplace; if extremely successful, it ends up controlling something closer to an entire economy” (Herrmann, 2017:p4).

The business model of platforms is driven by network effect which means that the more participants it attracts, the bigger is the value of the übercapital it can extract from their operation (on popularity of products, consumption patterns, etc.). Therefore, platforms are naturally interested in monitoring and analyzing their users’ behavior so they can offer surveillance and prediction as a service for its participants. In order to do so, they encourage participation through various features manifesting interactivity, for example, certain platforms empower users “with a series of tools that enable [them] to build their own products, services, and marketplaces in order to encourage engagement unique to participants which supports data extraction and segmentation of the market” (Koh, 2017:p9). Therefore, platforms are “decentralising value-creation and sharing, but also recentralising value-capture” (Barns, 2019:5). While platforms seemingly offer participants a way to shape their experience, they benefit from surveilling this experience and turning it into quantifiable data through classification. This presupposes a strictly centralized way of operation which is aimed at creating an ecosystem where entrance has low barriers, while exit is discouraged. In this sense, platforms achieve surveillance, ordinalization and governance, as their business model relies on the requirement of data extraction or the ‘data imperative’ and the classification of such data and they achieve this through encouraging participation in a controlled manner.

If platforms grow large enough, they can create their own system of monitoring and ranking (rewarding or punishing) participants. For example, platform workers are not full-time

employees, but are often paid based on individual performance or according to other platform-specific arrangements (Friedman, 2014), while the punishment of not repaying credit received from the platform operator (i.e.: Alipay) is not the seizure of the borrowers' collateral by the platform, but the borrowers' exclusion from the platform (de Fiore et al., 2023). In the next section, I will review the development of financial platforms considering how financial service providers experimented with various business models on the peripheries and in the developed world making room for innovations such as alternative credit scoring, social collateral, and ultimately, the re-embeddedness of money.

The rise of the platform logic in finance after the 2008 financial crisis

The 2008 financial crisis accelerated the need for data, especially for the inclusion of marginalized people into the mainstream data flows. The framing of the 2008 financial crisis as a 'subprime crisis' targeted the attention of policymakers to 'the subprime subject'. According to the conventional explanation, the financial crisis was caused by the fact that subprime borrowers, who were previously encouraged to participate in financial services through favorable credit conditions as part of a larger framework of solving social problems through market solutions (Pellandini-Simányi & Conte, 2020:19), went default en masse putting lending institutions under pressure. During the crisis management, regulators realized that the "struggling borrowers are no longer outliers but increasingly the norm" (Pellandini-Simányi & Conte, 2020:19), exactly because of excessive financialization.

This view of the crisis put the 'subprime subject' into the focus (for other possible thought-provoking framings see Sidaway, 2008). The very fact of the crisis showed that earlier experiments to include the poor failed and specific modes of management are required tailored to the 'homo subprimicus' (Kear, 2012). The creation of such strategies was centered on the elimination of risk associated with the subprime. This made necessary the extensive collection

(*surveillance*) and evaluation (*ordinalization*) of data on such consumers in order to make them participate in financial capitalism in a way that poses low risk to the system (*governance*).

The rise of platforms from risk management: surveillance in public-private partnership

The spread of the 'platform' as a model for production and consumption is not self-evident and is far from being a teleological process. Rather, it is the result of constant experimentation with technology to solve problems perceived through the lenses of particular policy frameworks. In the post-2008 economy, one of the most prominent problems was the 'subprime subject'. While the 'middle class financial subject' was already well established as traditional institutional frameworks already collected economic data on and calculated credit scores for customers who generated such data in abundance, information on the subprime subject was lacking exactly because these customers lived on the margins of the economy with little to no access to financial services. For this reason, economic data was scarce, therefore, non-economic data had to be mobilized so risk profiles and creditworthiness on these customers, mostly the urban poor and young people could be calculated. The subprime subject, therefore, was created based on their lifestyles and noneconomic behavior, such as mobile phone usage or psychometric data (i.e.: how fast one is scrolling through terms and conditions, etc.) (Njuguna & Sowon, 2021).

With institutional support from intergovernmental agencies, regulators and state actors providing infrastructure and funding, private actors accessed a wide range of noneconomic data of the population of developing countries. This happened in the name of making financial inclusion more efficient: new non-traditional mediums were required for financial inclusion policies to include the unbanked into the global circulation of value and the first step to this was the generation of credit data on people who did not have sufficient credit profiles. In 2010, in Brazil, for example, a US-based company received funding from a philanthropic organization called the Omidyar network and partnered with telecom operators to create credit

scores for people with no credit histories predicting behavior from mobile phone usage patterns such as text messages, contact lists and phone calls (Gabor and Brooks, 2017). Another fintech company, Revolution Credit invited mobile phone users "to participate in online games and quizzes that generate behavioural data, which are in turn fed in predictive algorithms" (Gabor and Brooks, 2017:7). This process required new infrastructures and new, more direct ways of extracting data from customers.

Platforms had become the main technology to facilitate the emergence of new data extracting techniques. The reason for this was that platforms could be easily integrated with mobile phone services which was, that time, the primary way of providing financial services to the unbanked. Economically marginalized populations in Africa, for example, relied on mobile phones to access financial services, such as M-Pesa, the so-called 'mobile money' of Kenya operated by two telecommunication service providers, Safaricom and Vodafone (Hughes & Lonie, 2007). Instead of the traditional institutional frameworks which were developed to govern the 'middle-class financial subject', new, mobile phone-based solutions were necessary to reach the 'risky subjects'. The platform logic just started to emerge as a result of increasing digitalization, and it quickly became the main medium for interacting with the financially excluded as it was efficient not only in surveilling but also in creating 'digital footprints' which would later be utilized in creating behavioral prediction regarding creditworthiness. Behavior of the financial subject could be monitored in real time and by presenting evaluations to customers, a mobile phone "would become a new Panopticon for self-regulating financial behaviour in ways that preserve mobile-data-based credit scores" (Gabor and Brooks, 2017:8).

The platform logic in finance had quickly made its way to the developed world as well. One of the most important companies which benefited from network effect of platforms was Apple. The element which "traditionally differentiates Apple from its competitors is the company's sway over, and unrivalled symphony between, hard- and software components, realized

through exercising a specific conception of control over its platform" (Hendrikse et al., 2018:165). The company created an integrative platform which allowed for greater control over customer data and the access to its software packages and Appstore. This resulted in the emergence of an ecosystem constituted not only by Apple products but by APIs and external developers who utilized Apple software to create their own services offered exclusively to Apple users. This 'vertical integration' is being utilized by financial services providers, such as banks, who recognized the potential of new technologies and started to invest in technological innovation and invite disruptors (i.e.: fintech companies) to labs where they can experiment with new services which later might be purchased by incumbents. This is called the 'Appleization of finance' by Hendrikse et al. (2018) which reflects that platformization is spreading through all sectors of the economy as it enables larger than ever control and surveillance (Zuboff, 2019). In this sense, platforms do not disrupt the market, but create a blueprint for creating new markets and monopolies: they do not democratize access by encouraging competition and innovation but consolidate power by capitalizing on network effects (Langley & Leyshon, 2020).

New regulatory regimes also supported the spread of the platform logic. After the shock of the 2008 financial crisis, regulators started to take a stricter stance on the financial sector, especially on banking operations. Before the crisis, risks arising from the operation of banks and financial institutions were measured only on the firm level and set the same conditions for every financial service provider irrespective of its system-level importance (Gadanecz & Jayaram, 2015). The shock of the financial crisis, however, urged regulators to incorporate systemic risk management into regulatory frameworks. This led to the emergence of macroprudential policies where the 'systemically important banks' were regulated in a different manner and target indicators were crafted for the whole financial system to tame risks. For

example, sectoral capital requirements were defined to prevent banks from being exposed too much to financing particular sectors (Gadanecz & Jayaram, 2015).

While such measures represented a more responsible regulation of banks, this came with immediate unintended consequences including banks cutting down parts of their portfolios due to an elevated sense of risk aversion and the subsequent decline of bank profitability (Mackintosh, 2015; Davis et al., 2022). Also, the immediate post-2008 epoch was burdened by a lack of investment in the private sector due to heightened sensitivity to risk. This contributed heavily to the fact that ten years after the global financial crisis, 60% of countries still could not achieve their pre-crisis level output (Chen et al., 2019).

The lack of initiative from the private sector was seen increasingly as a systemic problem by decision-makers. Central banks around the world unveiled unconventional monetary policy tools to boost lending from the 2012 Funding for Lending Scheme started by the Bank of England to the Funding for Growth Scheme of the Central Bank of Hungary (Churm et al., 2012; Endresz et al., 2015). Apart from such direct and short-term interventions to financial markets, more strategic and long-term transformations started to take place during the beginning of the 2010s. The aforementioned need to understand sub-prime customers better and to create fine-tuned financial products which can make them part of the circulation of value in the financial sector paired with the policy objective to reach pre-crisis levels of economic activity through private investments led governments to invite financial disruptors to experiment with new services and infrastructures.

This led to the rise of the 'regulatory sandbox approach' meaning that regulators started to create a favorable environment for fintech companies. While according to the official communication, these regulatory sandboxes served the purpose of risktaming and controlling fintech companies, in fact, they had become sites of uncritically implementing fintech services

(Brown & Piroska, 2022). While still tightening the regulatory environment around the banking sector, financial regulators started to open up space for fintech companies to experiment with new solutions in close collaboration with regulators. The state-level encouragement of fintech "enhances the 'efficiency' of market-based finance; it accelerates an opaque creation of asset classes for further investment purposes" (Brown & Piroska, 2022:27).

Since then, governments and supranational agencies like the European Union, are pushing the financial sector towards platformization with new regulatory regimes, like the PTSD2 framework which turns banks into mere trustees of data and grants new platforms access to customer data and financial service provision (Westermeier, 2020). This is done under the idea of 'promoting free markets and competition', however, it enables platforms to grow and create 'walled gardens' of services and data which ultimately increases costs for users and decreases interoperability in financial services. This problem has also been recognized by central banks as a systemic risk. Financial fragmentation making financial services less efficient and the need to preserve the sovereignty of central bank policies in the age of BigTech is discussed in a more and more intense manner (Vodrázka et al., 2022). However, central banks seem to affirm the platform logic as instead of acting against the prevalence of the platform logic they aim to create a platform of platforms to counter the 'wall-gardens' effect utilizing the platform logic itself (for the 'platform model' of the digital pound outlined by the Bank of England, see Greener, 2023 and for the 'unified ledger' concept, see Bank for International Settlements, 2023).

How to govern 'risky populations': limitations of the self-regulating subject and the mobilization of the social

In the previous section, the macro view was presented in which platforms were described as active agents, while customers were depicted as holders of digital raw material: data. However, platforms would not spread if they were not attractive for customers. As Fourcade (2016)

describes, ordinalization has a participatory invitation, namely, that it offers a way for the subject to 'work themselves up' in the hierarchy. This, contrary to the intention of the ordinal hierarchization aiming to create a calculative, rational and self-regulating agent, also opens up room for customers to imbue platforms with their own interpretations and meanings. While Gabor and Brooks (2017) frame the spread of digital finance mediated by new devices in everyday life as ''financial intrusion", technology is also domesticated and re-domesticated by its users (Huang et al., 2020; de Reuver et al., 2016). However, ultimately, it is the platform which encircles the space of possible actions of participation (for an illustrative case study on the Guaraní community's failed efforts to carry out decolonizing projects through social media, see Wagner & Fernandez-Ardevol, 2019).

While ordinalization is individual-centric, platforms aim to connect multiple users in a controlled and guarded environment. While this is presented as an economic relationship which is based on pragmatic values such as efficiency, platform operations often utilize extra-economic social relationships of their users with each other. While from a data extraction point of view, it is obvious that these noneconomic relationships bring significant value as raw data, the social is also becoming an integral part of new products and services. This trend was started as an experimental policy response to problems arising on the periphery where financial service providers of the developed world realized that new strategies are required when providing services to the previously unbanked (i.e.: to the rural poor).

Prior to the 2008 crisis, the main strategy to reduce global poverty and support financial inclusion of the global poor was driven by the 'microfinance paradigm'. According to the logic of microfinance, the only thing the poor were lacking was capital and with enough money provided, following their entrepreneurial spirit, they could start businesses and get out of poverty. For example, microcredit programs were launched to support rural people to start agricultural facilities. Such programs were sponsored by important intergovernmental

organizations, such as the UN or the World Bank and sparked public-private partnerships between the periphery and the West (Munir, 2014). However, these experiments were mostly inefficient and counterproductive as microcredit recipients could not utilize economies of scale and "tiny subsistence agricultural units are simply not the most appropriate agricultural units if a developing country wants to achieve sustainable rural jobs growth and local food security" (Bateman & Chang, 2012:20). Many microcredit recipients went bankrupt while they still had the obligation to repay the loan. In many cases this sparked a wave of suicide among the poor who had no income to cover repayments and were actively shamed by the community and loan collectors (Biswas, 2010).

As it had become clear that targeting individuals without considering complex dynamics of local economic and social relationships and capacities leads to inefficient allocation and default events (Woolcock, 1999), microcredit providers started to experiment with integrating social networks into credit provision (Postelnicu et al., 2014). One instrument is the social collateral which refers to a group who are collectively responsible for a loan taken by an individual. The borrower, therefore, is incentivized to make repayments and can receive financial, social and emotional support from their peers. It is also combined by training programs to develop financial literacy and other necessary skills of the group (Kumar K, 2012). This was proven to be efficient in preserving people in microcredit programs as their social networks provided backing, a feeling of trust and security (Hadi & Kamaluddin, 2015).

Such practices made their way into the developed world as well. Fintech companies, like Vouch, started to offer credit requiring social collateral instead of traditional forms of collateral (i.e.: physical or financial asset) and others created peer-to-peer financing solutions for specific groups connected by shared values and a common sense of belonging, like SoFi which made possible for "the alumni of elite US universities to fund the loans of the next generation of

students" also providing career consulting services for students to make them able to fulfill repayment obligations (Tooker and Clarke, 2018:68).

The social, therefore, is acknowledged as a factor which should be considered in the economic organization. The failure of the microcredit project based on the myth of the entrepreneurial spirit and individual agency made financial service providers realize that their products are often the top-down applications of abstract financial models rather than the result of experimentation with scenarios bottom-up (Chen, 2016). One key aspect overlooked by microcredit projects is the failure to acknowledge the significance of the social matrix of borrowers in which cultural values and meanings are attached to money and money practices (Woolcock, 1999). This is very important as financial subjectivization is often contradicted by the reluctance of people to interiorize the principles of calculative self-management, rather they preserve their own extra-economic value statements about money practices and use them as mere means in their own cultural framework. This is also called 'domestication of finance' (Pellandini-Simányi et al., 2015) which refers to the process that not only the world of finance intervenes into everyday life, but people reinterpret financial objects from the perspective of their everyday practices. Pellandini-Simányi et al. (2015), for example, show how Hungarian mortgage borrowers are approaching their participation in the financial system not as a result of a calculative cost-benefit analysis, but as an instrument to achieve a desired social position as 'homeowner'. As they put it:

> "These market-wisdoms do not draw on financial calculations but on the popular reasoning that 'if you buy, you pay the same as rent but at the end the house is yours'; and on the notion of the house as a longterm family home, a form of accumulating prestige and providing security" (Pellandini-Simányi et al., 2015:16).

However, there are, of course, limitations to the resistance of the subject. For example, algorithms and scoring models, as mentioned above, create an environment where the room for decision-making and individual agency is encircled by siloed channels of pre-processed

choices fine-tuned for customer segments. Also, the platform infrastructure turns every kind of behavioral data into a productive force, and as such, it "obstructs escape attempts from the financial system by turning even oppositional actions into productive resources for financial profits" (Christiaens, 2016:11).

One way of smoothing the resistance of financial subjects and individual meanings into the platform logic is through making platform-based money practices part of value systems in which platforms imbue money with specific meanings familiar to the everyday experience of the customer. In this sense, money is turned into both data which is informative for platforms about customer behavior and can be utilized by algorithms, and experience which is relatable and can provoke participation supporting domestication of finance governed by the platform.

Re-embeddedness of Money through Platforms: turning Money Practices into Value Statements

Platforms invite customers to participate, firstly, to generate behavioral data which is useful for a wide range of market operations, and secondly, to act as a productive force and become a governable subject. However, as people interpret platforms according to their cultural matrix, platforms have to offer their own unique alternative vocabulary of value statements for the interpretation of money practices. In this final part of the contribution, I will examine this phenomenon. The fact that not only individuals within households imbue money practices with cultural meanings as Zelizer (1994) highlighted, but market participants also make money part of a sociocultural matrix reflects a shift away from the impartial and objective positioning of money in a disembedded economy towards the re-embeddedness of money into social networks. In this section, I will review actual cases of platforms creating culturally imbued

value spaces which are familiar, convenient and smooth for customers. Entering these spaces, the subject is invited to make statements through culturally pre-charged money practices.

Schrödinger's Money: Data and Experience

As it was presented in the second part of the contribution, money practices are primarily mediated by digital platforms. In this sense, money is becoming digital and invisible as "clumsy and expensive to handle coins and notes are replaced by efficient electronic payments initiated by various types of plastic cards" (Worthington, 1995:31) (and increasingly by mobile phone-based platforms). These infrastructures, while seem to be immaterial, manifest particular beliefs and interpretations of money. As platforms are dependent on network effects, they are in fierce competition with each other to create an increasingly complete and closed ecosystem covering all parts of customers' everyday life. In this sense, platforms must integrate money practices, social networks, while leaving room for the sensation of self-expression and self-realization, thus becoming "dynamically evolving battlegrounds between money cultures and imaginaries" (Rella, 2020:239).

This way, platforms manifest two contradictory tendencies: money as data and money as experience. Money as data refers to the fact that as infrastructures mediating money practices are becoming increasingly digital, during the payment process "no actual thing is transferred, but merely a digital record is updated" (Ferreira & Perry, 2019:129). In this sense, money is becoming one data stream among many and potentially merged with other datasets (Westermeier, 2020). However, exactly since the format of money as data is interoperable with other types of data on non-monetary characteristics of the everyday life of customers, monetary information is connected to all kinds of information forming a multidimensional system transcending boundaries drawn by traditional institutions such as banks or governments.

These interlinkages allow for integrating monetary and non-monetary data into a single structure in which, based on particular selection criteria, they form a common system of production and circulation. In such a system, for example, on a platform, exactly due to the digital nature of all kinds of data, not only monetary units can be exchanged, accumulated and sold, but also data representing cultural and social characteristics. In order, however, to make such data part of the circulation of value, platforms should offer their users participation not only in the transaction of monetary value, but in other forms of interactions.

The fact that money is becoming abstract data makes it possible to be mediated not only by traditional monetary ecosystems, but also by social media paving the way for a dual dynamic of money in the digital age. From the perspective of monetary theory, this duality is interpreted by Brunnermeier et al. (2019) as unbundling and re-bundling of money. They argue that if money is nothing but digital data, switching costs between currencies can be low and currency exchanges can be automatized through digital tools such as algorithms in various digital networks. This would also mean that "there is no longer a strong incentive to use one currency as both a store of value, medium of exchange, and unit of account" (Brunnermeier et al., 2019:11) paving the way for currency competition in every possible money function. For example, one currency might be specialized in the store of value function, while the other could be merely a medium of exchange as switching costs between currencies are low due to money being a digital token interpretable by multiple digital networks.

The other side of the digital coin is the re-bundling of money. If money is part of data collected, stored and circulated by platforms, and each platform represent a unique value proposal, money will be linked to particular platforms and their relationship "will effectively be competition between bundles of information and networking services" (Brunnermeier et al., 2019: 14). This entails that there would be multiple monies of which attractiveness is defined by the attractiveness of the platform itself, therefore, all the goods and services which can be accessed

through the usage of that particular money on the platform. For example, an ‘AmazonCoin’ which makes possible for the users of Amazon to settle transactions might be more attractive than the special coin of a smaller e-commerce platform which can be used for purchasing a smaller circle of goods and services.

From the perspective of the social study of finance, this dichotomy is captured as the ‘abstract embeddedness’ of money (Tkacz, 2019). For example, the functioning of Apple Pay is based on an experience of simplicity and smoothness, a “That’s it!” moment which merges into everyday practices of holding a mobile phone. Apple Pay makes the act of payment and the associated monetary exchange disappear in an experience of ‘tapping and go’ where money is not a distinct instrument which should be subject of careful management and calculation, but an unexamined bodily movement, a gesture always ready at hand. In platforms, like Apple Pay, “little or no distinction is made between money per se and a specific money-practice” (Tkacz, 2019:7). This experience, however, is carefully designed and managed by UX developers: it is broken down into scenarios, maps and narratives and turned into abstract user journeys which can be reproduced and “carried along (abstracted) into specific products and services, into devices, interfaces and wider ecologies – into the full spectrum of everyday money apps” (Tkacz, 2019:16). The concept of the abstract embeddedness of money is distinct from the concept of re-embeddedness. The former describes how user journey designs of money practices are both culturally charged and can be generalized into narratives that can be used by other apps, while the re-embeddedness of money also describes how these money practices are designed by platforms anticipating the users’ domestication of money. They both capture the fact that money as an abstract infrastructure is embedded in the experience of a money practice by the platform, however, only the re-embeddedness view explains the reason behind the embeddedness.

An illustrative case study is the rise of Venmo, particularly in the US, which builds on assigning socially embedded meanings to digitally mediated payments. Venmo is a popular a peer-to-peer payment platform reportedly used by 38% of US adults with a slightly larger customer base of 57% of people between 18 and 29 years (Anderson, 2022). The value offer of Venmo is that it integrates the social element into payments (Drenten, 2022). In Venmo, users can make transactions to each other, however, unlike other platforms mediating money practices, such as banking apps, these transactions appear on a public feed not showing the amount paid but presenting the transacting partners and a "memo field" containing the description of the transaction (Acker & Murthy, 2020:4). It is also possible for other users to comment and react with emojis to transactions. As Acker and Murthy (2020:4) describes, "this has led to a number of fan practices such as charging Sean Spicer for lying in a news conference, or scanning for celebrity users and their transactions in the public feed". Venmo, therefore, makes room for people to turn transactions into a social performance adding special symbols to the memo field, therefore, assigning their own meanings to payments (Caraway et al., 2017). The participatory invitation of Venmo concerns the relational element of the payments, namely that money is transferred between a payer and a payee (or groups) all having specific intentions, goals and desires which are satisfied in the payment process. These parties attach their own meanings to the money practice of sending and receiving the payment which they can publicly articulate on the platform. In this sense, Venmo merely provides a space for such exchanges which become social and cultural through the publicity and the 'memo field' filled by people participating in the platform.

New mediums, such as the mobile phone, therefore, pave the way for turning money both into abstract data and lived experience. The primary medium for such transformations is the mobile phone-based platform which aims to utilize network effects, therefore, it distinguishes itself through creating unique experiences of money practices, such as Venmo or Apple Pay. In this

regard, money is imbued with meanings and cultural values not only by customers, but also by the platform itself. This, however, is different from the way ordinalization invites customers to participate in ordinal hierarchies by offering them ways to 'work themselves up'. In the following section, I introduce the concept of 're-embeddedness' which is distinct from previously described conceptualizations of money in platform capitalism. Through the analysis of the documentation of the N26 Metal card design process and its popularity among other fintech platforms, I will present how platforms attach meanings to monetary practices together with customers and how it is unique and distinct from previously described 'ordinal' relationships between money, money practices and subjects.

Re-embeddedness of Money: Reanimation of Money Practices as Value Statements

The fact that meanings, values and lived experiences are utilized to enhance the effectivity of economic organization (i.e.: making platforms function more smoothly) implies a process opposite to what is described by the 'disembeddedness view' which holds that money transactions belong to the realm of rational calculations and are disembedded from social and cultural contexts. Also, the critique of the disembeddedness view fails to capture this new relationship of money, markets and people: while Zelizer (1994) takes into account 'earmarking' and the meanings which are attached to money based on particular social relationships, she did not consider completely the way markets aim to homogenize nonetheless people's experience of money (Fine and Lapavitsas, 2000). Fourcade (2016) introduces ordinalization to describe the way markets create quantitative hierarchies out of qualitative differences (Fourcade & Healey, 2017). One of the key features of ordinalization was the invitation for participation: ordinal hierarchies provide a strict, seemingly impartial hierarchy as guidance for people to govern themselves accordingly with the imperative of improvement.

For example, presenting a borrower their credit score is considered to be a good method to make them more prudent and comply with repayment schedules (Homonoff et al., 2021).

However, what we can see from the way platforms wrap money practices in value-charged experiences is beyond mere disciplinary governance implied by ordinalization. It is rather an offer of values to the user for domestication. Markets (through platforms) rather than creating exclusive hierarchies and expecting people to participate based on the principles of rational decision-making and calculative logic in an attempt to discipline subjects, offer a set of values and meanings which people can attach to money practices during the process of domesticating financial services. In this sense, money, rather than being a score turning subjects and their behaviors into a rank in an ordinal system, is, in fact, an experience charged with particular meanings offered to subjects by the platform so they can smooth these experiences into their everyday life. The novelty of this contribution is that it argues that, in contrast to the disembeddedness view, markets do acknowledge people's unique relationships to money, but instead of letting people being in charge of their own meaning-making process (for example, through completely letting them shape monetary relationships according to their social relationships), platforms offer users a pre-defined value ecosystem in which choices are limited, however, as opposed to ordinal hierarchies, not only the acts 'moving up the ladder' and self-regulation can be performed, but a qualitatively more nuanced spectrum of meanings can be experienced.

I refer to this process as re-embeddedness of money. This is a contradictory movement to the 'disembeddedness of money', the institutional separation of money from money practices and the creation of a (seemingly) impartial and rational sphere, the economy. The ordinalization view articulated by Fourcade (2016) emphasizes the way money is becoming an instrument to turn qualitative differences into hierarchies, while seeming impartial, thus including the judgement on particular social norms, behaviors, and attitudes in the form of scores into a

quantitative system. On the other hand, the re-embeddedness view proposed by this contribution builds on Zelizer (1994) and Pellandini-Simányi et al. (2015) stating that money is always imbued with meanings based on personal and social experiences, networks, and value hierarchies. The re-embeddedness view argues that platforms often utilize these experiences and values by intervening into customers' attempts to domesticate money providing meanings which are familiar to the user to facilitate and govern the way money is imbued with values by people. In the followings, a case study will be presented in which an experimentative bottom-up design approach is revealed which reshapes itself in response to customers' norms and values in an attempt to create an experience familiar to them as opposed to ordinalization where the ultimate goal is to create a seemingly impartial top-down hierarchy in which people can situate themselves through calculative self-regulation. In this sense, money is not a score which builds cultural values and experiences into a ranking, but an experience of a money practice manifesting a culturally imbued relationship which is constantly reinterpreted by subjects and platforms.

Making a statement with the N26 metal – physical connection in a digital world

The design process of the N26 metal card depicts the way a financial service provider aims to integrate its product seamlessly into the everyday life of the customer. The process is well-documented on the N26 website by two product designers Niesena (2019) and Chapman (2019). In this section, I will analyze how the re-embeddedness of money is realized in the design process communicated by the blog posts of the product designers. The main finding of the analysis of the two posts is that the intention of the designers is to create an experience of the specific money practice of paying with the N26 metal card utilizing customers' everyday experiences and values, not to alter them, but to make it more convenient for customers to domesticate their experience with N26 and integrate it into their lifestyle more easily.

In this regard, money is not presented with a sense of urgency to govern subjects through an induced self-disciplinary attitude, but as an experience which can be lived, a statement which can be made by the customer. The N26 platform, rather than creating a disciplinary regime in which the customer is encouraged to comply, is building a value offer bottom-up observing customers' everyday practices to create a money practice which can be seamlessly integrated into everyday practices of and actively reanimated by customers. In this sense, re-embeddedness is different from ordinalization, as the participatory invitation does not imply a presupposed 'right behavior' which the subject should interiorize and act accordingly to, but it encourages customers to attach their own meanings to money practices and actively reanimate payments.

According to the documentation of the design process, during the development of the N26 metal, beyond manifesting a 'premium service', "the product's ability to embed itself into the user's lifestyle" (Chapman, 2019:p2) was the most important factor. This marks a shift away from the calculative and pragmatic approach of ordinalization towards the creation of an experience based on the values, needs and everyday practices of people to facilitate domestication of finance. Also, this is different from abstract embeddedness, as the concept of Tkacz (2019) refers to the way user journeys are both imbued with specific meanings related to money, while can also be generalized and applied to multiple market segments and customer bases. Re-embeddedness, on the other hand, is a more abstract concept referring to the fact that (i) quantitative money is embedded into qualitative money practices by platforms (based on the anticipation that (ii) users will domesticate money practices and integrate them into their lifestyle.

Re-embeddedness in the case of the N26 metal card started with the identification of the cultural values and norms constituting the community which is the target of the platform. Research from a previous product "showed an emerging, affluent market segment who

associate with higher-end lifestyle brands, travelled often" (Niesena, 2019:p3). Also, the designer adds that this market segment is "interested in the peace of mind that premium products provide" (Niesena, 2019:p3). Premium treatment is associated with calmness and smoothness, while the 'affluent lifestyle' is, at the same time, explicitly stated to be at the 'higher end' of the social ladder and presented to be moving around the globe horizontally, thus manifesting status and freedom. This segmentation of the customer base reflects an ordinalization motive, however, as we can see in the followings, after the separation of premium and non-premium customers is done, the premium segment is offered specific value proposals along which they can domesticate and live experiences. This group is also associated, in the eyes of the designer team, with a particular affinity toward self-expression as they "are placing an increasing importance on self-labeling via brands" (Chapman, 2019:p3).

Re-embeddedness is happening through governing customers' attempt to domesticate financial services. This requires the experience of a money practice offered by the platform to be compatible with other experiences of the customers' everyday life. It is documented that during the design process of the N26 metal as "financial institutions proved to be unsuccessful in gathering premium design ideas" (Niesena, 2019:p6), designers focused on "products an individual would interact with on a daily basis" (Niesena, 2019:p7). It is necessary for the card to manifest properties similar to everyday material objects used by customers so they can seamlessly integrate it into their lifestyle. The main value offering of the platform is to "make the N26 Metal card extremely memorable" (Niesena, 2019:p10), thus it takes into account and responds to the experiences of the customer. In this sense, money is not an urgency, a warning for self-disciplinary behavior, but a familiar and convenient experience which can be domesticated by the customer.

The familiarity of the money practice facilitated by N26 is ensured by embedding it in a metal card offered by the platform. It is the materiality of the card which enhances the potential of

the customer to domesticate the money practice and make it a seamless part of their lifestyle. This materiality, however, is in contradiction with modern approaches to financial services. As the digitization of finance and the lack of need for physical mediums (other than a mobile phone) in money practices is seen as providing efficiency gains in the discourse of solutionism (Brown & Piroska, 2022), "people hardly considered that there was something more to be experimented with" (Niesena, 2019:p4). According to one of the designers, however, the N26 Metal design process aimed to create a "rare physical touchpoint in our digital product offering to create an emotional connection" (Chapman, 2019:p10). As the metal card manifests "a physical connection to a fully digital product" (Niesena, 2019:p4), the aim of the design process is driven by „the idea that the product must be interacted with" towards the aim of „giving Metal a tangible personality" (both from Chapman, 2019:p4).

The delivery of a memorable experience overwrites principles of functionality taken for granted in fintech solutionism. As the documentation of the design process states, the metal card

> "is 3 times heavier than a standard card and features a stainless steel front with a double hit of black varnish producing a subtle, matte effect. A clear protective coating helps to protect the card, extending the designs clean surface from unwanted scratches" (Niesena, 2019:p14).

Weight of the product emphasizes its materiality and durability, it is noticeable, yet it is convenient and simple. As Niesena (2019:p14) highlighted: "Everything that wasn't needed was removed. We became the first bank card to place the name, phone number and personal identification numbers on the reverse of the card creating a clean, unobtrusive final result." While hiding personal information might seem depersonalizing, the overall aesthetic experience including the materiality, the typography, the package in which the card is delivered and the N26 website "unconventional for a finance brand, speaks to the agency we want to give the user" (Chapman, 2019:p9).

The importance of the 'unobtrusive' nature of the card implies that it is intended to be integrated into semi-unconscious everyday practices of the customer, while the materiality of the card adds a weight to the money practice making it a distinct, 'memorable' experience. Also, the card has other variants, quartz rose and "green with humanist mossy undertones that feel derived from natural materials" (Chapman, 2019:p6). The presentation of the card as natural seems to create a sense of natural givenness, as if the card was always 'ready-at-hand' waiting for the customer to reanimate it. Referring to the 'agency' of the user points to this 'reanimation element', to the fact that the designers of the N26 metal card anticipate that customers attach their own meanings to money practices independently. Unlike ordinalization, this implies that the customer has a certain degree of freedom past mere self-regulating behavior.

Re-embeddedness becomes complete when the carefully curated experience becomes an integral part of customers' self-expression through everyday practices. The metal card is not only an offer made by the N26 platform, but an invitation to the customer to domesticate it along their own meanings and values, to re-animate the money practice of paying with the N26 metal card. As one of the product designers puts it: "Every time you pay with N26 Metal you are making a statement." (Niesena, 2019:p14). The metal card is supposed to be reanimated by users with their own meanings "Actively calling for our user's to "make a statement" with the card" (Chapman, 2019:p2). It is highly emphasized that N26 is "giving room for our users' uniqueness" (both from Chapman, 2019:p9) "and the way they use Metal, is personal, dynamic and inherently "makes a statement"." As the last stage of the design process the card was advertised on social media by presenting it outdoors, for example, on a rock against the blue sky, which resonates with the highly mobile customer segment, the target of the N26 Metal. Engagement on social media (i.e.: in the form of likes, shares and comments) with posts on the card design is highlighted by the designers as an important factor in the metal card's success which indicates that ultimately it is the customer who has to reanimate the medium of the

money practice (which becomes the money practice itself) with meanings, but it is the medium which makes room for its own domestication by the subject.

The N26 is a unique example, however, since then, Revolut, a rapidly growing international fintech which saw an increase of 45% in revenue, a rise of 70% in customer deposit and a 60% increase in customers between 2022 and 2023 (Phelan, 2023) also adapted the multiplicity of card designs including the default multicolor, a black and a customizable card design with the latter to be set up in the Revolut app by the customer. Also, Revolut offers many subscription plans priced progressively higher as the quality of their 'lifestyle benefits' increase with 'Ultra' being the most expensive (Revolut, 2024). Ultra comes with a 'platinum card' with an associated invitation for the customer made by Revolut to "make every payment a little more valuable with this precious metal at your fingertips" (Revolut, 2024:p2). This is similar to the statement-making feature of the N26 metal: it adds a cultural and aesthetic extra-economic value to payments which customers are encouraged to shape themselves. The associated 'lifestyle benefits' are also tailored to the needs of an affluent and mobile market segment of the global upper-middle class. These include premium digital subscription for Financial Times, a plus silver subscription of food ordering platform Deliveroo, subscriptions for wellbeing apps, such as Headspace, Headaway and Sleep Cycle (Revolut, 2024). Also, Revolut Community, a webpage where Revolut customers can write feedbacks is monitored by Revolut employees who try to include some of these feedbacks and commentaries into the company's business development initiatives and product design.

The model of N26, therefore, is generalized and utilized by other fintech platforms as well making re-embeddedness through reanimation of payments an increasingly general practice in financial industry. One sign for this process is the increasing number of fintech platforms dedicated to kids and teens focusing on teaching financial literacy and money management skills (Chiavarini, 2022): such platforms aim to translate money practices to the language and

experiences of a particular customer segment (children) so they can confidently assign their own meanings to money and payments in an environment familiar to them. For example, the developers of a new app still in the research phase "have developed a panel in conjunction with local primary schools and found that children love it" implying that the needs, values, and attitudes of the customer segment was also taken into account, similar to N26 and Revolut (Wallace, 2024:p21).

Such design processes, of course, do not rule out the fact that possibly, such platforms can be utilized for inducing a self-disciplinary attitude in customers and rankings based on wealth, transaction volume or other factors. However, it is also clear, that during the product development of such platforms, the anticipation of customers' attempt to domesticate money practices is integral. Re-embeddedness of money refers to this process in which platforms provide experiences to be lived uniquely by a customer segment, a culturally imbued money practice to be reanimated by and translated to the everyday experiences of the customer.

Conclusion

In this contribution I presented the re-embeddedness of money through platforms. While prominent conceptualizations of money in the digital age emphasize the way money is becoming an instrument to create the self-regulating subject through ordinalization, I presented that platforms anticipate that users would try to domesticate money practices and resist financialization. Instead of trying to counter the process, platforms realize that they can only become successful if make themselves attractive to users and offer culturally charged experiences of money to them which users can integrate into their own everyday experiences. This invitation for users to reanimate money practices with their own meanings ensures that domestication of money practices, the translation of the experiences of money into the language of users is facilitated by the platform. I call this process re-embeddedness, because it marks a

shift from the 'disembeddedness view', the conceptualization of money as a tool of rationalization in the economy independent from social relations towards platforms acknowledging the meanings and values attached to money and behaving accordingly on markets. Everyday experiences of money are not only lived by users as resistance to platforms but are increasingly offered by platforms to provide their own language for users' attempt at domestication. This contribution might be informative for sociologists who aim to theorize the role of money and payments in the digital age with possible future streams of research including the actual values and (possibly gender-, race-, and class-based) social imaginations mobilized during re-embeddedness of money or the implications of the re-embeddedness of money for the macro level.

Bibliography

Acker, A., Murthy, D. (2020) What is Venmo? A descriptive analysis of social features in the mobile payment platform, *Telematics and Informatics,* 52, pp.1-12. doi: https://doi.org/10.1016/j.tele.2020.101429

Allen, J., Pryke, M. (1999) Money Cultures after Georg Simmel: Mobility Movement, and Identity, *Environment and Planning D: Society and Space,* 17(1), pp.51-68. doi: https://doi.org/10.1068/d170051

Bank for International Settlements (2023) Blueprint for the future monetary system: improving the old, enabling the new. In: BIS Annual Economic Report 2023. online: III. Blueprint for the future monetary system: improving the old, enabling the new (bis.org)

Banque de France (2021) Payments and market infrastructures in the digital era. [online] Available from: https://www.banque-france.fr/en/publications-and-statistics/publications/book-payments-and-market-infrastructures-digital-era

Barns, S. (2019) Negotiating the platform pivot: From partiicpatory digital ecosystems to infrastructures of everyday life, *Geography Compass,* 13(9), pp.1-13. doi: https://doi.org/10.1111/gec3.12464

Bateman, M., Chang, H. (2012) Microfinance and the Illusion of Development: From Hubris To Nemesis in Thirty Years, *World Economic Review,* 2012 (1), pp.1-24. online: https://ssrn.com/abstract=2385482

Benjamin, R. (2020) Assessing risk, automating racism, *Science,* 366 (6464), pp.421-422. doi: 10.1126/science.aaz3873

Braun, B. (2016) From performativity to political economy: index investing, ETF and asset manager capitalism, *New Political Economy,* 21(3), pp. 257-273. doi: https://doi.org/10.1080/13563467.2016.1094045

Brown, E., Piroska, D. (2022) Governing Fintech and Fintech as Governance: The Regulatory Sandbox, Riskwashing, and Disruptive Social Classification, *New Political Economy,* 27(1), pp.19-32. doi: https://doi.org/10.1080/13563467.2021.1910645

Brunnermeier, M., James, H., Landau, J. (2019) The Digitalization of Money, *National Bureau of Economic Research Working Paper* 26300. online: http://www.nber.org/papers/w26300

Biswas, S. (2010) India's micro-finance suicide epidemic, *BBC*, December 16. online: India's micro-finance suicide epidemic - BBC News

Caraway, M., Epstein, D.A., Munson, S.A. (2017) Friends Don't Need Receipts: The Curious Case of SOcial Awareness Streams in the Mobile Payment App Venmo, *Proceedings of the ACM on Human-Computer Interaction*, 1, pp.1-17. doi: https://doi.org/10.1145/3134663

Carruthers, B.G. (2022) *The Economy of Promises: Trust, POwer, and Credit in America*. Princeton, NJ: Princeton University Press.

Chapman, G: (2019) Branding the N26 Metal Experience, *N26.com*, January 18. online: Branding the N26 Metal Experience

Chen, L. (2016) From Fintech to FInlife: the case of Fintech Development in China, *China Economic Journal,* 9(3), pp.225-239. doi: https://doi.org/10.1080/17538963.2016.1215057

Chen, W., Mrkaic, M., Nabar, M.S. (2019) The Global Economic Recovery 10 Years After the 2008 Financial Crisis, *IMF Working Papers,* 2019(083), pp.1-32. doi: https://doi.org/10.5089/9781498305426.001

Chiavarini, L. (2022) Back-to-school: Fintech for kids & teens, *dealroom.com,* September 6. online: Back-to-school: Fintech for kids & teens | Dealroom.co

Christiaens, T. (2016) Digital subjectivation and financial markets: Criticizing Social Studies of Finance with Lazzaroto, *Big Data & Society,* 3(2), pp.1-15. doi: https://doi.org/10.1177/2053951716662897

Churm, R., Radia, A., Leake, J., Srinivasan, S., Whiskier, R. (2012) The Funding for Lending Scheme, *Bank of England Quarterly Bulletin,* 2012 (Q4). online: https://ssrn.com/abstract=2195944

Davis, E.P., Karim, D., Noel, D. (2022) The effects of macroprudential policy on banks' profitability, *International Review of Financial Analysis,* 80 (2022), pp.1-27. doi: https://doi.org/10.1016/j.irfa.2021.101989

Deflem, M. (2003) The Sociology of the Socology of Money: Simmel and the Contemporary Battle of the Classics, *Journal of Classical Sociology*, 3(1), pp.67-96. doi: https://doi.org/10.1177/1468795X03003001695

Eichengreen, B., Temin, P. (2000) The Gold Standard and the Great Depression, *Contemporary European History,* 9(2), pp.183-207. doi: https://doi.org/10.1017/S0960777300002010

Endresz, M., Harasztosi, P., Lieli, R.P. (2015) The Impact of the magyar Nemzeti Bank's Funding for Growth Scheme on Firm Level Investment, *MNB Working Papers 2,* 1-38. online: https://www.mnb.hu/letoltes/ehl-wp-2015-final-3.pdf

Federal Deposit Insurance Corporation (1998) A Brief History of Deposit Insurance in the United States. online: https://archive.fdic.gov/view/fdic/6799

Ferreira, J., Perry, M. (2019) From Transactions to Interactions: Social Considerations for Digital Money. In: Lynn, T., Mooney, J., Rosati, P., Cummins, M. (ed.) *Disrupting Finance*, Palgrave Studies in Digital Business & Enabling Technologies. Cham, Switzerland:Palgrave Pivot. doi: https://doi.org/10.1007/978-3-030-02330-0_8

Fine, B., Lapavitsas, C. (2000) Markets and money in social theory: what role for economics?, *Economy and Society,* 29(3), pp.357-382. doi: https://doi.org/10.1080/03085140050084561

de Fiore, F., Gambacorta, L., Manea, C. (2023) Big techs and the credit channel of monetary policy, *BIS Working Papers,* No 1088, pp.1-41. online: https://www.bis.org/publ/work1088.htm

Fisher, M. (2009) *Capitalist Realism: Is There No Alternative?* London, UK: Zero Books

Foucault, M. (2010) (ed. Gros, F., Fontana, A., Ewald, F., Davidson, A.I., Burchell, G.) *The Government of Self and Others: Lectures at the College de France, 1982-1983*. Southampton, UK: Picador.

Fourcade, M. (2016) Ordinalization: Lewis A. Coser Memorial Award for Theoretical Agenda Setting 2014, *Sociological Theory,* 34(3), pp. doi: https://doi.org/10.1177/0735275116665876

Fourcade, M., Healy, K. (2017) Seeing like a market, *Socio-Economic Review,* 15 (1), pp.9-29. doi: https://doi.org/10.1093/ser/mww033

Friedman, G. (2014) Workers without employers: shadow corporations and the rise of the gig economy, Review of Keynesian Economics, 2(2), pp.171-188. doi: http://dx.doi.org/10.4337/roke.2014.02.03

Gabor, D., Brooks, S. (2017) The digital revolution in financial inclsuion: international development in the fintech era, *New Political Economy,* 22(4), pp.423-436. doi: https://doi.org/10.1080/13563467.2017.1259298

Gadanecz, B., Jayaram, K. (2015) Macroprudential policy frameworks, instruments and indicators: a review. IFC workshop on *„Combining micro and macro statistical data for financial stability analysis. Experiences, opportunities and challenges,* Warsaw, Poland, 14-15 December 2015. online: https://www.bis.org/ifc/publ/ifcb41c_rh.pdf

Gilman, M.E. (2020) POverty lawgorithms: A Poverty Lawyer's Guide to Fighting Automated Decision-Making Harms on Low-Income Communities. *Data & Society.* online: Data & Society — Poverty Lawgorithms (datasociety.net)

Greener, R. (2023) Enabling innovation through a digital pound, *bank of England Quarterly Bulletin 2023*. online: Enabling innovation through a digital pound | Bank of England

Gugerli, D. (2010) Data Banking: Computing and Flexibility in Swiss banks 1960-90. In: Kyrtis,A.A. (ed) Financial Markets and Organizational Technologies. Palgrave Macmillan Studies in Banking and Financial Institutions. London, UK: Palgrave Macmillan. doi: https://doi.org/10.1057/9780230283176_5

Hadi, N.A., Kamaluddin, A, (2015) Social Collateral, Repayment Rates, and the Creation of Capital AMong the Clients of Microfinance, *Procedia Economics and Finance,* 3 (2015), pp.823-828. doi: https://doi.org/10.1016/S2212-5671(15)01172-7

Hao, K. (2020) The coming war ont he hidden algorithms that trap people in poverty, *MIT Technology Review,* December 4. online: The coming war on the hidden algorithms that trap people in poverty | MIT Technology Review

Hendrikse, R., Bassens, D., van Meeteren, M. (2018) The Appleization of finance: Chating incumbent finance's e,brace of FinTech, *Finance and Society,* 4(2): pp.159-180. doi: https://doi.org/10.2218/finsoc.v4i2.2870

Hermann, J. (2017) Platform Companies Are becoming More Powerful – but What Exactly Do They Want? *The New York Times Magazine,* March 21. online: Platform Companies Are Becoming More Powerful — but What Exactly Do They Want? - The New York Times (nytimes.com)

Homonoff, T., O'Brien, R., Sussman, A.B. (2021) Does Knowing Your FICO Score Change Financial Behavior? Evidence from a Field Experiment with Student Loan Borrowers, *The Review of Economic Statistics,* 103 (2), pp.236-250. doi: https://doi.org/10.1162/rest_a_00888

Huang, Y.; Miao, W. (2021) Re-domesticating social media when it becomes disruptive: Evidence from China's „super app" WeChat. *Mobile Media & Communication,* 9(2), pp.177-194. doi: https://doi.org/10.1177/2050157920940765

Hughes, N., Lonie, S. (2007) M-PESA: Mobile Money for the „Unbanked" Turning Cellphones into 24-Hour Telles in Kenya, *Innovations: Technology, Governance, Globlaization,* 2(1-2): pp.63-81. doi: https://doi.org/10.1162/itgg.2007.2.1-2.63

Ingham, G. (1996) Money is a Social Relation, *Review of Social Economy*, 54(4), pp.507-529. online https://www.jstor.org/stable/29769872

Ivanova, M.N. (2020) Marx's Theory of Money: A Reappraisal in the Light of the Unconventional Monetary Policy, *Review of Radical Political Economics,* 52(1), pp.137-151. doi: https://doi.org/10.1177/0486613419856727

Kalberg, S. (1980) Max Weber's Types of Rationality: Cornerstones for the Analysis of Rationalization Processes in History, *The American Journal of Sociology*, 85(5), pp.1145-1179. online: https://www.jstor.org/stable/2778894

Kear, M. (2012) Governing Homo Subprimicus: Beyond Financial Citizenship, Exclusion and Rights, *Antipode,* 45 (4), pp.926-946. doi: https://doi.org/10.1111/j.1467-8330.2012.01045.x

Kerssens, N. (2018) The Database 'Revolution': The Technological and Cultural Origins of the Big-data-based Mindset in American management, 1970s-1980s, *TMG Journal for Media History,* 21 (2), pp.7-29. doi: https://doi.org/10.18146/2213-7653.2018.364

Kocherlakota, N.R. (1998) Money is Memory, *Journal of Economic Theory*, 81(2), pp.232-251. doi: https://doi.org/10.1006/jeth.1997.2357

Koh, S.K. (2017) Book Review: Platform Capitalism by Nick Srnicek, *LSE Blog,* June 5. online: Book Review: Platform Capitalism by Nick Srnicek | LSE Review of Books

Kregel, J. (2021) The Economic Problem: From barter to Commodity Money to Electronic Money, *Levy Economic Institute, Working Paper Series*, 2021 January, pp.1-32. doi: https://dx.doi.org/10.2139/ssrn.3772941

Kumar K, N. (2012) Dynamic Incentives in Microfinance Group Lending, *SAGE Open,* 2(2), pp.1-9. online: http://sgo.sagepub.com

Langley, P., Leyshon, A. (2021) The Platform Political Economy of FinTech: Reintermediation, Consolidation and Capitalisation, *New Political Economy,* 26 (3), pp.376-388. doi: https://doi.org/10.1080/13563467.2020.1766432

Lunt, D. (2012) World Spirit as Baal: marx, Adorno, and Dostoyevsky on Alienation, *The Journal of Speculative Philosophy,* 26(2), pp.485-496. doi: https://doi.org/10.5325/jspecphil.26.2.0485

Mackintosh, S.P.M. (2015) Crises and Paradigm Shift: A Response to Critics, *The Political Quarterly*, 86 (1), pp.3-6. doi: https://doi.org/10.1111/1467-923X.12131

Marcuse, H. (2003) *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*. London and New York: Routledge.

Marx, K., Engels, F. (1969) Manifesto of the Communist Party. In: *Marx/Engels Selelcted Works*, Volume One, Moscow USSR: Progress Publishers, pp.98-137. online: Marx & Engels Selected Works (Vol. 1) (marxists.org)

Melitz, J. (1970) The Polanyi School of Anthropology on Money: An Economist's View, *American Anthropologist*, 72(5), pp.1020-1040. doi: https://doi.org/10.1525/aa.1970.72.5.02a00020

Munir, K.A. (2014) How microfinance disappointed the developing world. *The Conversation,* February 17. online: How microfinance disappointed the developing world (theconversation.com)

Nelms, T.C., Maurer, B., Swartz, L., Mainwaring, S. (2018) Social Payments: Innovation, Trust, Bitcoin, and the Sharing Economy, *Theory, Culture & Society,* 35(3), pp.13-33. doi: https://doi.org/10.1177/0263276417746466

Niesena, T. (2019) How we transformed a bank card into a lifestyle product, *N26,* March 2022. online: How we transformed a bank card into a lifestyle product - N26

Njugana, R., Sowon, K. (2021) A Scoping Review of Alternative Credit Scoring Literature. *Compass '21: ACM SIGCAS COnference on COmputing and Sustainable Societies (COMPASS)*, Virtual Event, Australia, June. doi: https://doi.org/10.1145/3460112.3471972

Oversveen, E. (2022) Capitalism and alienation: Towards a marxist theory of alienation for the 21st century, *European Journal of Social Theory,* (25)3, pp.420-457. doi: https://doi.org/10.1177/13684310211021579

Pellandini-Simányi, L., Hammer, F., Vargha, Zs. (2015) The Financialization of Everyday life or the Domestication of Finance? *Cultural Studies,* 29(5-6), pp.733-759. doi: https://doi.org/10.1080/09502386.2015.1017142

Pellandini-Simányi, L., Conte, L. (2021) Consumer de-responsibilization: changing notions of consumer subjects and market moralities after the 2008-9 financial crisis, *Consumption Market & Culture,* 24(3), pp.280-305. doi: https://doi.org/10.1080/10253866.2020.1781099

Phelan, J. (2023) We1re bigger, bolder, and more global than ever, *Revolut.com,* December 21. online: Annual Report Blog 2022-2023 | Revolut United Kingdom.

Phillips, L., Rozworski, M. (2019) *The People's Republic of Walmart: How the World's Biggest Corporations are Laying the Foundation for Socialism.* London, UK: Verso.

Polányi, K- (2001) *The Great Transformation: The Political and Economic Origins of Our Time*. Boston, MA: Beacon Press.

Postelnicu, L., Hermes, N., Szafarz, A. (2014) Defining Social Collateral in Microfinance Group Lending. In Mersland, R., Strom, R.§. (ed.) *Microfinance Insttitutions*, Palgrave Studies in Impact Finance. London, UK: Palgrave Macmillan. doi: https://doi.org/10.1057/9781137399663_10

Rella, L. (2020) Steps towards an ecology of money infrastructures: materiality and cultures of Ripple, *Journal of Cultural Economy,* 13(2), pp.236-249. doi: https://doi.org/10.1080/17530350.2020.1711532

de Reuver, M., Nikou, S., Bouwman, H. (2016) Domestication of smartphones and mobile applications: A quantitative mixed-method study. *Mobile Media & Communication,* 4(3), pp.347-370. doi: https://doi.org/10.1177/2050157916649989

Revolut (2024) The Ultra Experience, *Revolut, com*. online: Revolut Ultra | Revolut United Kingdom

Sadowski, J. (2019) When data is capital: Datafication, accumulation and extraction, *Big Data & Society,* 6(1), pp.1-12. doi: https://doi.org/10.1177/2053951718820549

Selgin, G. (2020) Gresham's Law, in Battilossi, S., Cassis, Y., Yago, K. (ed.) *Handbook of the History of Money and Currency*. Singapore: Springer, pp.199-219. doi: https://doi.org/10.1007/978-981-13-0596-2_9

Sidaway, J.D. (2008) Subprime Crisis: American Crisis or Human Crisis? *Environment and Planning D: Society and Space,* 26 (2): pp.195-198. doi: https://doi.org/10.1068/d2602ged

Simmel, G. (1991) Money in Modern Culture, *Theory, Culture & Society,* 8(3), pp.17-31. doi: https://doi.org/10.1177/026327691008003002

Srnicek, N. (2016) *Platform Capitalism.* Cambridge, Oxford UK, New York, NY: Polity.

Thaler, R. (1990) Anomalies: Saving, Fungibility, and Mental Accounts, *Journal of Economic Perspectives,* 4(1), pp.193-205. online: Anomalies: Saving, Fungibility, and Mental Accounts - American Economic Association (aeaweb.org)

Thaler, R. (1999) Mental accounting matters, *Behavioral Decision Making,* 12(3), pp.183-206. doi: https://doi.org/10.1002/(SICI)1099-0771(199909)12:3%3C183::AID-BDM318%3E3.0.CO;2-F

Tkacz, N. (2019) Money's new abstractions: Apple Pay and the economy of experience, *Distinktion: Journal of Social Theory,* 20(3), pp.264-283. doi: https://doi.org/10.1080/1600910X.2019.1653348

Tooker, L., Clarke, C. (2018) Experiments in Relational Finance: Harnessing the Social in Everyday Debt and Credit, *Theory, Culture & Society* (35)3, pp.57-76. doi: https://doi.org/10.1177/0263276417746465

Turner, B.S. (1986) Simmel, rationalisation and the sociology of money, *The Sociological Review,* 34(1), pp.93-114. doi: https://doi.org/10.1111/j.1467-954X.1986.tb02696.x

Vodrázka, M.; Bízek, T.; Vojta, M. (2022). Are there relevant reasons to introduce a CBDC in the Czech Republic from the perspective of the payment system? In: Chen, S., Goel, T., Qiu, H., Shim, I. (ed.) CBDCs in emerging market economies, *BIS Papers* No 123.: pp. 65–73. online: CBDCs in emerging market economies (bis.org)

Wagner, S., Fernandez-Ardevol, M. (2019) Decolonizing mobile media: Mobile Internet appropriation in a Guaraní community, *Mobile Media & Communication,* 8(1), pp.83-103. doi: https://doi.org/10.1177/2050157918822163

Wallace, D. (2024) Designing financial services for children with Sunshine+Kittens, *fintechfutures.com,* May 24. online: Designing financial services for children with Sunshine+Kittens - FinTech Futures: Fintech news

Westermeier, C. (2020) Money is data – the platformization of financial transactions, *Information, COmmunication & Society,* 24 (14), pp.2047-2063. doi: https://doi.org/10.1080/1369118X.2020.1770833

Woolcock, M.J.V. (1999) Learning from Failures in Microfinance, *The American Journal of Economics and Sociology,* 58(1), pp.17-42. doi: https://doi.org/10.1111/j.1536-7150.1999.tb03281.x

Worthington, S. (1195) The cashless society, *International Journal of Retail & Distribution,* 23(7), pp.31-40- doi: https://doi.org/10.1108/09590559510095260

Xiao, J., Olson, G.I. (1993) Mental Accounting and Saving Behavior, *Home Economics Research Journal,* 22(1), pp.92-109. doi: https://doi.org/10.1177/004677749302200105

Zelizer, V.A. (1989) The Social Meaning of Money: „Special Monies", *American Journal of Sociology,* 95(2), pp.342-377. online: https://www.jstor.org/stable/2780903

Zelizer, V.A. (1994) *The Social Meaning of Money: Pin Money, Paychecks, Poor Relief, and Other Currencies.* Princeton, NJ: Princeton University Press.

Zuboff, S. (2019) The Age of Surveillance Capitlaism. New York, NY:PublicAffairs.