

Cover Image: Infinite Dollar, Société Réaliste2008. (Curtesy of the artists).

**The Ontology of Money;
Institutions, Power and Collective Intentionality**

**De ontologie van geld;
instellingen, macht en collectieve intentionaliteit**

Thesis

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Introduction

Money plays a very important role in our everyday affairs. The economic organization of social life relies on the function of money as a standard of value and its consequent ability to quantify and reduce social facts and relations into the absolute quantity of economic value. The fulfillment of our most basic needs is mediated by money that acts as a medium of exchange; nourishment, logging, education, medical care, entertainment are produced and distributed as commodities through the market. Economic value is represented by money, which is used both as an abode for purchasing power and as a means for transfer of value among generations. More importantly, it is the constitution of money that paved the way for modern democratic societies, allowing the division of labor, which in turn has facilitated economic growth and political liberty.

Despite the immense contribution of the functions of money for economic performance we tend to be oblivious or indifferent towards the infrastructures that support the operation of the monetary system. The omnipresence of money in social interaction and our constant preoccupation with it has rendered it relatively invisible giving rise to a peculiar *Seinsvergessenheit*¹ that obscures the meaning and the conditions of the existence of money and of its value (Bjerg 2014, pp. 8). The textbook definition of money as a neutral medium of exchange that expresses prices without influencing the real economic relations is contributing to the general nonchalance about monetary institutions. The establishment of the commodity theory of money as authoritative has delegated money on the phenomenal level of prices with economic textbooks describing it just as a contrivance to facilitate exchange that does not interfere with real economic relation. The conception of money as just “another commodity” or

¹The term *Seinsvergessenheit* is coined by Martin Heidegger, referring to the forgetting of being or of ontology.

as a “neutral veil” contributes to an unreflective stance encouraged by constant and habitual use.

As it is often the case with infrastructures, social or technological, they remain invisible as long as they operate and fulfill their functions. In case of accident, disruption and crisis their breakdown makes them visible and raises concerns and questions about their operation. The recent financial crisis (circa 2008) was an urgent reminder about the importance of money and finance as well as about the flaws in the regulation of investment and commercial banking. The near collapse of the financial architecture after the bankruptcy of the Lehman Brothers on the 15th of September, 2008 has rekindled the interest on money, finance and the distribution of welfare. The fact that the economic profession failed to warn about the coming crisis raised a lot of concern and criticism about the state of economic science, while there were many calls for reconsideration of its aims, methods and assumptions.² In *The Structure of Scientific Revolutions* Thomas Kuhn argued that “anomalies”, namely persistent problems that cannot be explained, or explained away, by traditional methods and that contradict the core of the accepted scientific paradigm, like the recent financial collapse, may lead to a revolutionary break in scientific practice (Kuhn 1963). It remains an open question if the performance of economics and monetary theory in the recent financial crisis is a reason for a change in the ontological foundations of monetary theory or if the shared conception of the subject matter of monetary analysis should be reconsidered, but the recent developments have rekindled the conversation on the nature and the future of money both among economists and the public. This thesis will try to contribute to and reflect on this conversation.

The aim and the structure of the thesis

The aim of this thesis is to revisit the elementary questions about the nature and the existence of money proposing a comprehensive alternative to the textbook analysis of money as a medium of exchange. The main task that the thesis sets for itself is to investigate and to present how individual attitudes, social institutions, and technological contingencies ascribe to

² “Economics, as a field, got in trouble because economists were seduced by the vision of a perfect, frictionless market system. If the profession is to redeem itself, it will have to reconcile itself to a less alluring vision — that of a market economy that has many virtues but that is also shot through with flaws and frictions.” Paul Krugman, “How Did Economists Get It So Wrong”, *The New York Times* September 2, 2009.

money its social significance, its functions and its value, in an effort to understand how the monetary system could be studied at the current socio-technological juncture. The motivation of the project comes from the dissatisfaction with the dominant commodity theory of money and from its inability to contribute to the conversation on the recent economic crisis or on the technological transformation of money through digital payment systems. The analysis is going to build upon the state theory of money that sits more comfortably with the reality of contemporary monetary institutions. Money is going to be studied as an institution, rather than a commodity or a symbol thereof. Original institutional economics will supplement the state theory of money providing a comprehensive framework for the analysis of the operation and the evolution of the institution money. The institutional identity of money is going to be supported by a theory of social existence build upon the notions of collective intentionality and constitutive declarations (Searle 2010). The employment of the state theory of money, of original institutional economics and of philosophy as tools in the critique of mainstream economics seems necessary for challenging the orthodox analysis of money. The mainstream understanding of money can be put to a real test only in comparison to other theories, which address different questions in relation to money, indicating explanatory gaps or gray areas for the commodity theory of money. As Paul Feyerabend has remarked in *Against Method* (Feyerabend 1975) genuine scientific dialogue and constructive criticism presupposes the existence of alternative theoretical frameworks and competing methodologies. The juxtaposition of coherent theories, allows depth in the critique since only a fully developed theoretical system can provide convincing alternative explanations that can offer benchmarks for comparison. The state theory of money in combination with original institutional economics is not only a theoretical platform for critique but also provides a comprehensive framework for the analysis of money. The proposed synthesis of the state theory of money, of original institutional economics and of a collectivist social ontology can address the basic questions about the identity of money, its value and its existence at the same time as it can provide a comprehensive framework for its dynamic analysis.

Before proceeding with the presentation of the chapters of the thesis, I would like to present the strategy, the structure and the methodological choices that carry the development of the argument through. The thesis is a collection of five essays. Each essay was written as a self-

contained paper and published in a peer reviewed journal. These papers are addressing different aspects of the theory of money and are related to each other, because they share the general motivation and theoretical framework; the synthesis of the state theory of money, of original institutional economics supported by a collectivist social ontology based on collective intentionality and constitutive declarations (Searle 2010). Nevertheless, these essays, even though interconnected, are somehow different from what they would be had they been written as chapters of a book. In addition the essays can somewhat diverge from the main direction of the thesis, so the points that I present in the introduction, one for each essay, may differ from the conclusions of each chapter/ essay. The task of the introduction is to forge the relationships of the chapters/ essays and exhibit their function in the construction of framework for the analysis of money.

The argument is built upon a comparison between the two major scientific research programs on money, the commodity and the state theory. In order to examine the two theories, three fundamental questions are raised: "What is money? How does it get or lose its value? Where does it come from or how does it get into society?" (Ingham 2004: 10) These questions are addressed individually in each of the first three chapters of the thesis, guiding the analysis and providing the yardstick for the comparison of the two main scientific research programs of money. The two research programs offer different answers to the aforementioned questions because they adopt different methodological and ontological starting points. The commodity theory describes the economy as an all-encompassing market characterized by rationality, individualism, complete information and free choice. In this universe there is no place for power or the state, while the relations and the rules that regulate social interaction are minimal. The state theory of money is developed in a different, historically informed, theoretical framework, where state authority, rules, and norms are acknowledged and money is investigated in evolutionary and institutional terms. The first chapter starts the appraisal of two theories of money from the basic question of the definition of money. The study of the relation between money and economic value, the subject of chapter two, builds upon the definition of money as an abstract standard of value, championed by the state theory of money. In this framework, money is described as an institution that shapes economic valuations, regulating the social antagonism around the constitution of the system of prices.

Chapter three provides the ontological framework for explaining the existence of money using the concepts of collective intentionality and constitutive declarations. Chapter four discusses the relationship between money and currency as an instantiation of money in everyday transactions by investigating the meaning and the function of representations on notes and coins. Chapter five offers a dynamic framework for the analysis of financial innovation combining the tools of original institutional economics with the state theory of money. Chapter six communicates an overview of the framework and discusses its possible applications.

Money and Value

Already in 1892, Carl Menger argued that money is constituted through exchange, and it should be defined as a means thereof (Menger 1892). The Mengerian analysis laid the foundations for what is now recognized as the commodity theory of money; an invisible hand explanation of the emergence of money in the context of market exchange and minimal justice. Menger explained that the absence of a double coincidence of wants, which intensifies as the division of labor expands, is the main cause for the constitution of money; agents realize that they can economize on time and other transaction costs by opting for commodities with higher “saleableness” that can in turn be exchanged for the desired goods. Such commodities evolve into money as they are used more frequently as media of exchange. Money is simply a “contrivance for sparing time and labor”, as well as an object that “temporarily intervenes between sale and purchase” thereby becoming “a veil over the real exchange relations of commodities”.

The state theory studies money in relation to authority, rather than explaining its establishment as a market phenomenon and an unintended outcome of individual maximizing behavior. In this theoretical framework, money is defined as a standard of abstract value, relying to the state for its acceptability. Max Weber defined money as that “which derives its character as means of payment from the marking of the pieces rather than from their substantive content” (Weber 1978: 79). As a legal tender, money is the standard against which the obligations of the government and its citizens are enumerated. The authority of the state is necessary but not sufficient for constituting or empowering money—and the monopoly

on violence is not the only guarantee of its value. The privilege of the state to impose taxes is a further condition for the acceptability of fiat money, which becomes valuable because it is necessary for their payment. I can summarize the main point about the definition of money that was developed in the first chapter as follows:

1. Money should be defined as an abstract standard of economic value that is enacted by a sovereign authority that has the privilege to impose taxes.

The other important question that defines the meaning of money is that of economic value. Roland Coase delineated the subject-matter of economics as everything that can be quantified by the “measuring rod of money” (Coase 1994: 44), stressing the importance of the relation between money and value for economic science. In mainstream economics, the relation between value and money is explained by two interconnected theories; the commodity theory of money that defines money as a means of exchange, emerging as the unintended consequence of the activities of utility maximizing individuals, and the quantity theory of money that explains the value of money via the dynamics of its supply and demand. The commodity and the quantity theories of money put utility in the center of their study of value. Simply put, economic value originates in utility, with price being the measure of value and value a measure of utility.³ Economic value is then defined as value in exchange; it expresses the exchange relations of each and every commodity with all the other commodities in the marketplace in terms of a universal unit of account.

For the state theory, value and money are not produced in exchange and consequently the value of money cannot be explained by its utility. Herein, we find the chief difference between the state theory and the commodity theory; for the commodity theory, money has a value due to its commodity or ‘material’ nature, while for the claim theory, monetary value has a nominal or conventional nature. The very notion of value originates in the social obligations that are constituted and organized by the elementary social relation between the individual and the community. The state acts in the name of the community regulating the system of valuation

³ “[Say] went on to show that price is a measure of value and that value is a measure of utility. Hence price measures utility, from which it originated. Price measures (determines the amount of) utility, and utility determines price – well, well, well! Taken together with Say’s law of market everything becomes equal to everything else.” Foster (1981 [1942]: 889), reference in Tool (1998: 43).

and guarantying its legitimacy. In this context money is not a neutral unit of account and the terms of exchange that are the outcome of the negotiation around the constitution of value are regulated through money.⁴ The state can influence the value of money through the control of the interest rates and through intervention in the foreign exchange markets. The interest rates do not only regulate the relations between debtors and creditors, they also have an indirect impact on the overall economic activity and on the relations between producers and consumers through repercussions on investment and savings. The manipulation of the external exchange rate affects directly the domestic system of prices. These government policies intervene in the system of prices effectively influencing the distribution of wealth. Money emerges then as a means of arbitration in the social antagonism for the division of the social production. The second point of the thesis following from the institutional analysis of state money and its relation to economic value is:

2. Money is not just unit of the accounting of economic values but an institution for regulating the antagonism around the constitution of the system of prices.

Money, its Existence and its Evolution

The explanation of the emergence of money and the conditions of its acceptability and circulation are themselves the foundations of the theory of money. Chapter three is developing an ontological framework addressing the questions of individualism and social existence, developing further the theoretical framework of the institutional analysis of money, focusing on the preconditions for its social constitution and the status of its collective acceptance.⁵ The argument of the thesis builds upon an account of social ontology based on “collective intentionality” (Gilbert 1989; Searle 1995) and “constitutive declarations” (Searle

⁴ “Hence, in a very narrowly defined sense, in a social theory of value money is value; but precisely because it is socially constituted, its invariance is not guaranteed by any “natural” ground, and must be continually maintained by further social institutions, such as the development of double entry accounting and financial institutions such as banks. ... This stress on the importance of the legal setting of the algebra of double entry accounting is derived from Ellerman (1986), although it can be traced back to the work of John R. Commons in the 1930’s. What was missing from the older institutionalist tradition, however, was a model that expressed how this expansion of value at the individual level is constrained by the social structures at the level of the market system.” Mirrowski (1991: 572).

⁵ Mäki (2005) and Tieffenbach (2011) are examples of an ontological analysis of money that are built upon methodological individualism and support the mainstream commodity theory of money.

2010). Collective intentionality is the basic concept of the proposed ontology of money. Intentionality is a philosophical notion that defines the relation of the mind to the world. Intentional states include any kind of mental representations of some aspect of the world, always in reference to something or about something (Searle 2010: 24). Collective intentional states are of the first plural form and express a “we-mode” rather than the “I-mode” that characterizes individual intentionality (Searle 2010: 47). Collective intentional states are formed by constitutive declarations; speech acts that create institutional facts like money by representing them as existing. Such declarations define also the shared meaning of the institutional facts that they constitute furnishing desire-independent reasons for action. Constitutive declarations need to be supported by collective intentionality and therefore need to be public and legitimate, communicating the social significance of the constituted facts and signaling the legitimacy of the authority that enacts these institutional facts. The constitutive declarations that give rise to money are legal acts performed by the government in the name of the state and the society that the government represents. An account of social existence, based on collective intentionality and constitutive declarations, can provide the basis for the an institutional analysis of money delineating a form of collective acceptance that is both able to carry the ontology of money and that is consistent with institutional analysis. Social institutions, including the state, are going to be analyzed in virtue of institutional facts and rules that are supported by the shared we-attitudes of individuals and by an irreducible sense of community that connects them. This brings us to the third point.

3. Money exists and serves its functions in virtue of the collective intentionality of its users.

Collective intentionality relies on representation, which is the ultimate foundation of the proposed ontology of money. Chapter four is investigating how the shared representations of money are articulated and communicated in currency, explaining their contribution in the acceptability of money. The chapter marks an important shift; in this and in the next chapter the analysis is moving away from the institutional structure and focuses on the objects that instantiate money, on currency, but also on the different technological devices that we use in our monetary transactions. So far, social representation and the collective intentionality have

been treated linguistically, in the verbal and the written articulations of constitutive declarations and of other speech acts. Next to discourse, money relies on the social imagery of value and authority, both as an expression of the collective intentionality towards money and as its support. Currency combines image and text in an attempt to construct a narrative about money, referring to value, community and authority, which socializes its users in the social significance of money that define the operation of the monetary system.

The production of currency is the outcome of two parallel processes; the physical production of objects, of printing and of minting, and the cultural production of iconic representations of money and of the authority that sanctions its operation. The analysis of the iconographic and symbolic signs as well as of the security elements on currency, creates the syntactic framework, where the significance of economic value and political authority is articulated contributing to the persistence of collective intentionality towards money. Currency represents and communicates the idea of money in our day to day transactions, supporting monetary value with a set of visual representations. Each coin or banknote can be broken down to their own visual-textual elements, the analysis of which can extract the symbolic and iconographic patterns. Currency can be read like a text, and the text constructs the official narrative about value and authority:

4. Currency is a “significant surface” where the collective representations of value and authority are articulated and communicated.

The Bigger Picture

Theories of money tend to overlook the contribution of technological progress. For example, commodity theorists treat money as essentially unchanged, while the impact of technological innovation is not really included in the analysis of the monetary system. Still, the historical development of money is guided by continuous changes brought about by technological and institutional innovations. Technology is the motor of the institutional change of money, with innovation being the cause that disturbs the institutional equilibrium paving the road to social progress. Technology can be described simply as the fulfillment of human purpose (Arthur

2007: 276), and in the case of money this purpose is the fulfillment of its functions — primarily standard of abstract value and consequently means of payment and abode of purchasing power. The study of the evolution of money builds upon the description of money in terms of functions and rules. The functions of money remain unchanged, but the technology that is developed for their fulfillment evolves through time following innovations, and the changes of the socioeconomic environment. The interplay between the functions of money and the technological devices that are used to support its operation, including the regulatory framework that constitutes them, provides the mechanism for the historical development of money.

Chapter five develops a dynamic framework for the study of financial innovation and the principles of its integration in the institutional structure of money. Technology is the driving force of institutional change in the monetary system, provided that financial innovation is integrated in the institutional structure through regulation. The state is in the center of this process legislating the necessary constitutive and normative rules for the application of financial innovation in the monetary system and inspiring them with the necessary collective intentionality. Commercial banks are also an important part in the process of institutional adjustment of the monetary system producing the innovations in finance and payments. Original institutional economics have developed a framework for the analysis of the legislation of technological innovation in the established institutional structure that includes the considerations about the improvement of the overall institutional performance and the motives of the stake-holders in the process of institutional adjustment. Financial innovation is analyzed according to three principles of institutional adjustment, namely “technological determination”, which describes technology as the primary cause of institutional change, “recognized interdependence” that points to the mechanism of integration of technological innovation in institutional rules, and “minimal dislocation”, which cautions about the destabilizing effect of new technologies and the limits of the process of institutional change (Tool 2000). The last point, which follows from the institutional analysis of financial innovation is the following:

5. Financial innovation is the driving force in the evolution of the monetary system, but only and up to the extent that it is socially constituted and integrated in the institutional structure of money.

The bigger picture of the proposed framework for the analysis of money can be summarized as follows. Money is primarily an abstract standard of economic value and because of this can also fulfill its other functions, e.g. means of payment, abode of purchasing power etc. The state authority with its ability to impose taxes guarantees the collective acceptance of money, its operation and its value. Monetary value is political, not substantive, and falls back on the ability of the state to enforce money as a legal tender through its sovereignty and the ability to tax. The state does not only support the monetary system; it employs it in order to intervene in the social antagonism around the constitution of prices and consequently in the distribution of social production. Money emerges as the institution that organizes and regulates economic valuation and not as a mere unit of account that just express prices without influencing real economic relations. The operation and the existence of money and value depend on an institutional framework comprised of social rules and relations based on the same state authority.

The institutional character of money is central in the development of the argument and so is the claim that money is constituted on the basis of shared representations defined as collective intentionality. The mutuality that supports the relation of the individual with the community is crystallized in institutions, the most powerful of which is the apparatus of the state. Individual attitudes provide the foundation for the existence of money, but the ontology of money is safeguarded with the introduction of an authority that represents and regulates the society. Linguistic and iconographic representations of authority, value and community are employed to support money, communicate its social significance and contribute to its acceptance, while currency articulates the authoritative expression of these collective representations, creating a “significant surface” (Flusser 2000: 2) where these representations are depicted and communicated. Banknotes and coins are not only “status indicators” (Searle 1995: 119) that signal the affinity of money to the authority of the state, they function also as screens for the representations of value that animate the collective intentionality towards it.

Collective acceptance of money is conditioned by all these factors; by its functionality, by the power of socialization and the consequent acceptance of the linguistic and iconographic representations of money, and by the coercive force of social institutions, especially of the state. All these elements contribute to the dynamic framework for the analysis of the historical development of monetary institutions. Innovation, both technological and institutional, is the necessary cause of progress but without its adoption by the state authority, without its representation in the institutional rules that define money, and more importantly without the collective intentionality of its users, innovation is not sufficient. The overall framework for the evolutionary analysis of money combines the state theory with social ontology, as it is developed based on the concepts of collective intentionality and constitutive declarations, and with original institutional economics and its theory of institutional change, defined by the principles of technological determination, recognized interdependence, and minimal dislocation.

Chapter 1

The institutional identity of money and its reliance to state power

Money, Marginalism and Institutionalism

The conception of money that was developed during the marginalist revolution by Stanley Jevons and especially by Carl Menger still dominates mainstream economic analysis today. The Mengerian story about its emergence, which was developed in the time of commodity money, is not only historically and anthropologically unfounded; it is also inapplicable for the study of the contemporary system of fiat money. The reconstructions of the Mengerian account in Kiyotaki and Wright (1989, 1991, 1993) allow for the fact that this line of reasoning is only relevant for the emergence of commodity money, yet such accounts continue to treat fiat money as if it were equivalent to a commodity (or a symbol thereof) in their analysis. The fact that commodity theory defines money as a means of exchange is contestable, as much of this theory's relevance depends on the validity of the account of the spontaneous emergence of money, as we will see in the next section. The commodity framework finds it difficult to accommodate an adequate theory of price, and underplays the significance of money as a standard of value. Moreover, as we will see in the next chapter, it cannot provide a satisfactory account of the value of fiat money, and consequently lacks an explanation regarding the rationality of individuals exchanging valuable goods for valueless money. These criticisms are well known, of course, and have already been rehearsed within the paradigm of neoclassicism (Hahn 1965); yet the commodity theory of money still conditions the understanding of money in neoclassical economics.

Institutional economics can do a better job concerning money by providing a framework that is more consistent with the nature of money and more productive in explaining its dynamics and

its future. The development of various types of institutionalism in recent years has enhanced the confidence in the importance of institutions in economic analysis, and has provided a more comprehensive theoretical frameworks for institutional analysis. In addition, new developments in the ontological and methodological debates between individualism and collectivism provided by collective intentionality offer firmer ontological foundations for the analysis of economic institutions (Searle 1995, 2005, 2010), foundations that were denied by years of dominance of methodological individualism in economics.

Defining Money; evolutionary stories and the importance of functions

The ongoing debate on the definition of money customarily begins with its functions,⁶ usually three (means of exchange, unit of account and store of value). This reigning definition has become a consistent platitude in textbook treatments of money, but it masks a set of important differences and debates organized around more sophisticated approaches on how money should be defined. Some of the arguments regarding the definition of money, and also the methodological choices that inform these arguments, are used in this chapter to argue for the productivity of an institutional definition of money. These arguments are evolutionary: they provide rational reconstructions of the emergence of money, suggesting that money was selected for the fulfillment of specific functions.

The definition of money is founded on the assumption of an unchanging identity that underlies the long history of money, its cultural particularities, diverse rules of operation and multiple materializations. Behind the diverse instantiations of money, there is an unchanging core of meaning, a common intension. The conceptualization of money refers to a core set of properties that connect money to the social facts possessing the properties defined by the concept. The common core of meaning is conveyed by a set of identity-constituting properties that define what money is (Mäki 2005). Looking at the various attempts to define money, we can deduce a consensus in economics that the functions of money⁷ consist of these identity-constituting properties. Indeed, every object that shares these common identity-constituting

⁶ "The standard answer to the question 'what is money?' derives from the late nineteenth-century functionalist account: money is what money does" Ingham (1996: 507-508).

⁷ For example, Hicks (1967: 8) claims that: "Money is defined by its functions ... 'money is what money does'."

properties can be legitimately described as money. Yet, I submit that the identity-constituting properties and the objects that bear them — the concept and the token that instantiates it (money and the money-stuff) — must be kept separate, a claim that is related with the containing ontological framework that describes the identity of money in terms of collectively shared representations about its institutional status. I am going to outline the ontology of money later in this chapter, but the relation between the social significance of money and the objects that carry this social significance is a point of contention that we will return to in the development of the thesis.

The instantiations of the concept of money are not exhaustively described by its identity-constituting properties. Monetary phenomena may be the manifestation of a common core of identity-constituting properties, but are also characterized by other secondary properties that are responsible for the variations in the manifestations of money and the tokens that instantiate it. These secondary properties should typically support the identity-constituting ones, but are not connected with what money is in a definitive or necessary relation, and therefore are liable to change. In fact, the evolution of money is a process of transformation of these secondary properties of money while the core of identity-constituting properties remain unchanged. The material and shape of coinage, for example, was selected to facilitate its function as a means of payment and as a store of value. Coinage was later abandoned in favor of convertible paper money, which at a specific point in the evolution of money better served these same functions. The passage from metallic to paper money can be understood as a transformation of the secondary properties of money, while its primary function remains unchanged.

The choice of an identity constituting property or properties for the definition of money, among the available candidates, usually functions, marks the emergence of separate and competing research programs. The division is not only drawn by the choices of the definition of money, but more importantly on the methodological and ontological presuppositions that inform such a choice. Between individualism and collectivism as well as between an abstract and a priori reasoning and a historically specific analysis, there is a methodological divide within economics that surfaces in relation to the definition of money. The methodological split

suggests a different ontological analysis of money, as well as a set of questions into which the operationalization of money should fit. Two research traditions have emerged; the commodity theory that insists on a definition of money as a means of exchange providing an invisible hand explanation that uses individual maximization as the basis for the explanation of the emergence of money and the state theory that points to a conception of money as a standard of abstract value following from a historical analysis of the role of the state in the monetary system and the constitution of value inside the bounds of a community.⁸

The argumentation for the choice of functions employed to define money in these competing paradigms discloses an attempt to forge a link between identity and emergence as the primary rationale behind the various existing conceptualizations of money. Both the commodity and the claim theories strive to offer a rational reconstruction of the origin of money that is connected with their definition of money. These definitions of money are supported by a natural selection argument where money is selected to fulfill specific economic functions. These functions, in turn, define money and are considered the reason for its existence. If the functions of money are also the reasons for its existence, these functions become attached to money with a necessary relation that becomes integral to its identity and underlies its existence. The same selection argument between emergence and functions suggests that money becomes the dominant medium — the most effective social technology — for their fulfillment. Ultimately, meaning, existence and dominance become intertwined in this debate on the definition of money. I will closely examine these arguments, and connect the different definitions of money offered by the commodity theory and by the state theory of money with the accounts of monetary origins that support them.

Money as a Means of Exchange: An Efficiency Explanation

In 1892, Carl Menger suggested that money is constituted through exchange, and it is primarily a means thereof. His analysis paved the way for what was later recognized as the

⁸ “A general distinction can be drawn between the commodity and the claim theory of money. This divide can be traced in the eschewing debates in monetary policy, between ‘metalists’ and ‘anti-metalists’ in the 16th and 17th centuries (Schumpeter [1954] 1994); the ‘Currency’ and ‘Banking’ schools and more generally between ‘materialists’ and ‘nominalists’ in the first half of the nineteenth century; and the seesaw battle between ‘monetarism’ and various forms of Keynesian economics in the middle of the twentieth.” Ingham (1996: 509)

commodity theory of money; an efficiency explanation in the context of market exchange and minimal justice. Menger argued that the absence of a double coincidence of wants, which intensifies as the division of labor expands, is the primary reason for the constitution of money. Indirect exchange emerges in order to minimize the transaction costs arising from the lack of the double coincidence of wants, and money emerges as the medium for this indirect exchange. Agents quickly realize that they could save on time and economize on other transaction costs by opting for commodities with higher “saleableness” or “absatzfähigkeit” that could in turn be exchanged for the desired goods (Menger 1892: 242). Such commodities evolve into money as they are used more frequently as media of exchange. Money is no different than other commodities and its value depends entirely on its commodity nature. Exchange is comprised of two parts, the exchange of commodities for money and the subsequent exchange of money for further commodities. Goods are always exchanged for other goods, while money intervenes temporarily between the sale and purchase as the medium of their indirect exchange (C-M-C). Money is simply a “contrivance for sparing time and labor,” as well as an object that “temporarily intervenes between sale and purchase” thereby becoming “a veil over the real exchange relations of commodities”.

In the Mengerian account, the use of money and the (indirect) exchanges of goods are strictly voluntary. Yet, there are two implicit rules in his analysis that constrain individual behavior: justice in the acquisition of goods, and justice in their transfer. The working of the market is founded on the presence of justice in these transactions, and the role of the state, or of a central authority — if one is assumed to exist — should be confined to safeguarding these two rules, while refraining from imposing or policing the use of money. The constitution and the persistence of money within this social order is the unintended outcome of the rational and maximizing behavior of individuals in the market and not the creation of the state, or the outcome of its actions. The understanding of money as a medium that increases the efficiency of the division of labor and market exchange in a context of a minimal mechanism of enforcement (Nozick 1975) is the central contribution of Menger’s commodity theory. The rational reconstruction of the emergence of money offered by Menger, along with the expansion of his model in neoclassical economics, has provided a convincing account of one possible, albeit historically and anthropologically unsupported (Pryor 1977; Wray 1990;

Goodhart 1998; Ingham 2004, 2006), mechanism for the constitution of commodity money as the unintended outcome of maximizing individual behavior (Kiyotaki and Wright 1989, 1991, 1993). Nevertheless, the analysis is not applicable in the case of fiat money, as Kiyotaki and Wright point out. In this context, the question that makes the analysis of fiat money problematic is the source of the value of money and subsequently its ability to command other valuable commodities. Fiat money is no longer a commodity and does not have a value other than that of being money.

Kiyotaki and Wright (1989, 1991, 1993) do not account for how a fiat standard can emerge through uncoordinated individual action, or why individuals will accept it in exchange for valuable commodities. The sole claim they make is that in order for a fiat money equilibrium to persist it is sufficient that each agent believes that all other agents will continue to accept fiat money for the commodities they want to exchange. Kiyotaki and Wright take this postulate as an a priori assumption, and consequently assume the emergence of fiat money as the outcome of individual maximizing behavior.⁹ The problem is that this assumption cannot be reconciled with their commitment to methodological individualism. Indeed, Kiyotaki and Wright presuppose an individual belief about a collective belief (“I believe that everybody believes that money is and will remain acceptable”) and the individual belief of every agent is predicated on and conditioned by the collective belief, the status of which is contested in the framework of methodological individualism, especially since the beliefs of every individual are derived from rather than compose this collective belief. Hence, the problem of the emergence of fiat exchange medium remains unsolved; Kiyotaki and Wright, and methodological individualists in general, reiterate the question of how such collective beliefs regarding the general acceptability of and trust in money can arise and persist. Fiat money cannot “emerge” on the individual level, since the individual belief of each and every user of money presupposes a collective agreement about the acceptance of money by all other users.¹⁰ To

⁹“To this end, we now suppose that everyone believes that others *will* accept fiat money and ask if this could be an equilibrium” Kiyotaki and Wright (1989: 493; emphasis in the original). This a familiar strategy in overcoming the problem of explaining the value of fiat money by assuming it. Sidrauski, in one of the first attempts to incorporate money in general equilibrium modeling, assumed that real cash balances yield positive utility Sidrauski (1967: 535).

¹⁰“There is a deep reason why collective intentionality cannot be reduced to individual intentionality. The problem with believing that you believe that I believe, etc., and you believing that I believe that you believe, etc., is that it does not add up to a sense of *collectivity*. No sense of ‘I Consciousness,’ even supplemented with beliefs adds up to a ‘We Consciousness’. The crucial element in collective intentionality is a sense of doing

put it more clearly, the construction of the collective acceptance of money as the aggregation of individual beliefs of acceptance is not possible because these individual beliefs presuppose the collective acceptance they need to constitute. The problem can only be circumvented with the postulation of a pre-existing collective acceptance of money by all individual agents — an acceptance that is not the aggregate of their beliefs, but constitutes them (individual beliefs are *derived* from this collective acceptance).

The assumption of a pre-existing collective acceptance of money (even if we forget the tensions with methodological individualism) does not actually solve all the problems that the commodity theory faces, since the persistence of money is challenged by a “free rider” problem. In other words, as long as fiat money remains intrinsically valueless, individuals will be better off if others exchange their goods for “worthless” fiat money with them, while they exchange their goods only for other goods.¹¹ Rationality is destabilizing the fiat money equilibrium (if one is ever reached) — in other words, money cannot persist as a coordination game, which is not always the case with institutions; positive feedback can support the persistence of conventions and the constitution of shared practices. Still, the fact that fiat money is inherently worthless creates free riding problems and suggests that a fiat standard cannot arise spontaneously, and even if there were a case in which a fiat monetary standard did emerge (or if it is assumed to exist as in Kiyotaki and Wright) its persistence would remain a problem without the existence of an external constrain that ensures compliance.

Apart from the explanatory deficits of this account, there are also serious semantic problems in the definition of money as a medium of exchange. The description of money as a means of exchange portrays monetary exchange as divided into two interconnected parts, the exchange of goods for money, and the subsequent exchange of money for more goods (C-M-C). The further the division of labor is developed, the more unrealistic this description of transactions becomes. In reality, selling and buying are not two interconnected acts, and

(wanting, believing, etc.) something together, and the individual intentionality that each person has is derived *from* the collective intentionality they share” Searle (1995: 24-25) italics in the original.

¹¹ There are two ways to facilitate fiat exchange in such a setting. Either “(1) by imposing a boundary condition, or (2) avoiding the boundary condition by pushing it away to infinity. Both are devices to circumvent the unraveling of the monetary equilibrium through backward induction” Kovenock and De Vries (2002: 147). The boundary condition can be a policing authority or the assumption that individuals will continue to accept money, come what may.

individuals are not as farsighted as the neoclassical economic models tend to describe them, and do not coordinate their sales and purchases as assumed by the commodity theory of money. Economic agents do not have enough information (or the ability to analyze it) in order to match up all sales and purchases *ex ante*. A more realistic picture of the individual decision setting is supported by the notion of budget constraints and the indifference curves that individuals face when they make purchases, but this idealization points to a description of money as a means of payment (M-C-M) rather than a means of exchange (C-M-C).

Before drawing any conclusions on the exposition of the commodity theory of money and the definition of money as a means of exchange, it may be illuminating to suggest a further problem regarding the adoption of the account of the spontaneous evolution of money and its definition as a means of exchange by the neoclassical mainstream. Although the great majority of economists in this research tradition will readily defend the Mengerian account, they will be unprepared to support the denationalization of money and its subjection to the market as in (Hayek 1999; Selgin and White 1994), which seems consequential with the analysis of money as a market phenomenon by Menger. Most economists will be quick to point out the externalities in terms of taxation, information and confidence that characterize money, and will be quite critical of the possibility of a market operated monetary system. Yet, all of these externalities are related to the value of fiat money and the problem of its collective acceptance.

The problems regarding the definition of money as a means of exchange — and more generally the limits of the analysis of money in terms of efficiency — should be apparent by now. The understanding of money as a transaction-cost economizing device can be informative, but cannot answer all questions about money and especially about its existence and its persistence. The definition of money as a means of exchange is a relic of the Mengerian commodity theory. The principal reason for its persistence in the economics literature is its account of the origin of money. The story of the spontaneous evolution of money through barter exchange, even though inapplicable when it comes to the eventuality of fiat money, is methodologically appealing to the neoclassical mainstream. Consequently, the

Mengerian definition of money as a medium of exchange survives as an integral part of the neoclassical economics.

Sovereign Money: Studying Money as a creature of the State

The commodity theory of money offers the dominant definition of money but is not the only paradigm for its study. Only a few years after Carl Menger, in 1905, Georg Friedrich Knapp outlined a competing scientific research program on money in a book entitled *Staatliche Theorie des Geldes* (translated as *The State Theory of Money* in 1924). The alternative state theory studies money in relation to authority, rather than explaining the advent of money as a market phenomenon. For the state theory, money is defined as a standard of abstract value, suggesting that the source of monetary value lies in its support by a sovereign authority. Herein, we find the chief difference between the state theory and the commodity theory: in commodity theory, money has a value due to its commodity or “hylic” nature, while the state theory describes monetary value as nominal or conventional. Max Weber defined fiat or sovereign money as that “which derives its character as means of payment from the marking of the pieces rather than from their substantive content” (Weber 1978: 79). It is the state that makes “chartal” or “fiat” money valuable and guarantees its acceptability based on the rule of law, the political sovereignty of the state, and its ability to levy taxes.¹² In other words, money is a creature of the state and is constituted as legal tender by the law that creates it. As a legal tender, money is the standard against which the obligations of the government and its citizens are enumerated (Knapp 1924; Wray 1990). Authority is necessary but not sufficient for constituting or empowering money — and the use of force is not the only guarantee of its value. The privilege of the state to impose taxes is also a condition for the acceptability of fiat money, which becomes valuable because it is necessary for the payment of taxes. Money is constituted on the basis of a credit relation between the issuing authorities and the citizens; its issue creates a liability to the state that will be neutralized through the payment of taxes.

¹²The terms chartal money and fiat money are used in opposition to the adjectives commodity or hylic money. The term chartal suggests the imposition of money by authority through law or decree, while the notion of fiat money is neutral towards the authority or the law and for that reason it is often preferred in economics.

The definition of money as a “standard of abstract value” indicates that the value of money is conventional and independent of a commodity guarantee or intrinsic properties. The adjective “abstract” distinguishes the state theory from the commodity standard of value. In other words, the *source* of the value of money is, in fact, the insignia of the issuing authority — and in that sense, all money is fiat to a greater or lesser extent. The instantiation of money in terms of particular objects or commodities is just a secondary fact that supports the identity constituting functions of the standard of abstract value and means of payment. This account departs from the conception of the market as the mechanism that sets its prices with money as the unit of account that neutrally expresses them. Prices primarily express relations between money and commodities as defined by money, rather than relations of exchange between commodities. The function of money as a standard of value is additionally connected with payment; both functions should be served by the same medium if transaction costs are to be minimized. Their relation entails the existence of a unique identity for money, an identity that is comprised by both of these functions.

Payment is to be understood as a discharge of an obligation and not as an intermediate step in the exchange of commodities. If money is a medium of payment, then selling and purchasing commodities are separated into two distinct acts brought to their conclusion through the use of money (M-C-M). The description of money as a means of payment, rather than an intermediate in the exchange of commodities, sits more comfortably than the notion of exchange within numerous economic transactions such as taxation, fees, royalties, penalties, dividends, premiums, and options. Defining money as the principle means of payment has an additional advantage: as legal tender, money becomes the dominant means of payment in the market. This fact can indeed be used as a demarcating line between money and other assets, as has been suggested in (Goodhart 1989: 26-27), which might help us to position the ever increasing series of near monies vis-à-vis the official money of account.

In the framework of the state theory, the establishment of money is explained as an intervention of the state’s sovereign power (or that of the king or church, depending on the historical and cultural context) and not as an unintended outcome of the rational actions of maximizing individuals. Currency is issued by the political authority and becomes

acknowledged and accepted through the inscription of its insignia of sovereignty. Following its constitution, currency can be used for payment of taxes, and is introduced to unify different aspects of social life through the system of prices and the redistribution of commodities from their producers to the ruling but non-productive classes (Innes 1913, 1914; Malinowski 1921; Mauss 1990). When taxation becomes organized and normalized, money is constituted as the standardized means of paying taxes (e.g., the shekel, the pound, etc.). As a result, money materializes as the imposed standard of value — and only then becomes the means of payment for transactions occurring between producers. In most instances, the authority is the state, but there are certain cases wherein non-state agents, such as guilds, confederacies of states, or even the church, have sanctioned the issue of currencies. Each of these non-state actors can issue money only as long as it maintains political leverage over their members, who were expected to use their currency — and were thereby able to levy some form of taxes on them. Yet, such examples of currency sponsored by authorities other than the state are few and short-lived.¹³

I return to this fact: in comparison to commodity theory, chartalism can better explain the emergence and persistence of fiat money. Firstly, the vulnerability of fiat money to free riding is resolved by the intervention of the state. Secondly, sovereign money becomes more resilient as long as the political authority is able to enforce the law and impose taxes shaping the expectations about the future acceptability of fiat money. Hence, the expectations of the users of money are aligned behind the authority of the state, while the 'receive-ability' of money is further supported by taxation. Certainly, there are limits to what the government can do to enforce the sovereignty of money, but in this context fiat money appears more stable and closer to reality than it does within the framework suggested by the neoclassical analysis.

These descriptions of the emergence and the persistence of money seem to be consistent with the predominance of historical evidence and anthropological findings (Goodhart 1998: 408). To wit, taxation preceded market exchange, and thus it is reasonable to suggest that

¹³“Indeed, historical evidence demonstrates how networks of traders formed associations through which they constructed and imposed, by authority, their own money of account for transactions, often in opposition to a monarch’s claim to absolute sovereignty. But they were chronically unstable. Historically, states have been the most successful authorities for establishing and maintaining a stable money of account, but they vary in their ability to enforce it, as they also do in their claims for legitimacy and monopolization of coercion.” Ingham (2006: 271)

money was first introduced by a sovereign authority. In his comprehensive overview of anthropological studies on money, using data from a worldwide sample of 60 communities and more than 1,200 ethnographic sources, Pryor points to a relatively strong consensus on the origin of money in non-commercial uses (Pryor 1977: 391 and 408). During the time of his “Babylonian madness,” which found its expression in his *Treatise on Money*, Keynes claimed that money was a creature of the sovereigns. A line of economists from Knap (1905), to Innes (1913, 1914), Wray (1990), Goodhart (1998) and Ingham (2004, 2006) provides an important historical and anthropological account for the primacy of money as a standard of value. Such evidence, although inconclusive, is supportive of the explanation of the emergence of money in terms of taxation and authority, as opposed to an outcome of exchange and efficiency.

The claim theory fares much better in the analysis of fiat money while the relation between the state and the persistence of official currency is the rule in the contemporary monetary reality. The state theory can better explain the emergence of fiat money and why individuals are predisposed to use fiat money in their transactions — questions that, as I have demonstrated, were not satisfactorily addressed by the reconstruction of the commodity theory as set forth by Kiyotaki and Wright, or by the original account proposed by Carl Menger. For individuals need money to pay their taxes, and are often required by law to accept and utilize the state sponsored currency in their transactions. The collective belief regarding the acceptability of money emerges and is sustained by all of these factors, making fiat money invulnerable to free riding, with the introduction of the external constraint of the state rule that aligns expectations and coordinates action towards the acceptability of fiat money.

The consistency and the explanatory relevance of the stated theory combined with the historical evidence of the temporal priority of the non-commercial uses of money suggest that the definition of money primarily as a standard of abstract value is more accurate than the one as a means of exchange. Nevertheless, Menger’s account of the spontaneous emergence of money is not without explanatory merit. I believe that there is a possibility for partially accommodating the commodity in the claim theory. If we define money as the dominant standard of value that is also used as a means of payment, we do justice to the

rationale behind both the state and the commodity theories of money. The authority explanation is incorporated in the definition of money as a standard of value while the efficiency dimension is expressed in the function of money as a means of payment. Money is not merely relegated as the standard of value and the means of payment; it is also necessary that money becomes the dominant medium in the support of these functions. The definition of money as a standard of value and a means of payment offers a synthesis of the identity constituting functions that denote the concept of money; their presence is necessary and sufficient. The analysis of money can accommodate both these functions, whose combination provides an accurate description of money.

Thus far, I defined money primarily as the sovereign standard of value and consequently as the generally accepted means of payment. The definition outlines the concept of money, but for money to be constituted this concept must be socially instantiated in terms of specific tokens and practices that actualize the identity constituting properties of currency. The next section gives an overview of the ontology of money, so as to complete the analysis of its social significance and to anticipate the analysis in the remainder of the book.

The Ontological Status of State-Money

The state theory argues that money is a creature of the state. The claim is empirically confirmed; currency is issued by the Central Bank, which is a state institution that might or might not be independent of the government. Commercial banks are creating money in their lending operations through the mechanism of the credit multiplier that is based on the fractional reserve principle. The Central Bank, again as a state institution, infuses the system with trust by assuming the function of lender of last resort that guarantees the monetary system; in the final analysis money falls back to the rule of law and the system of taxation for its acceptability. Nevertheless, the appeal to state authority provides only a provisional explanation for the existence of money as an institution that regulates individual and collective behavior and cannot account for the instantiation of money in objects, like currency, and practices. An analysis of money as an institution founded by authority should also provide an account of how this authority came to exist, and how it relates to the action and the attitudes

of the individuals it regulates. The proposed ontological framework will conclude the discussion of the definition of money describing the mechanism that connects the meaning of money, via its functions, with its existence. Ontology is important to account for the role of authority, indicating that the latter is not an ad hoc explanatory variable, but rather an integral part of the social reality that is susceptible to the same basic constraints and laws as any other social phenomenon.

The ontology of money is developed upon the notion of collective intentionality, which provides the basis of social existence. What is appealing in this framework of ontological analysis is its endorsement of a theory of social existence that, while founded on individual attitudes, acknowledges the impact of social properties and structures on these shared individual beliefs and desires.¹⁴ Collective intentionality denotes a shared representation that is expressed in beliefs, motives, intentions or desires; a shared meaning translating into a shared attitude, giving rise to a sense of doing something together.¹⁵ To Searle's way of thinking, collective intentionality cannot be reduced to an aggregate of individual attitudes without leading to an infinite regress, or without canceling the shared nature of intentionality. Collective intentionality is a "we-mode" of intentions, beliefs and motives, and not an aggregation of I-mode intentional states.¹⁶

¹⁴ Searle himself suggests that his analysis is also consistent with methodological individualism. "The sense in which my views are methodological individualist is that all observer-independent mental reality must exist in the minds of individual human beings. There is no such thing as a group mind or an Oversoul or a Hegelian Absolute of which our particular minds are but fragments. Another way to put this point, in light of the distinctions made in this article, is to say that all observer independent intentionality is in the minds of individual human beings. I want this sense of 'methodological individualism' to seem quite uncontroversial. It is perfectly consistent with the idea that there are predicates true of social collectives which are not in any obvious way true of individuals" Searle (2005: 21). The existence of such social predicates is necessary for the ontology of money as it is pursued here, but it is inconsistent with the narrow methodological individualism of neoclassical economics, where an explanation in terms of predicates of social collectives is not admissible. Furthermore, the we-mode, which collective intentionality employs is excluded from the methodological individualism that underlies the commodity theory of money.

¹⁵ "Collective intentionality arises when an individual attributes an intention to the group in which he or she belongs while holding that intention and believing that other group members hold it, too." Hodgson (2006: 5)

¹⁶ "Now given that we all have intentional states in this sense – we all have hopes, beliefs, desires, fears, and so on – we need to discuss the role of intentionality in human social groups. It is a remarkable property that humans and many other animal species have that can engage in cooperative behavior. Obvious examples are playing in an orchestra or playing team sports or simply engaging in a conversation. In such cases one does act individually, but one's individual actions – playing the violin part, for example, or passing the ball to another player – are done as part of the collective behavior. Sometimes there is even cooperative behavior across species as, for example, to take a simple case, when my dog and I go for a walk together. When I am engaged in collective action, I am doing what I am doing as part of our doing what we are doing. In all of these cases, an agent is acting, and doing what he or she does, only as part of a collective action." Searle (2005: 5)

Collective intentionality offers the foundation for the analysis of how social institutions, including money and authority, are constituted. Institutions can be defined “as systems of established and prevalent social rules that structure social interactions” (Hodgson 2006: 2). There are two kinds of rules that define institutions; constitutive and normative (Searle use the term “regulative”). Normative rules have the format of “do X in context C” and are usually the types of rules that are referred to in the analysis of institutions. Constitutive rules can be formalized as “X counts as Y in context C” and explain how facts about social interaction are invested with a specific social significance, in virtue of which they assume a new institutional status and can perform a new social function. The social constitution of status imposed by constitutive rules also creates new normative rules. The fact that money is socially recognized creates obligations as well as expectations (“desire-independent reasons for action”) for the people who accept it. The combination of constitutive and normative rules creates the structure that socially constitutes money; it gives rise to specific patterns of behavior and habits of thought concerning money. Money is defined as an institution because of its dependence to these constitutive and normative rules; in virtue of the institutional structure of rules, currency can be issued and the fulfillment of the functions of money can be achieved. There is a relation between the functions of money, which constitute its identity, and the rules that instantiate it. These functions are only fulfilled because of the social status ascribed to money through a constitutive rule. Furthermore, the new social status gives rise to the normative rules that regulate the use of money, to the rules that define how the functions of money can actually be fulfilled. The functions of money and its social meaning are constituted in terms of these two types of rules. Conversely, the rules that create the necessary institutional structure are selected for their ability to facilitate the functions of money and in consequence to instantiate its status. What I am pursuing here is the interdependence between the functions of money and the rules that give rise to its status, its instantiation, and, in the final analysis, the behavior that fulfills the functions.

The identity-constituting functions of money remain unchanged and define money, but the meaning and the fulfillment of such functions within the *specific social context* of its constitution depend upon the institutional structure of constitutive and normative rules that instantiate money. Yet, the persistence of these rules also depends on their ability to support

the fulfillment of the identity-constituting functions of money in the same context. As the evolving social and technological context transforms the requirements for money, the rules that constitute money change in response to the new challenges of the novel situation. An established set of rules may prove inefficient in a new set of social conditions. When a new problem concerning the use of money emerges, like e-commerce, a different set of rules for the solution of this problem may be organized for regulating the more efficient fulfillment of the functions of money in the face of this development. The interplay between the constitutive and normative rules that establish money and safeguard the fulfillment of its identity-constituting functions is the driving mechanism behind the evolution of money. Technology is the trigger of the evolutionary dynamic of money. Conceptualizing money as an institution and analyzing its functions in terms of rules provides the appropriate framework for explaining the emergence, the persistence and the evolution of the standard of abstract value and of the means of payment. The constitutive and the normative rules giving rise to the institutional structure of money, ascribe the specific social meaning of its status as money, and dictate the way that the functions of money are to be fulfilled. The notion of collective intentionality can provide a solid ontological foundation for this framework, while accommodating authority in the process. The question of the ontology of money and its reliance to authority would be further analyzed in chapter three, where also the relationship between authority and collective intentionality will be elaborated. A dynamic framework for the evolution of the monetary system, building upon the relation between technology and institutional structure, is going to be developed in chapter five. The discussion so far was just a first indication of how to combine social ontology, institutional analysis and the state theory of money and also an attempt to address the argument that state authority is just an ad hoc explanatory variable and not a legitimate explanation for the emergence and the operation of money.

Conclusions

There are a few important conclusions that can be drawn from this chapter. These conclusions are going to be further elaborated in the investigation of money leading to fully-fledged account of its operation. A Mengerian analysis of fiat money as a medium of exchange, which spontaneously arises through barter is difficult to defend, particularly if one

subscribes in the narrow methodological individualism of the neoclassical research paradigm. The existence of an external authority that aligns expectations and makes fiat money valuable through taxation is necessary for the emergence and the persistence of fiat money. The postulation of a political authority and its contribution in the constitution of money can be defended ontologically against methodological individualists by using the notion of collective intentionality and the respective analysis of the ascription of social status through constitutive rules. The fulfillment of the function of money is founded on a structure of normative and constitutive rules that support money and regulate the behavior of its users. Political authority constitutes and enforces these rules, safeguarding at the same time the collective intentionality of its subjects. The identity of money should be understood in terms of these rules and consequently money should be defined as an institution. Highlighting the technological aspect of money is a consequence of its treatment as an institution. Technology offers different possibilities for the instantiation of money, for instruments that support its operation, and for the rules that constitute them. The interplay between the technological progress and the institutional structure that underlies money is the engine behind its development. Only the understanding of money as an institution can enable us to capture these dynamics behind the historical development and the variability of monetary phenomena.

Chapter 2

Money, Value and Price; A Synthesis of the State Theory of Money and Original Institutional Economics

Monetary Value and Reasonable Value

The question of value lies in the center of the debate between the commodity and the state theories of money. As we already discussed in the previous chapter, the source of the value of money is one of the main points of contention that distinguishes the two theories, with the commodity theory arguing that the only source of value is its utility, while the state theory is stressing the conventional nature of the value of money, a value depending on the state and its ability to tax, enforcing the officially issued currency as the sole means of accounting and payment of taxation. In this chapter the question of value is going to be investigated further, and so is its relationship to money. The comparison and the appraisal of the analysis of economic value, its meaning and its constitution, across the two different theories of money, will frame the analysis of economic value, of its meaning, and of the relationship of value to money.

The chapter is going to investigate economic value and its relation to money, based on a combination of the state theory of money (Ingham 1996, 2004, 2006; Knapp 1924; Wray 1990) and original institutional economics (Bush and Tool 2003; Commons 1924, 1961; Foster 1981a, 1981b; Tool 1986, 2000). The investigation of value is going to be conducted at the level of institutions and for that reason it is important to re-orientate the analysis of value away from individualism and to connect it with a theory of social existence, in order to liberate economic value from psychologism and to dispel the scientific pretense of the neoclassical analysis that is deeply invested in the ideas of rationality, naturalism and individualism

(Mirowski 1991a, 1991b). The reliance of economic value to institutions will be elaborated using the concept of “transaction” and the principle of “reasonable value” both introduced by Commons (Commons 1924, 1957, 1961).

Economic Value and the system of Prices

Economic value should be distinguished conceptually from other systems of valuation, like moral, political, or aesthetic, even though such values inform our actions as economic agents and ultimately influence economic valuations and the constitution of the system of prices (Klamer 2003). Actually we have been so much accustomed, even conditioned by our everyday involvement in the market that we tend to think of economic value, often quantified in monetary terms, as one of the most authoritative expressions of value. Economic and monetary values are in many ways the outcome of other value systems, rather than the other way around, negotiated between moral, political, aesthetic and other cultural viewpoints. A reversal that is characteristic of the market economy is that money tends to inform our valuations and reduce all types of value to an all-encompassing system of prices. The economization of values and the emergence of economics as the “meta-narrative” (Lyotard 1984) that organizes social existence is an indication of the success of economics in organizing social life and of the dissolution of cultural valuations in the market. Dewey observed “that praise, prize and price are all derived from the same Latin word; that appreciate and appraise were once used inter-changeably; and that 'dear' is used as equivalent both to 'precious' and to 'costly' in monetary price” (Dewey 1988 [1939]: 195). Dewey recognized the relationship between economics and culture in the act of valuation, anticipating at the same time the process of appropriation of value by economics, an appropriation that can eventually lead to the condensation of the different systems of valuation in price and their final displacement by the market. The formal representation of the market mechanism as an algorithm that calculates prices as “values in exchange” is the logical outcome of the alienation of non-economic values by economic theorizing.

Economists tend to think of economic valuation in terms of price; either the actual price of purchase in the market or a fictional price calculated by simulating the conditions of a

fictitious market. The constitution of economic value is a process of abstraction and insertion of objects, subjects and relations in the price system with the mediation of money.¹⁷ Objects become commodities when they lose their individual characteristics and become interchangeable in terms of price; their identity becomes irrelevant, while their qualities are reduced to the absolute quantity of economic value. Money dissolves the particularities of objects, fixes them as commodities and creates the system of prices as a system of signification. Monetary valuation expresses the content of commodities, economic value that organizes them around the discourse of the market giving to the system of prices a uniform organizing substance. Utility, cost, beauty or personal attachment are reduced to economic value and employed as a support to the system of prices. In a further move that completes commodification, the abstracted qualities of the objects that are commodified, are called back as the rationale of their price (Papadopoulos 2011: 53-54).

Ronald Coase delineated the subject-matter of economics, as everything that can be quantified by the "measuring rod of money" (Coase 1994: 44). The imposition of the economic logic on social reality passes through the re-constitution of society as a market. Prices communicate the content of social constitution, organizing a signifying chain where all commodities are inserted as signifiers of economic value in accordance to their prices. Signification is regulated by money, the standard of economic value, which supports and quilts the signifying chain of commodities, effectively constituting the system of prices. Economic value becomes the ultimate meaning of all commodities and services in the market, but nonetheless remains empty referring only to exchange, an emptiness that is never eliminated but always remains obscured by money. All commodities need to refer to other commodities and in the final analysis to money in order to establish their value. Money refers only to itself. The self-referentiality of money constructs the ultimate foundation of economic value. Money inserts all commodities in the signifying chain by subsuming their differences to a uniform substance (difference reduced to identity). Value, the organizing substance of the economy, is anchored onto money, and money as the abstract standard of value can organize

¹⁷ "The busiest streets of London are crowded with shops whose show cases display all the riches of the world, Indian shawls, American revolvers, Chinese porcelain, Parisian corsets, furs from Russia and spices from the tropics, but all of those worldly things bear odious, white paper labels with Arabic numerals and laconic symbols £.s.d. This is how commodities are presented in circulation." Marx (1971 [1878]: 87)

the system of commodities, exactly because of its self-referentiality.¹⁸

Monetarism and the Open Questions in the Utility Analysis of Value

In mainstream economics, the relation between value, price and money is explained by two interconnected theories; the commodity theory of money that defines money as a medium of exchange, emerging as the unintended consequence of the activities of utility maximizing individuals, and the quantity theory of money that explains the value of money via the dynamics of its supply and demand. The two theories share a commitment to rationality, individualism, and equilibrium dynamics as their main methodological assumptions at the same time as they propose formal representations of their arguments as an expression of their scientificity. Neoclassical analysis distinguishes between 'real' and 'monetary' phenomena, suggesting that money is just a veil over the real relations of exchange between commodities and that market boils down to barter with money being just a contrivance that facilitates exchange.

The commodity and the quantity theories of money put individual rationality and maximization of utility in the center of their analysis of value. Consumers aim at the maximization of individual utility through the employment of their resources in the market. Utility as the foundation of economic value allows for the possibility of the naturalization of the concept of economic value; by referring to utility, value can be traced to the natural psychological make up of the individual and the causal laws that regulate the satisfaction of the individual needs and desires. Still, the investigation of these causal laws are relegated by mainstream economics to psychology and so the factors that influence the individual calculations of utility are placed in a 'black box'. Value is revealed through consumers' subjective preferences and their actions to satisfy their preferences through bi-lateral exchanges. Simply put, economic value originates in utility, with price being a measure of value and value a measure of utility.¹⁹

¹⁸ "there can be nodal points within the field of signification because any system of signification is structured around an empty place [here that of economic value] resulting from the impossibility of producing an object which, none the less, is required by the systematicity of the system." Laclau (1996: 40)

¹⁹ "[Say] went on to show that price is a measure of value and that value is a measure of utility. Hence price measures utility, from which it originated. Price measures (determines the amount of) utility, and utility determines price – well, well, well! Taken together with Say's law of market everything becomes equal to everything else." Foster (1981a: 889), reference in Tool (1998: 43).

Economic value is consequently defined as value in exchange or as price; it expresses the exchange relations of each and every commodity with all the other commodities in the marketplace expressed by a universal unit of account.

The commodity theory of money, suggests that money and the system of prices emerge as the unintended consequence of bilateral commodity exchanges, but the conditions for the constitution of an all-encompassing and fully developed system of prices from bilateral barter exchanges are not theoretically specified. The passage from bilateral barter exchanges, established on the basis of individual preferences, to a free market equilibrium and the supporting system of prices is by no means automatic as the representation of the market as a system of equations suggests. The question is of course how a universally accepted unit of account emerges from bilateral exchanges and as a result how it facilitates the quantification of value, its uniform expression in the market, and the equilibration of supply for all commodities at a single price. The problem is quite complex because if the starting point of the analysis is the usual assumptions of complete information, unlimited computational capabilities and absence of time constrains define the trading agents, as in general equilibrium theorizing, no need for a unit of account emerges (Hahn 1965), and if a more realistic description of the transacting parties is employed then the task of calculating the exchange rates and translating them to a uniform standard becomes nearly impossible (Davies 2002: 15-16; Ingham 2004: 25). Even if one accepts the, *prima facie* unrealistic, assumptions of complete information, rationality, and maximization, bilateral exchanges of commodities cannot lead to the emergence of a common commodity standard, namely to the constitution of a shared unit of account, exactly because bilateral trades do not convey information in terms of value for any further bilateral exchange, but rather manifest comparisons of individual needs on the spot.²⁰ The comparison of individual needs, does not add into the emergence of a general standard of value, since bilateral exchanges only refer to the very commodities exchanged and the individual valuation of these commodities, rather than to a generally accepted means of exchange that can lead to a universal measurement of value. In the standard Walrasian story, and subsequently in the general equilibrium analysis,

²⁰ "Unless the commodities used for exchange bear some relation to a fixed standard we are still dealing with a barter [because], the parties in barter-exchange are comparing their individual needs, not values in the abstract" Grierson (1978: 16-19) quoted in Ingham (2000: 27).

the problem is resolved through the introduction of an auctioneer, a *deus ex machina*, who calls out prices and quantities, overseeing the process of *tâtonnement*, a process that presupposes, rather than produces, prices and money.

The commodity theory of money argues that the value of money is a consequence of its commodity nature and of the utility that its use offers. The establishment of fiat money has challenged the description of money as “just another commodity”, championed by the commodity theory. Fiat-money tokens are intrinsically worthless, while their cost of production is negligible and consequently their supply completely elastic. The exchange of valuable commodities for worthless tokens, or objects that do not have a utility in themselves, has been recognized as a paradox already at the early stages of the commodity theory.²¹ Nevertheless, neoclassical analysis insists that even in the case of fiat money it is the forces of supply and demand, and ultimately the utility of money, that define the value of money, as in the case of every other commodity. Explaining money in terms of supply and demand gave rise to the quantity theory of money, already formulated by Locke in the 17th century and still reigning today, updated to the contemporary versions of monetarism. The quantity theory does not spend too much time on the questions of what money is, or how it finds its way in the economy. The main question of the quantity theory occupies itself with is how much of money is demanded at any given moment (Ingham 2004: 20). A mathematical expression of the (updated) quantity theory of money can be written as follows: $MV + M'V' = \sum pQ = PT$. Notes and coins in circulation are represented by (M), while checkable deposits are (M'); V s are the velocities; p the monetary price of any good; Q its quantity, P the general level of prices and T is an index of the real value of aggregate transactions (Ingham 2004: 21).

There are two important questions about the theoretical foundations of the quantity theory; the problem of the identification of the money supply, or as it is presented in the related literature, the problem of an empirical definition of money, as well as the question of the mechanism of

²¹ “What is the nature of those little disks or documents, which in themselves seem to serve no useful purpose, and which nevertheless, in contradiction to the rest of experience, pass from one hand to another in exchange for the most useful commodities, nay, for which everyone is so eagerly bent on surrendering his wares?” Menger (1892: 240). A more recent elaboration of the problem along with a solution is offered in Kovenock & De Vries (2002). A different account for the usefulness of money emphasizes the issue of transaction costs, explaining the demand of money in terms of its role in facilitating transaction. See for example Baumol (1952), Niehans (1978) or Tobin (1956).

transmission whereby a change in the quantity of money influences the level of prices. The two problems are related; if the demarcating line between money proper and credit cannot be drawn, then it is difficult, if not impossible, to establish an empirical relation between the quantity of money and the level of prices. The problem of identification relates with the distinction between money and credit, another fundamental problem for the commodity theory.²² As long as credit is considered to be a substitute for currency, and not as money proper, it is not included in the quantity of money, and the analysis cannot take into consideration the money created by financial intermediation. As the operation of commercial banks becomes more developed and different types of instruments are created to facilitate deposits and credit, the quantity theory is unable to provide a reliable measure for the quantity or the velocity of the monetary value, and of the different types of money, near monies and money substitutes that circulate in the market. The different types of money that the quantity theorists proposed in order to demarcate money proper from its substitutes range from M0 and M1 reach up to M8 (or even M10), in order to cover the different kinds of assets and credit money (Mason 1976; Kaufman 1969; Laidler, 1969). The variety of near monies is indicative of the difficulty of the task of an empirical definition of money. Without a clear identification of what money is, it is also very difficult to explain the relation between the quantity of money, its velocity, the level of prices and in the final analysis the relationship between money and economic value.

The problem of the empirical definition of money points also to a fundamental difference between the commodity and the state theories of money. For the later money is constituted on the basis of a credit relationship between the issuer, which is usually the state, and the bearer. If we define money as a thing, be it a valuable object or a token, credit raises a separate question on the relation between money and credit, which does not arise in the state theory of money. The different kinds of credit, organized in terms of liquidity and maturity, construct a continuum of moneyiness where any demarcating line between money proper and

²² "Despite the inexorable growth of bank credit-money, orthodox academic economists clung, with increasing desperation, to the anachronistic theory. Their model of money supply was in effect, an empirical generalization of a naturally constrained supply of metallic monetary base provided by a central authority (the mint) that was outside the market. That is to say, in the terminology of the late twentieth century, it was exogenous. The retention of the commodity theory and its assumptions was achieved by maintaining a sharp distinction between money proper and credit. The credit supply was seen as the top of a large inverted pyramid on the narrower base of the gold standard." Ingham (2004: 22)

credit money seems arbitrary. The point of contention is about the qualitative difference between money and credit and not a quantitative distinction between different types of credit. In the end of the day, the objectification of money creates more problems by abstracting the credit relation between the issuer and the bearer than the ones that it aspires to solve.

A different issue that also remains unclear in the quantity theory of money refers to the transmission mechanism, with the relationship between the quantity of money and the level of prices, a relationship that is not as linear or as direct as the simple mathematical formalization of the quantity theory indicates. Empirical evidence suggests that prices follow changes in the supply of money, but this happens only with a lag (Alvarez, Atkeson and Edmond 2009). The nominal price rigidities have been a cause of concern for the quantity theory of money, as well as a point of constant friction in the debate between the (post) Keynesian scientific research program and monetarism. The rigidities in the prices and the wages and the lag in the transmission mechanism suggest the space where monetary policy can have a real effect in the economy, beyond the scope of the monetarist principles of price stability pursued via narrow inflation targeting.

Neoclassical analysis of money and of price is confined to a formal description of the flow of economic value and commodities described by general equilibrium dynamics. In the context of general equilibrium, money is indistinguishable from other commodities, while the rationale of economic value remains caught in the tautological relation to utility and price. The modeling of the economy through general equilibrium models may provide a benchmark for the conduct of monetary policy in the medium or the long run, but is ill-suited for the study of economic value or the contribution of money in the constitution of the system of prices, at least in the short term. Quantity theory lacks the tools to address questions of monetary policy, when it refers to real conflicts about the distribution of social welfare and the antagonism among the different stake-holders of the economy that surrounds it. In the remainder of the paper, I am going to propose an account, based on the state theory of money and the notion of “reasonable value” (Commons 1924), that is more appropriate for the analysis of the conflicts and the issues surrounding the constitution of the system of prices.

Economic Value and the State Theory of Money

The starting point of the proposed analysis of money is the outright rejection of the idea that there might be an optimal quantity of money and consequently a value of money that is determined by the propensities of the real economy. The production of money is considered to be distinct and relatively autonomous from the production of commodities and the system of prices is the outcome of a process of negotiation and conflict between different stakeholders in the economy; between capital and labor, between producers and consumers, and more importantly between debtors and creditors with the government being the arbiter of these negotiations (Ingham 2004; Ferguson 2010; Tool and Samuels 1989). Institutions and social discourse, including scientific theories, provide the structure for this negotiation, with money playing the pivotal role in regulating and symbolizing the system of social exchange; the relation between capital and labor is represented through wages, the relation between consumers and producers through price, the relation between the state and its citizens through taxation, and the relation between debtors and creditors through interest rates. Economic value should be defined and subsequently quantified in the context of the institutional framework of the social negotiation of value, which organizes commodities and facilitates the possibility of their purchase.²³

Value and money are not defined in exchange; it is rather that the terms of exchange that are the outcome of the negotiation around the constitution of value that is regulated through money. The very notion of value originates in the social obligations that are constituted and organized by the fundamental social relation between the individual and the community. The notion of *Wergeld*, or “honorable payment”, the primordial means of compensation for damages, is the predecessor of social and economic value. The elements of sacrifice and debt as formative of the fundamental social bond provide the historical roots of value and of

²³ “Hence, in a very narrowly defined sense, in a social theory of value, money is value; but precisely because it is socially constituted, its invariance is not guaranteed by any “natural” ground, and must be continually maintained by further social institutions, such as the development of double entry accounting and financial institutions such as banks.... This stress on the importance of the legal setting of the algebra of double entry accounting is derived from Ellerman (1986), although it can be traced back to the work of John R. Commons in the 1930’s. What was missing from the older institutionalist tradition, however, was a model that expressed how this expansion of value at the individual level is constrained by the social structures at the level of the market system.” Mirrowski (1991: 572)

the process of social valuation.²⁴ The origin of value in *Wergeld* is not just a historical fact, but also an indication of a fundamental structure that points to a theoretically coherent explanation of economic value, which organizes social facts in terms of a shared social narrative. The organization of the system of social relations in terms of indebtedness, suggests that the very act of valuation and the concept of value, predate the market.²⁵ The remuneration of compensations sets the foundation for a cardinal taxonomy of different social relations, integrating the various aspects of social life in an overarching taxonomy and introducing the very possibility of evaluation and comparison of different social facts, elevating value from the individual to the communal level.

The important distinguishing characteristic of the institutional account of value is connected with a critical stance towards individualism. Individualistic analyses of utility are problematized in the sense that the attitudes and the habits that inform utility are considered to be socially conditioned. Customs and institutions are not just forces that influence economic valuation, but rather they are the primary source of utility assessments and consequently of value. Value is primarily a social construction, rather than an individual calculation. The difference may seem initially small, but is methodologically critical. In neoclassical analysis each individual comes in the marketplace to satisfy its needs and desires, resulting to a market system of valuations that is expressed in the system of prices. According to the institutional analysis, the social interaction creates the needs at the same time as it points to the means of their satisfaction. The resulting system of valuation often assumes the form of a system of prices, but is the result of culture and institutions that are in a mutually constitutive relation with individual needs. In this theoretical framework, the individual and its preferences are not exogenous and are not relegated in the study of individual psychology, but rather fall inside the scope of institutional analysis.

²⁴“This analysis lends itself to the Durkheimian interpretation, whereby *Wergeld* may seem as a 'collective representation' for which the analogue is the structure of society.” Ingham (2004: 92)

²⁵When Knapp is analyzing the source of value of commodity money he refers to “real satisfaction” and “satisfaction derived from its “value in exchange””: “The possibility of real satisfaction is undoubtedly necessary for any commodity becoming a socially recognized exchange-commodity. If metals had not been indispensable in handicrafts, autometalism would have never arisen. But there is “real” satisfaction in every commodity which is taken in exchange. A man who barter a sheep for wooden dishes, takes the dishes only because they give real satisfaction, namely because he can use them. But the dishes do not thereby become socially recognized exchange-commodities. The possibility of “real” use is therefore essential if a commodity (e.g. a metal) is to be chosen as a socially recognized exchange-commodity; but this property is insufficient to make it a means of payment.” Knapp (1924: 5-6)

Money is related to the system of social hierarchies and obligations, where value emerges. According to the state theory, money proper emerges only with taxation, which signals the establishment of authority as the ultimate judge and mediator of social relations. Taxation is the standardization and quantification of the system of social relations and obligations, which is organized around the imposition of a uniform standard of value. The establishment of money creates a credit relation between the issuing authorities and the community in the name of which money is issued. The passage from *Wergeld* to money proper, and from social indebtedness to taxation is an outcome of the centralization of agrarian societies, of the resulting division of labor, the production of a surplus and the emergence of a leisure class. The division of labor between productive and unproductive groups in society requires a formal mechanism of redistribution of resources that can safeguard the survival of all the classes, including the non-productive ones, and the rationalization of the system of distribution. The social bond, and the consequent sense of social indebtedness, is presupposed; the distinguishing characteristic of money is that it emerges as the institution only when production and distribution emerge as relatively autonomous spheres of life, obeying economic, and subsequently monetary principles. The birth of the economic logic is marked by the emergence of money in a similar vein as the passage to history is defined by the introduction of writing.

Money is valuable because it is established by the state as legal tender. Currency is the token of the debt of the state towards the community, issued in the name of that community. The credit relation is supported by the ability of the authority to levy taxes, as a way of repayment of the debt and also by the constitution of money as legal tender for all debts public and private including taxation. The acceptability of money and the operation of the economic system depend on a continuous process of payment and repayment, of "flux-reflux of debits and credits" (Ingham 2004: 83). The willingness to hold money is conditioned by the public expectations on the management of the credit relation between the state and the society. Here emerges a monetary hold up problem, where different agents in the economy are called to decide about the target prices they want achieve, only to recognize that after their decisions are made, it is possible for the state to erode their planning, either by raising or by reducing the value of money. The time inconsistency that hinders monetary management "has

been manifest throughout history in hyperinflations and currency reforms. To understand fiat exchange is essential to model explicitly how society is able to cope with the monetary hold up problem". (Kovenock & De Vries 2002: 148)

The possibility of a monetary hold up problem raises the question of trust among the users of money as well as among them and the issuing authority. Trust is also directly connected to collective intentionality. Trust refers to the willingness to cooperate and to place oneself to the power of others, or differently, to the tendency of people to rely on each other being aware that such reliance may bring about benefits as well as losses for the trusting party, dependent on the exercise of discretion by the trustee.²⁶ The barometer of trust towards money is the rate of inflation, the interest rates and international exchange rates of the currency. As long as the public understands that the monetary authorities have the incentive and the discretion to follow an expansionary monetary policy to induce growth or even worse to benefit from an inflationary tax they will only accept money at a premium; the public foresees that the purchasing power of money will decline over time and they will adjust their demands accordingly, creating further inflationary pressures. Governments and monetary authorities are striving to maintain the public's confidence to the monetary system in order to control the rate of inflation, to support the national currency and to safeguard reasonably low interest rates. The usual solution to the monetary hold up problem is to organize the right incentive structure for the operators of the system, while making this structure known to and reliable for the public. Putting the responsibility of the system in the hands of an independent agent, which does not have an incentive to abuse the relation between the issuer and the bearers of money, but on the contrary has its sole objective to maintain price stability²⁷ is the strategy to infuse trust in the system and to safeguard its stability. Money can only function on trust, a relation that is only possible if it is enhanced by the appropriate institutional structures and sound policies.

²⁶ A more elaborate but still minimal description is: "Trust denotes the conviction that one or anonymous others will act in a trustworthy way, namely carry out binding, fiduciary commitments towards specific individuals irrespective, but within limits of ex post incentives." (Khalil 2003: xiv) Time inconsistency characterizes relations of trust, which is expressed in the phrasing "irrespective but within limits of ex post incentives" that tries to reconcile rationality with responsibility.

²⁷ That is the rationale behind the independence of the European Central Bank, and its constitution where it is explicitly stated that its main objective is price stability. It may be useful to point out here that in the constitution of the Federal Reserve in the U.S. along with price stability, growth is also mentioned as a main objective.

The state intervenes in the social antagonism for the division of the social production, both through fiscal and through monetary measures. The monetary system is one of the main instruments that such economic policies are implemented. Government policies tamper with the value of money and the system of prices effectively intervening in the distribution of wealth. The state can influence the value of money through the control of the interest rates and through intervention in the foreign exchange markets. The interest rates do not only regulate the relations between debtors and creditors, they also have an indirect impact on the overall economic activity and on the relations between producers and consumers through repercussions on investment and savings. The manipulation of the external exchange rate affects directly the domestic system of prices. The state is the biggest debtor and creditor in the economic system, and because of its size and its role in the economy, it determines with its choices the direction of the economic growth, effectively influencing the relative value of commodities, resources, and services; “it also determines its [money’s] substantive value by influencing what must be done in the economy in order to earn the income to pay the tax” (Ingham 2004: 84).

The monetary and the fiscal policies allow the state to change the value of money effectively transforming the economic relations between its citizens. The monetary system is not a set of mechanical relations between public spending and the level of prices but rather the outcome of the policy of an agent that lies in the center of economic and social antagonism. In this context money emerges as an autonomous institution in the economy, one that is constituted according to its own rules and norms. These rules and norms define the value of money and the system of prices. In order to investigate the dynamics of economic value we need to investigate the dynamics of social antagonism in the context of the monetary institutions that shape and regulate the value of money and consequently the process of economic valuation.

“Reasonable Value” and “Transaction”; an Institutional Contribution in Value Theory

An analysis of value that recognizes money as the main instrument that the government uses to intervene and regulate the constitution of the system of prices, cannot be complete without the discussion of the principles and the theoretical framework for the analysis of the process

of social valuation. The notion of “reasonable value”, which was introduced by John R. Commons, can direct such an analysis of economic value.²⁸ Reasonable value developed as part of the broader theoretical research program on the resolution of economic disputes and of the necessary institutions for their administration. In the core of this program lies the question of the “formation and distribution of social welfare” (Commons, 1961: 679), a problem that is also related to the operation of the monetary system. Along reasonable value, Commons defined the important notions of “economic transaction”²⁹ and institution,³⁰ effectively laying the foundation of institutional economics as we know it today.

Reasonable value was initially introduced in an attempt to explain the process of valuation in the many instances that the market is unable to calculate the price.³¹ The failure of the market and the absence of a neutral mechanism that can establish but also legitimize valuation open the space for the antagonism between the agents that are directly involved in the transaction, the seller and buyer, but also of others that may have a stake in the specific deal. Valuation becomes then the object of social dispute to be decided by collective action, the result of which is the introduction of “administered/ bargained prices”, defined not only by the forces of supply and demand but also by factors like power relations, informal custom and institutional rules. Collective action, for Commons, has a much broader meaning here than the mere aggregation of individual actions that characterize an idealized free market; collective action is perceived by the acting individuals as the institutional framework of rules that organizes their actions, including custom, the laws of the state and the common law of the courts, the activities of groups and organizations such as trade unions and business firms and any other kinds of regulation that the society imposes to its members. The task that institutional economics sets for itself in the process of the analysis of reasonable value is two-fold; to

²⁸ For Commons, money is debt as well as a means for the extinction of debt, as in the state theory of money. See Commons (1961: 473).

²⁹ “The ultimate unit of activity ... must contain in itself the three principles of conflict, dependence, and order. This unit is the transaction. ... Transactions intervene between the production of labor of the classical economists, and the pleasures of consumptions of the hedonic economists, simply because it is society that, by its rules of order [collective action], controls ownership of and access to the forces of nature [individual action].” Commons (1961: 58).

³⁰ “The formula of collective action in control of individual action, which is the ‘institution’, gives us a mental tool of investigation, the application of which brings together the similarities and differences in the varied and innumerable economic activities.” Commons (1951: 34)

³¹ “Thus, one may assert that the core of neoclassical microeconomics is the theory of market-determined prices, while the core of institutional economics is the theory of administered/bargained prices.” Kaufman (2006: 45)

outline the theoretical principles for the evaluation of the reasonable value in the absence of a market price and to describe an institutional structure in terms of collectively accepted rules that can regulate the negotiation of the price but also enforce its acceptance by all parties.

Commons proposed a set of general and abstract factors that should direct and substantiate the research of the meaning of reasonable value. These principles were introduced and developed by Commons both in his book *Institutional Economics* (Commons 1960) as well as in an earlier paper entitled *Reasonable Value* (Commons 1924), which is exclusively dedicated to their analysis. Efficiency, scarcity, sovereignty, custom and futurity, here denoting forward looking, are the factors that substantiate reasonable value, but also condition economic behavior in general. These five factors are devices that can direct empirical research, organizing the theoretical system necessary for the analysis of the facts gathered, facts that should also be used to enhance our understanding of the theoretical framework used. The outcome of the research around the constitutive factors of reasonable value can contribute to the development of a more general theory of economic valuation, as it is shaped by social antagonism, comprised of elements of institutional analysis and “negotiation psychology” (Rutherford 1994:15). Original institutional economics tries to capture the complexity of real conflicts and the variety of instances of negotiation around the calculation of a reasonable value. The dialogue and the disputes of the employers association with the trade unions, usually mediated by the state, provides a representative example, because it exhibits the possibilities of direct and indirect intervention in the process of shaping the outcome of wage negotiation, and has an impact on the overall economy, via the level of employment and growth, and the system of prices. Moreover, the decision about the level of wages is illuminating for the notion of reasonable value because it is not and it cannot be the outcome of an objective valuation, but rather of a compromise that mirrors the interest and the powers of the competing parties, including the mediating authority.

The theoretical system for the analysis of the factors that substantiate and direct the process of the establishment of reasonable value, should be complemented by the investigation of the rules and institutions that are necessary for the regulation of the negotiation of the process of economic valuation as well as for the establishment of a reasonable outcome expressed in

prices. Reasonable value has also to do with the legal rules established as the ostensible basis on which the negotiation and the decision around its establishment are organized and explained. These rules give rise to institutional structures that organize the economic system. Commons refers to custom, common law, and formal rules, while he stresses the importance of courts and particularly of the Supreme Court as the sovereign institution that can resolve disputes and constitute new rules for collective evaluations. Courts can intermediate in the antagonism around the question of a reasonable value, nevertheless it is also the government that intervenes indirectly through monetary and fiscal policies. In this light, the monetary system emerges as an institution and a governance structure aiming to facilitate the circulation and the accounting of economic value regulating at the same time the process of collective bargaining around the valuation of commodities and services. The government is actively employing the money so as to mediate in the social antagonism between different stakeholders in the economy by influencing the level of prices, of wages and of interest rates. The aim of the government, if we apply Commons' analysis of reasonable value, is to regulate the social antagonism around the constitution of prices, safeguarding a reasonable and efficient outcome, while maintaining the reliance and justice of the price system. In many cases where asymmetries of power between the stakeholders, monopoly structures or lock-ins exist, government action is necessary in order to compensate for these imbalances and safeguard the reasonableness of the outcome of the valuation. A clear understanding of the institutional and the conceptual factors that influence the process of valuation and contribute towards a reasonable value is imperative for the success of such interventions.

Conclusions

The chapter introduced a theoretical synthesis of the state theory of money and of the original institutional economic analysis, referring to the work of John R. Commons and his understanding of "reasonable value". The synthesis between the state theory of money and the principle of reasonable value can lay the foundations of a theoretical program for an institutionalist analysis for economic value. In the proposed framework, the calculation of economic value and the constitution of the system of prices are the outcome of a process of economic and political negotiation, which is framed by a wider institutional framework that

includes but is not exhausted by the market system. The government has an active role as a mediator of this negotiation, employing money as one of the main instruments of intervention in the social antagonism between the competing groups that try to influence the system of prices. Money is not considered to be just a neutral unit of account, or a contrivance that facilitates economic exchange, but rather a system of rules that regulates the process of the constitution of the system of prices and one of the main vehicles for normalizing the social conflicts around the constitution of the system of prices and the distribution of production. In this institutionalist framework of analysis economic value is political rather than substantive.

The suggestion that money can be used as instrument for the regulation of the economic system is by no means new. Keynes proposed the active management of the supply of money as an important tool for achieving economic objectives, and up to an extent, also the ideal of the optimal supply of money championed by monetarists, is nothing more than an indication of the ability of the state to resolve economic disputes and to achieve compromises by indirectly intervening in the market through money. We could argue that money is not just an expression of the exchange relations of commodities and services but the economic institution *par excellence*, and that the question of the “battle for economic existence” that was raised by Max Weber in his analysis of the relations between the economic, the social and the political, could also be re-framed in 'monetary terms'.

Chapter 3

Collective Intentionality and the Institutional Ontology of Money

Money does not fall from the sky ...

Milton Friedman famously remarked that economics does not need to bother with the question of how money is introduced into the market and that one might as well assume that money is dropped from helicopter so that we can move on with the study of the causal relation between the quantity of money and the level of prices (Friedman 1994: 29-30). Such a methodological attitude reigns currently over mainstream economics and the underlying commodity theory of money, where the question of the ontology of money is rarely addressed and the majority of economists assume that money is just a commodity. The invisible hand explanation of the emergence of money argues that the commodity with the higher marketability becomes the dominant means of exchange in the market through the uncoordinated maximizing behavior of individual economic agents (Menger 1892; Kiyotaki and Wright 1989, 1990, 1991).

Philosophers are more interested in the questions of the emergence and the persistence of money. The preoccupation with money is part of the debate on collective intentionality and the associated belief that money can provide an illustration for the contribution of the notion in the understanding of social ontology (Hédoin 2013; Searle 1995, 2005, 2010; Smit, Buekens and du Plessis 2011; Tieffenbach 2011). When money emerges in the conversation is not because it constitutes an interesting subject in its own right, but mainly due to its usefulness as an illustration of the constitution account of social existence. As it is often the case with examples

coming from economics into philosophy, a certain degree of violence of the views of economists is exerted in order for them to fit in the philosophical argument. For economists it is the function of the money that matters, not the intentionality, collective or individual, of its users. Being the most marketable commodity suffices for something to function as money and the dominant medium of exchange emerges through uncoordinated exchanges in virtue of its “saleableness” or “Absatzfähigkeit“ (Menger 1892: 242). Moreover, mainstream economics is defined by a strong commitment to individualism, which is not consistent with the basic intuition behind some of the major contributions that collective intentionality cannot and should not be reduced to an aggregate of individual intentions.

The aim of this chapter is not to use money just as an illustration or an example of institutional fact and draw conclusions for social philosophy, but rather to wage a critique of the shortcoming of the commodity theory of money through ontological analysis. At the same time a comprehensive ontological framework for the competing state theory of money (Ingham 2004; Knapp 1924; Wray 1990) is going to be assembled. The argument builds upon an account of social ontology based on “collective intentionality” (Gilbert 1989; Searle 1995, 2010; Schimd 2003) and “constitutive declarations” (Searle 2010). An account of social existence can provide the basis for the institutional analysis of money delineating a form of collective acceptance that is both able to carry the weight of money and consistent with a wider framework of analysis of social institutions, including the state. Institutions are going to be analyzed in virtue of institutional facts and rules that fall back to the shared we-attitudes of individuals, language and an irreducible sense of community that connects them. Collective intentionality, institutional facts and constitutive declarations can provide the ontological foundations for the state theory of money, offering a theoretical framework that is consistent with the overarching system of social ontology and where it is the institutional status of money as legal tender and not its commodity nature that supports for its function.

Collective intentionality and social existence

The starting point of the ontological analysis is the fundamental distinction in the types of existence that characterize the social and the natural world. Social phenomena are

dependent on human consciousness and representation, while the natural world is ontologically objective. Human intentionality creates a veil of meaning that is superimposed on the natural world and gives rise to social interaction and social reality. The constitutive element of sociality is shared meaning supported by a shared language; the representations that we share about human interaction bring social phenomena into existence.³² Natural facts “do not need us in any way” and their existence is independent of our representations about them. The two-tiered ontology of the natural and the social (Searle 1995: 5-13) allows for an analysis of social reality that resists reductionism and contributes to an analysis of money on the basis of shared human representations.

Collective intentionality is the foundational concept of the proposed ontology of money that can adequately explain the emergence and the persistence of social facts, including money. Intentionality is a broad philosophical notion that denotes more than just intention and refers to the relation of the mind to the world, a relation towards external objects, states of affairs, and ideas. Candidates for intentional states can be any kind of mental representations of some aspect of the world, always about something or in reference to something (Searle 2010: 24). The relation of these mental representations to the world to which they refer forms the basis of human consciousness, of human action and allows for the constitution of social facts, including money. Collective intentionality is shared intentionality;³³ a particular type of intentionality that expresses an individual conviction and participation in an intentional state that is shared by a community of individuals. Collective intentional states employ the first plural form and express a “we-mode” rather than the “I-mode” that characterizes individual intentionality (Searle 2010: 47). The first plural form places the individual intention in relation to a group of individuals where collective intentionality applies (Davis 2003: 131). The parties of the we-intentionality, share the we-intention as a group, and the relations of the individual parties of collective intentionality *qua* parties that share the same we-intention are integral to the content of the we-intention. The simple example of two people going on a walk together

³² “The key to understanding intentionality, at least for these simple cases, is representation in a very specific sense. The intentional state represents its condition of satisfaction.” Searle (2010: 29).

³³ This definition of collective intentionality as shared intentionality comes from Schmid (2003). It is different from the account of Searle, who just describes collective intentionality just as first-person plural-form of intentionality Searle (2010: 43). “It is by now a well-established fact that intentionality is not exclusively a matter of the personal beliefs, desires and expectations of individuals. What makes our intentionality and our actions *social* is not just that from time to time, we make each other the object of our individual intentions or expectations. Rather, intentionality is *in itself* something human beings can *share*.” Schmid (2003: 203, italics in the original)

can illuminate the relational character of attitudes that constitute collective intentionality. The shared we-intention of each of the two individuals that go on a walk makes sense only if both of them share the same we-intention to go for a walk. The shared intention creates a relation between the two individuals, and it is because of this relation that they go for a walk together. They act and they perceive their action as part of a common enterprise (Gilbert 1990: 7).

Collective intentionality can be understood in terms of shared meaning; shared meaning founded on collectively accepted representations provides the foundation for social facts and for institutions, including money. We constitute the social environment on the basis of the shared representations of what the elements of this environment mean and use these representations as the basis of our social interaction. The act of representation ascribes a new meaning and through this new meaning a new social significance on specific instances of human interaction. Going back, money exists because we share a representation of what money means and does – the social significance of money – and because we are able to recognize the meaning of money in our everyday affairs. Social constitution can be then analyzed on the basis of a simple principle; social facts are established through our representation of them as existing, a representation that ascribes the social significance of these facts and safeguards their persistence.

Constitutive Declarations and Social Constitution

The importance of language for social reality has been commented by many scholars including Searle himself (Searle 2005: 11-12). Language is the fundamental social institution, since without language other social institutions could not have existed. Social interaction is defined by intelligibility and is analyzed on the basis of shared meaning; without language there is obviously no grounds for communication or for shared representations to support intelligibility. The contribution of language is also necessary in a third not immediately recognizable capacity. The performative function of language, its ability to transform the world by ascribing meaning to facts, has been recognized by J. L. Austin who was the first to develop a coherent account of how we can “do things with words” (Austin 1962). Searle expanded on Austin's theory of speech acts (Searle 1969) and introduced the notion of

constitutive declarations, a particular type of speech acts that constitute institutional facts by establishing the authoritative representations of these facts as existing.³⁴ Constitutive declarations are public and official, communicating the social significance of the constituted facts and signaling the legitimacy of the authority that enacts these institutional facts. Common examples of constitutive declarations, is marriage and divorce (“I declare you husband and wife”), the declaration of war, the opening and the closing of session in official bodies like the parliament or the court.

Searle formalized constitutive declarations using the general type: “We (or I) make it the case by declaration that the Y status-function exists” (Searle 2010: 93). Constitutive declarations need to be public and official in order to constitute new institutional status-functions. The public character of the constitutive declaration is important because the constituted status functions need to be known (or at least knowable) to all the members of the community, where the new status-function is enacted. Publicity does not entail that the constitutive declaration has to be performed verbally, or that it needs to be performed at all. Constitutive declarations are often formal public rules that are accessible and knowable in principle by all the parties affected. The legitimacy of constitutive declarations is inspired by the underlying institutional structure that sanctions the authority to enact such constitutive declarations. The constitution of institutional facts presupposes the existence of other institutional facts that regulate the process and define the conditions for the enactment of constitutive declarations (Searle 2005: 9-10). A special authority is necessary in order to legitimate the constitutive declaration and to allow for the creation of a new status and meaning. The special status that enables social constitution is also contributing to the investment of the new institutional facts with collective intentionality. It is only the government or the president that can declare war, while only a public official or a priest can legitimize marriage or divorce. These two conditions, the publicity and the legitimacy of constitutive declarations, are necessary but not sufficient for the establishment of a new status-function. The collective intentionality of the community is what allows for the constitution of institutional facts. Constitutive declarations articulate and communicate the content, sanctioned by shared linguistic-mental representations, of the new

³⁴ Declarations are a specific type of speech acts. Through declarations we can make something the case by declaring it to be the case. Declarations are only possible because of language. Without language, there can be no declarations, and in consequence no institutional facts or institutional reality. Searle (2010: 69)

status-function that they aim to establish, but only if they inspire the collective acceptance to the community, is the act of constitution successful.

Constitutive declarations do not only constitute institutional facts as existing they also define their social significance. The representation of an institutional fact that is communicated by the constitutive declaration, articulates the institutional status-function, and fixes the meaning of the shared social representation of the fact.³⁵ The concept, the idea or the practice that the institutional fact instantiates may predate the act of constitution, but the constitutive rule that enacts the concept into a social fact dictates the dominant interpretation of its institutional status. The constitution of money as the dominant standard of value does not only bring money into existence it also defines what money is for the community. Social constitution often imposes a new meaning and can even go contrary to the received view about the social significance of an established institutional fact. The suspension of convertibility, namely the decision of Central Banks to stop exchanging the issued banknotes for gold, effectively established fiat money contradicting the general intuition of what money is and what is the source of its value. Still the authority of the Central Bank supported by the power of the state, made this radical change in the monetary system, which in turn transformed the public understanding of what money is and how it functions.

Collective intentionality and the shared representations that collective intentionality supports are the outcome of the negotiation of agents with different viewpoints and interests that try to promote a particular representation of social reality. Authority can then be conceptualized as the ability to tap into the institutional and discursive power structures in order to impose new representations of reality, universalizing them and effectively constituting them as real. Collective intentionality is the precondition and the outcome of such a universalization. The power to enforce constitutive declarations and secure the collective intentionality of the community translates to the power to enforce the significance of social facts. The stake of social antagonism is to constitute partisan viewpoints as the universal interpretations of social reality, through argument or force. Authority is necessary for the constitution of money; it

³⁵ "The remarkable consistency of Searle's project is also evident from the fact that social reality has been on his mind from *Speech Acts* to *The Construction of Social Reality* (1995). One of the revolutionary aspects of his theory of speech acts was the idea that speaking is acting in accordance with *social rules*. These rules not only regulate but also define linguistic utterances." Meijers (2003: 170).

inspires and safeguards the collective intentionality towards money, which underlies its emergence and its persistence, and it aligns the expectations of all individual users towards a general acceptance of the dominant standard of abstract value.

The proposed analysis does not endorse radical relativism, even though it subscribes to the constitution account of social reality.³⁶ Social reality is both ontologically relative, as long as it is founded on collective intentionality, and epistemologically objective. Intentionality is shared and the collectivity is keeping relativism in check, while institutions regulate the process of social constitution and safeguard conformity with social norms. Social existence depends on a community that dictates the dominant, and thus the genuine interpretation of social reality, allowing for the legibility and the resilience of social facts. The community is then the ultimate guarantee for the stability of the social reality as it is the main resource for the satisfaction of subjective needs. Social participation is the prerequisite for the constitution of subjectivity, which at the same time provides a reference point for the development of social capabilities for communication and interaction. Linguistic competence presupposes the acknowledgment, if not the acceptance, of the shared representations that give rise to social existence (Searle 2010: 109-10). The duality between language and community socializes the subject and regulates its attitudes offering the ultimate guarantee for social participation.

State Money and Collective Intentionality

Searle has referred extensively to money in order illustrate his account of social ontology (Searle 1995, 2005, 2010) and already in the introduction of *The Construction of the Social Reality* (Searle 1995) money provides the starting point for the explication of the Searlian ontological framework.³⁷ Money remains a reference point on the conversation throughout the development of the debate around collective intentionality in the work of both proponents and

³⁶ "The institutions as historical and objective facticities, confront the individual as undeniable facts. The institutions are *there*, external to him, persistent in their reality, whether he likes it or not. He cannot wish them away. They resist his attempts to change or evade them. They have coercive power over him, both in themselves, by the sheer force of their facticity and through the control mechanisms that are usually attached to the most important of them. ... It is important to keep in mind that the objectivity of the institutional world, however massive it appear to the individual is humanly produced, constructed objectivity." Berger and Luckmann (1969, 60)

³⁷ "For example how can it be a completely objective fact that the bits of paper in my pocket are money, if something is money only because we believe it is money?" Searle (1995: 2-3)

critics. The later have looked into mainstream economics in an attempt to find counter-arguments against the relevance of collective intentionality for social constitution, against the claims about the irreducibility of collective intentionality and also against the two tiered ontology that distinguishes the social from the natural (Smit, Buekens and du Plessis 2011; Tieffenbach 2011). The analysis of collective intentionality and money in this chapter moves to the opposite direction; a stronger, collectivist account of collective intentionality and constitutive declarations that is built on “sharedness” (Schmid 2003) in order to support a conception of money that combines the state theory with institutional analysis (Papadopoulos 2009).

Money is an institution and should not be conflated with the object that represent it, be it commodities or fiat currency, since money is not just the coins or the notes, but rather the shared representations that define the institutional status of money and of the tokens that instantiate it. Currency can function as a means of payment only because of its institutional status as money that informs the attitudes and the behavior towards currency. It is in virtue of this institutional status that the functions of money can be fulfilled. In a Searlian translation of the invisible hand explanation of the emergence of money (Menger 1892) a certain commodity becomes money, when it assumes the institutional status of a medium of exchange, fulfilling the identity-constituting function of money. A similar formulation can be constructed for the credit theory of money (Innes 1913); receipts of credit issued by the political authority become money when they assume the institutional status of a standard of value. Yet, at a specific point in time, commodities, pre-weighted pieces of metal, bills of exchange, stop being *used as* and *become* standards of value and media of payment; in other words, they become money by assuming the identity-constituting functions of money. The political authority ascribes the institutional status to currency by inscribing its insignia to it, by supporting it with its power, and by enacting the necessary legal rules, ensuring the collective intentionality of its subjects. The ascription of the institutional status of money is executed through a constitutive declaration; the authority communicates to its subjects the specific object that will count as the official currency in its sphere of sovereignty. Currency is invested with a new status and performs its function due to this new institutional status. A piece of paper or a gold coin is used as a means of payment not because of its material

characteristics — although these may contribute to this end; these tokens are recognized as currency because of their status as money, as means of payment and as standard of value constituted by a legitimate authority and invested with collective intentionality.

Searle argues that institutional facts, like money, can be successfully constituted only when they are enacted and communicated by agents who have the right to do so. Typically, but not exclusively, the right to issue money is reserved for the sovereign political authority. Political authority symbolizes and represents the community it governs, and the monopoly to issue money is exercised in the name of this community. The officially issued currency carries the insignia of this authority, described by Searle as “status indicators” (Searle 1995: 119); these insignia are in place to communicate the institutional status of money, communicating that money will be accepted in payments, including the settlement of taxes. The support of the authority, both symbolically and legally, injects money with the collective intentionality that it enjoys both as the issuer of money and more generally as the sovereign political agent within the community.

Collective Intentionality and the State

The state enjoys the monopoly of power over a designated geographical territory as well as over the population of its subjects. The monopoly of power, taxation and money indicates that the state is a very special institution, nevertheless, its authority and its sovereignty do not relieve the state from its reliance to society for its existence and its operation. The state is dependent on the collective intentionality that constitutes it – the shared representations about what the state is and does – and it is its institutional status that organizes the relation to its subjects. State authority should be analyzed under the same ontological framework as money, comprised of collective intentionality and constitutive declarations.³⁸ The structure of governance is constituted on the basis of a fundamental intelligibility of political action, a set

³⁸ “While particular states may differ ... all states are essentially similar with respect to their proper scope of action, the nature of their authority, and their basic principle of organization. To demonstrate that this is in fact true and to show what it actually says about a state’s activity, authority and internal constitution, is largely what it means to pursue an ontological theory of the state.” Steinberger (2004: 35)

of principles, which define the expectations of the citizens in their relations to it and inform all aspects of social existence that have some relation to governance and regulation.³⁹

In *Leviathan* Thomas Hobbes defined the state in terms of sovereignty and order and since then sovereignty remains the single most important defining characteristic of its identity (Hobbes 2012 [1651]). The institutional status and its defining function of the state are its ability to establish and maintain order over a specific geographical territory in virtue of its sovereignty in this geographical area. The monopoly of violence and the exclusive authority to regulate the use of force are consequences of its status-function as the sovereign enforcer of public order. The state can trump the actions of all other institutions and individuals exactly because of its monopoly of violence that allows it a special position in the social world making it the most powerful of all institutions. The special position of the state in social hierarchies is already anticipated by its status as the sovereign institution that is entrusted with maintaining order among all agents, including other institutions and organizations.

The collective intentionality of the citizens constitutes and regulates the state on the basis of the shared representations of what state authority and state power are, delineating the scope and the scale of its actions. Consequently, the efficacy of state actions and authority are conditioned by the common understanding of the identity of the state and the perceived legitimacy of its authority. As long as the actions of the state are an expression of its institutional status, the collective intentionality of its citizens and the legitimacy of the state actions remain. If state policies transcend the limits posed by the shared representation of the state and its functions, state authority risks losing (some of) the collective intentionality upon which it is constituted and in the final analysis exists. The state can expand (or limit) the scope of the exercise of its legitimate authority by constantly revising the ideology upon which its legitimate authority is constituted. The evolution of the state is a process of constant

³⁹ "Indeed the state is nothing more than the authoritative manifestation of an entire way of life, reflecting as such, the full gamut of judgments about how things in the world – all things in the world – really are. It articulates and codifies a structure of truth about the nature of reality, namely the shared, typically tacit assumptions, presuppositions, theories, commitments and understandings on the basis of which individual members of the society are able to communicate intelligibly and interact coherently. Indeed, the propositions that constitute the idea of the state pertain not to this or that sector of society, but to the full range of social enterprises; it is composed of the notions of how institutional conflicts within the society are to be resolved for the good of society; it is a comprehensive structure of ideas that functions as a kind of rule-book of last resort, a final court of appeal on the basis of which all social disputes are evaluated..." Steinberger (2004: 22)

negotiation of the idea of state authority and its implications for governance. The dynamism and the adaptability of democratic societies lies in their ability to constantly reinvent political purpose and to put the authority of the government in test through regular elections that safeguard the collective intentionality of the citizens in an evolving system of governance.

The collective intentionality towards the state and its sovereignty are in a relation of mutual dependence. The sovereignty of the state depends on the collective intentionality of the society at the same time as the state can use its sovereignty not just to inspire but also to enforce the collective intentionality, by the exercise of its power; “power is a system of status-functions and thus rests on collective acceptance, but the collective acceptance, though not itself based on violence can continue to function only if there is a permanent threat of violence in the form of the military and the police.” (Searle 2003: 11). The possibility to enforce collective intentionality through coercion undermines the proposition that the individual attitudes clustered collectively provide the source of all social facts. The dissolution of individual autonomy is a consequence of the status-function of the state. The individual recognizes the state as the locus of sovereign authority that maintains order and as a consequence it also accepts its position as subject of state power on the condition that the exercise of power is considered legitimate and remains within the prescribed limitations. Faced with the organized apparatus of political control and the monopoly of violence of the state the individual feels and actually is powerless. The community may indeed be the source of all power, but for the state to maintain order it is seminal that each individual does not realize that the existence and the power of the state are dependent also on his or her collective intentionality.

The same asymmetry of power between the individual and the state is characteristic of their economic and monetary relations. The credit relation between state and society and the consequent enforcement of the official currency is not voluntary, but is founded on the monopoly of the state and its ability to enforce taxation upon the citizens. Taxation is the consequence of the sovereignty of the state in the economic domain, and with taxation emerges also money and its acceptability (Ingham 2004: 47-48). The necessity for the individual to earn income in the form of the officially sanctioned currency in order to pay his or

her taxes makes currency not only acceptable but also indispensable as a means of payment. The prerogative of the state to demand the payment of taxes and moreover to demand taxes in the tender that the state itself issues, lies in the center of the monetary system. Taxes cancel the debt that the issue of money creates, a loan of the issuing authority towards the bearers of money.

The source of economic sovereignty remains the collective intentionality of the subjects towards power and money; a collective intentionality that presupposes the acknowledgment not only of the monopoly of violence of the sovereign authority but also its sovereign rights to sanction taxation and money. The state is also constrained by the attitudes of its subjects, their expectations about the acceptability and the value of money in the future. Tampering with the monetary system, or the imposition of taxes, beyond the point that is considered legitimate or sustainable by the public can lead to the loss of reliability of the state institutions, increasing the costs of enforcement or leading to inflation, capital flight and the parallel circulation of other currencies. The attitudes of the public when expressed in concert can challenge the monetary sovereignty of the state in the same capacity that they support the existence and the circulation of money.

The irreducibility of collective intentionality and the rejection of individualism

The foundational concept of the proposed ontology of money, and more generally of social institutions is collective intentionality. This section is going to argue against the attempts to reduce collective intentionality into individual intentionality or to individual intentionality in conjunction with other individual attitudes (like common knowledge).⁴⁰ The arguments against the reducibility of collective intentionality are supportive of the analysis of money as a social institution and the related state theory of money. The analysis so far pointed to individualism, both ontological and methodological, as one of the main problems of the commodity theory of money and to its inability to explain the emergence and the persistence of fiat money because of this commitment. By establishing that collective intentionality cannot be reduced to

⁴⁰ "No set of 'I-Consciousnesses', even supplemented with beliefs, add up to a 'We-Consciousness'. The crucial element in collective intentionality is a sense of doing (wanting, believing, etc.) something *together*, and the individual intentionality that each person has is derived *from* the collective intentionality that they share." Searle (1990: 25)

individual attitudes, the analysis of money in terms of collective intentionality emerges as substantially different from the account offered by the commodity theory, while suggesting why a genuinely collectivist attitude, like the proposed species of collective intentionality based on “sharedness” (Schmid 2003) is necessary for the explanation of the emergence and the persistence of the institution of money.

Collective intentionality has to involve at least two parties in order for the we-intention that is expressed to be genuine. Sharing the same we-intention puts the parties in a relation, a relation that is part of the content of the we-intention. Already the fact that the parties of collective intentionality are in relation is indicated by the use of the first plural form of the shared collective intention; the “we-mode” of collective intentionality suggests that I see myself as part of a collective that intends in concert and if my we-intention is correct I am actually part of this collective of individuals intending together. The web of relations where the individual is placed by a collectively shared intention is internal to the collective intention because the propositional content of the we-intention describes the intention of a collective, and thus the content of the we-intention makes sense only in the context of the internal relations of this collective. To wit, collective intentionality and the relations of the individual parties are mutually constituted; the parties of the we-intention are related in virtue of the we-intention they carry, and the propositional content of the we-intention makes sense only on the basis of these relations. If this claim is true, a reduction of collective intentionality to individual intention(s) is not possible, because these essential relations will remain unaccounted for. The underlying conviction behind this claim is that it is the relations defined by and defining collective intentionality carry the act of social constitution.⁴¹

The beliefs that underlie the existence and the circulation of money can be reconstructed as an expression of the collective intentionality of the users, e.g. “I believe that we recognize X as the standard abstract of value” or “I believe that we accept X as a means of payment”. Such we-intentions cannot be reduced to an aggregate of I-intentions, because they depend

⁴¹ “The social world, by virtue of the fact that it is social, must involve such interactive relations. The term ‘social’ here is used in a broad sense, to encompass phenomena that are examined in economics, as well as other social sciences. In the social context all relations between individuals are causal and interactive, at least in the sense that in maintaining these relations with others, individuals are affected by their (partial) awareness of them and different actions may be enabled.” Hodgson (2007: 212)

on a shared commitment on the economic relations and of the overarching division of labor that define the market system of monetary exchange. These relations are part of the collective we-intention that supports money, not only because they constitute the economic system where money operates as a standard of value and as means of payment, but because they define the very notions of “standard of value” and “means of payment”. Money presupposes division of labor, markets, individual producers and consumers with specific attitudes and expectations about money and about the behavior of others towards money. The acceptance of money situates the individual in a web of economic relations with other producers, consumers and with the authority that issues money, relations that are part of the social significance and the identity of money.⁴²

The content of the we-intention that each individual holds as a party involved in collective intentionality presupposes the content of the shared we-intention of the collective. Sharing collective intentionality does not depend on a mere individual awareness. Awareness of one's sharing of a collective representation is not a sufficient condition for collective intentionality, because one can mistakenly think that one is part of a collective intentional state that nobody else shares. If somebody we-intends to go for a walk with somebody else, the we-intention is justified if both partners intent to go for a walk; the propositional content of each individual's we-intention is dependent on and derives its validity from the propositional content of the shared we-intention. If we think correctly of ourselves as members of a group sharing a collective intention, it is because we actually are part of a group as part of which we share this collective intention, and not the other way around (Schmid 2003: 212). Subjective individualism may lead to the opposite paradoxical conclusion that collective intentionality constitutes the group that is expressed by the “we” for every individual that holds a we-intention even in the case when the individual in question is the only one that holds, erroneously of course, the we-intention. The content and the validity of the individual we-intention is dependent on and derived from the shared we-intention. Individual beliefs about money presuppose a collective belief about money and the individual belief of every agent is

⁴² “Monetary systems are the result of the long term historical development of a complex structure of social relations and practices which cannot be grasped by of neoclassicism's methodology. In this respect, Smithin has observed that “the micro-foundations of standard monetary theory have been left extremely weak” (Smithin 1994, 14). In fact, we need to go further: money cannot have “micro-foundations” if these are sought exclusively in the formal deductive model of the individual agent's rational choice of holding a “veil” or “lubricant” as simple medium in a “real” exchange economy.” Ingham (1996: 516)

predicated on and conditioned by the collective belief about the acceptability of money. Rephrasing the claim once more for the benefit of clarity, the constitution of the collective acceptance of money as the aggregation of individual beliefs of acceptance is not possible because these individual beliefs presuppose the collective acceptance they are supposed to constitute.

Money is constituted as an institutional fact through a constitutive declaration made by the sovereign political authority, and its constitution aligns the expectation of individual agents and inspires a shared collective intentionality that underlies the individual we-attitudes towards money. Reductive individualism is insufficient because the relations between the individual bearers of collective intentionality cannot be included into individual intentionality. In the same fashion, subjective individualism, suggesting the possibility of collective intentionality existing in isolated individual minds, is also untenable and so is an internalist account of collective intentionality because collective intentional states, the we-intentions, rely for their validity on a collective intention that is shared also by the other parties.

Collective intentionality as all other types of intentionality is part of human consciousness. In that sense, if collective intentionality is not reducible to individual intentionality, an issue arises as to the location of this intentional state. It may seem plausible to argue that collective intentionality entails the existence of a group mind (a we-mind) or a collective spirit that holds the collective intentionality.⁴³ The fact that we-intentions are shared does not necessarily suggest that collectivities have a mind where the shared collective intentionality is actually located.⁴⁴ I propose that collective intentionality is located simultaneously in the minds (and the brains) of all the individuals that share the collective intentional state and that the interrelation of the minds and of the individuals is integral to the collective intentionality that

⁴³ "Where there is intentionality, it is said, there has to be somebody who 'has' it - the good old subject. Now if it is claimed that there is such a thing as *collective* intentionality, and that collective intentionality has to be distinguished from *individual* intentionality, the conclusion seems to force itself on us that it has to be not the single individuals, but the collectives themselves that 'have it'. And for collectives to have intentions, some sort of a 'collective mind', some 'group mind' seems to be required, something hovering over and above the mind of the individuals involved." Schmid (2003: 214).

⁴⁴ "Collective intentions, however, do not have a *single* subject. They have many. Thus the group mind is nothing we should be afraid of. It is merely a distorted individualistic image of a non-individualistic, holistic concept of the mind. Collective intentions are not intentions of the kind anybody *has* - not single individuals, and not some super-agent. For collective intentionality is not subjective. It is relational." (Schmid 2003: 216)

the individuals share. Sharedness is a matter of relations between minds that transcends the limits of each individual, forming a network of minds and of intentional states (Meijers 2003: 174). The sharedness and relationality of collective intentionality is supported by the basic sense of community that is common to all individuals and that allows for the capacity of sharing we-intentions. It is this sharedness that allows for institutional facts like money to exist and for the successful operation of our communities.

Conclusions

The chapter outlined the ontological structure that underlies the emergence and the persistence of money based on the notions of collective intentionality and constitutive declarations. The resulting theoretical framework is in many respects different from the usual treatment of money in collective intentionality literature (Hédoin 2013; Searle 1995, 2005; Smit, Buekens and Plessis 2011; Tieffenbach 2011). The underlying state theory of money is at odds with the understanding of money as a means of exchange emerging as the unintended consequence of the behavior of utility maximizing individuals and so is the definition of collective intentionality as a relational and shared we-attitude that exists in interrelated individual minds (Meijers 2003; Schmid 2003) with the individualistic accounts of money. The resulting ontology of money can support the state theory of money combining it with institutional economics, while it provides an ontological analysis of the state and its authority that is consistent with collective intentionality and constitutive declarations. The relation between state authority and the acceptability of money, a relation that carries the explanatory burden of the emergence and the persistence of money for the state theory of money is accounted for, filling an important gap in the ontology of the theory.

Chapter 4

Currency and the collective representations of nationality, value and culture

Currency Matters

The importance of representation, its contribution in the constitution of social reality, and in particular in the emergence and the operation of money, has been explained throughout the book, especially in the previous chapter. Representation provides the grounds for collective intentionality and is the ultimate foundation of the proposed ontology of money. This chapter is going to address the question of how the shared representations of money are articulated and communicated in currency, and their contribution in the acceptance of money. Social representation and collective intentionality have been so far treated linguistically, in the verbal and the written articulation of constitutive declarations and of other speech acts. Next to discourse, money relies on the social imagery of value and authority, both as an expression of the collective intentionality towards money and as its support. The study of currency marks an important shift; in this and in the next chapter the analysis is moving away from the institutional structure of money and focuses on the objects that instantiate money, on currency, but also on the different technological devices that we use in our monetary transactions. The change in the direction is necessary for explaining how the everyday engagement in the monetary system is supporting at the same time as it is conditioned by the collective intentionality towards the objects that instantiate money, and how the shared representations of money are materialized and developed through cultural and technological innovation.

The interest on the social and political significance of currency has recently started expanding beyond the established practice of numismatics (Grieson 1975) and now extends into history (Heleiner 2003), political theory (Gilbert 1998, 2006, 2013; Roumpanis 2007) and geography (Mwangi 2010; Penrose 2011; Raento et al 2004), but not in economics. Most of these studies point to the contribution of currency in the construction and promotion of a collective identity through the articulation of a pictorial narrative that refers to nationality and territoriality. In this context, currency is primarily studied as an instrument for communicating political identities controlled by agents that dictate the political discourse at the national level. For example (Raento et al 2004: 930) argue that: “The imagery of money supports the production and maintenance of a national narrative, written by the national elite.” It is undeniable that national symbols feature prominently in the iconography of currency, but the explanation of the significance of that iconography in terms of “education” (Raento et al 2004: 935) “advertising” (Penrose 2011: 435) or “propaganda” (Hymans 2010: 97; Hewitt 1994, 11) pursued by a “political” (Veselkova and Horvath 2011: 238) or “national” (Raento et al: 930) elite, ignores the economic function of the iconography of currency.⁴⁵ The analysis is going to investigate the function of the iconography of currency from the point of view of economics following the state theory of money (Ingham 2004; Keynes 1931; Knapp 1924; Papadopoulos 2009, 2011, 2013). In this light the icons of nationality and territory that we encounter in most banknotes and coins could be thought of as a reference to the foundations of the political authority that provides ultimate guarantee for the collective acceptance of currency.

The aim of the paper is to argue that the representation of the nation-state, its geography and its culture, a feature that is shared by the majority of currencies, is not just an instrument towards the construction and communication of a national identity, but more importantly a consequence of the reliance of money a sovereign political authority. The fact that the value of money and its purchasing power depend politically and legally on the nation-state informs the iconographies of notes and coins. Furthermore, the agents that are entrusted with designing currency, are constrained by the constitutive ideology of money, the principles of operation of the monetary institutions, and the tropes of the dominant culture. The novelty and the

⁴⁵ “Indeed, while each national case is different, Helleiner suggests that there have been four main drivers: the desire to construct national markets, the promotion of both macroeconomic and fiscal goals, and the strengthening of national identities. The monopoly over the issue of currency legitimized the role of the state. In turn, currencies were used to promote ideas of the “imagined community” of the nation.” Gilbert (2013, 23-24)

particularity of Euro is going to provide a fertile ground in the illustration of the economic significance of the iconographies of currency and their rapport to political power. The study of iconography of currency and of its contribution to the collective intentionality towards money will be developed using theoretical tools from philosophy and aesthetics, in particular the work of Vilém Flusser (Flusser 2000, 2011) and his followers (Boehm 1995; Mitchell 1986, 1994) from psychoanalysis (Goux 1990; Stavrakakis 2007, 2008) and from political theory (Anderson 1983; Hobsbawm 1992; Gellner 1983; Roumpanis 2007). The multidisciplinary method of analysis is necessary for explaining the rational as well as the affective relation of the subject to currency. The analysis of the significance of the iconography of currency is going to start by outlining the theoretical framework for the study of the concepts of the “technical image” and the “apparatus”, in order to explain how the aesthetic of currencies can be interpreted in the context of our visual culture (Flusser 2000; 2011). Subsequently, the relation representations of value and state-authority are going to be discussed, because their relation is central for the state theory of money and it is important for the development of the argument to investigate how they influence the aesthetic of currency. A study of the symbolic, iconographic and security elements of currency will follow, describing the different components of the visual-textual language of currency and their functions. The chapter is going to conclude with the application of its theoretical conclusions in the study of the iconography of the Euro, a new currency that does not refer directly to a shared national identity but rather to a common market and a union of states.

A Flusserian Analysis of Currency as a Technical Image

The analysis focuses on currency raising economic as well as ontological, social, and aesthetic questions that address the banknotes and the coins as cultural objects that carry a series of social representations of money. The analysis is going to address the technological, institutional and ideological conditions for the production of the iconography of money,⁴⁶ following the work of Vilém Flusser. Flusser claims that technically produced images open a window to the functioning and the logic of the socio-technological institutions that produce

⁴⁶ According to Jan Penrose “scholars tend to simply evoke ill-defined notions of ‘the state’, ‘the national elite’ and/or some unspecified part of ‘the government’ to explain who determines banknote iconography and how this is achieved.” Penrose (2011: 431)

them, described as “apparatuses”.⁴⁷ Following this argument, currency could be used an expression of the operating principles of the monetary system. Flusser also investigates the relation between technical images⁴⁸ and our culture, our experiences and our mode of thinking. The realization of the importance of the mode of production, dissemination, and reception of “technical images” and their relation to the economic discourse that frames them suggests how the arrangement of imagery and discursive representations intervene and support the circulation of money.

Flusser insists that technical images are not just a reproductive technology but rather the dominant cultural form which constitutes and regulates our relation to the social environment. According to Flusser, what is particular to technical images is that they essentially change our view of reality by imposing scientific theories and concepts as mediations through which we understand reality.⁴⁹ The main function of technical images is to mediate between the individual and the social institutions by communicating the theoretical and ideological principles of their operation (Flusser 2000: 18). Technical images stand in for social discourse, competing with language as the main instrument of representation and communication, influencing our mode of thinking in a similar fashion as typography did in the past. The cultural shift is not just the effect of the sheer amount of images produced and disseminated, but rather the consequence of the ever-increasing influence of technical images on the perception and the apprehension of reality.

⁴⁷ The apparatus is an important concept in the Flusserian cultural system. Apparatuses are a kind of social machines, which combine technological and institutional elements. “Their intention is not to change the world but to change the meaning of the world. Their intention is symbolic.” Flusser (2000: 25) The way that apparatuses intervene and construct social experience is by representing social facts via technical images. What is important about apparatuses is their programmed and automatic operation. “Power has moved from the owner of objects to the programmer and the operator. The game of using symbols has become a power game - a hierarchical power game.” Flusser (2000: 29).

⁴⁸ “Technical images differ from traditional images in that the two are the result of dissimilar processes of translation. Traditional images have real situations as their source; technical images, on the other hand, start out from texts, which in turn have been written to break up images through translation, that is, images containing texts with images in their belly.” Finger, Guldin and Bernardo (2011: 103-104).

⁴⁹ “The technical image is an image that is produced by apparatuses. ... Ontologically traditional images are abstractions of the first order insofar they abstract from the concrete world while technical images are abstractions of the third order: They abstract from texts which abstract from traditional images which themselves abstract from the concrete world. ... Ontologically, traditional images signify phenomena whereas technical images signify concepts. Decoding technical images consequently means to read of their actual status from them.” Flusser (2000: 14)

The cultural shift is also manifested in the proliferation of the technological apparatuses. Apparatuses should be understood as technical systems that regulate social interaction via the production and dissemination of technical images. Their operation is based on technology and science, often being so complex, that the workings of the apparatuses remain opaque to their human appendage including their own “functionaries”. Nevertheless, social participation is premised on the acknowledgement of their social significance and of their rules of operation. Apparatuses communicate their functions through the production of technical images that mirror their purpose and popularize their ideology. Images mediate between the individual and its environment, by organizing social reality according to the operating principles of the producing apparatuses. Opaqueness is supplemented by “idolatry”, with technical images slowly absorbing and substituting the world (Flusser 2000: 7).

Banknotes and coins can be treated as a special kind of technical images, while the monetary system that produces them can be studied as an apparatus. Currency shares some of the same ontological attributes of the technical image; it mediates between economic theory and the constitution of the system of prices, regulating our participation in the market on the basis of the maxims of economic value. An analysis of money and of the conditions of its acceptability can be pursued through the interpretation of the symbolic and iconographic elements in banknotes and coins that can contribute to our understanding of the operation of the monetary system. We could argue further that currency contributes to the same paradigm shift, in concert with other technical images, but in relation to value and economic exchange. We could paraphrase Flusser and speculate on his idea that “the function of currency is to liberate their receivers by magic from the necessity of thinking on economic value, at the same time replacing historical consciousness with a second-order magical consciousness and replacing the ability to think conceptually with a second-order imagination”.⁵⁰ Banknotes and coins reduce the complexity of the price system by offering a simple narrative about the existence and the operation of money, and by constructing an appealing representation of the authority that sanctions and supports the acceptability of currency.

⁵⁰ “The function of technical images is to liberate their receivers by magic from the necessity of thinking conceptually, at the same time replacing historical consciousness with a second-order magical consciousness and replacing the ability to think conceptually with a second-order imagination. This is what we mean when we say that technical images displace texts.” Flusser (2000, 17)

Technical images and the institutions that produce them are regulating our relationship to money and contributing to the content and the acceptability of the collective intentionality that supports it. From this perspective, currency has both an economic and an aesthetic dimension, which are employed in the support of governance (Roumpanis 2013: 35). Rational acceptance is supplemented by the persuasiveness of the representations of authority and value as they are produced by the monetary apparatus. Individuals relate to money on a practical level. The theoretical understanding of the meaning and the functions of money comes only later, if at all. The unreflective relation to the monetary system is not limited to the quasi-automatic rule-following of the norms that regulate money, but extends to the collective intentionality towards money and to the authority that sanctions it. The subject may be agnostic about the role of money, the mysteries of economic value or the constitution of the system of prices, but the use of currency is a continuous ritual of participation in the shared representations of money and economic value.

Currency and the Representation of Value

Currency represents the idea of money in our day-to-day transactions, attaching a set of visual representations to the identity of economic value. The instantiations of the institution of money in coins and banknotes that represent economic value are constructing a representation of a substance that is socially constructed and extrinsic to the object. The misconception that the purchasing power resides in currency, in the materialization of money, is caused by confusion about the nature of the object, conflating its social significance with its material substance. There is a tendency towards fetishism that is especially strong in the case of commodity money, and in particular towards gold and silver coinage, where the materiality provides an alibi of intrinsic value. Still the materiality of currency only obscures the real source of purchasing power, which is extrinsic and dependent on the authority of the issuer and the collective intentionality that it inspires. Currency, both commodity and fiat, only becomes a means of payment as long as it is collectively accepted as such.⁵¹ The purchasing

⁵¹ "The analysis of economic exchanges shows that the notion of the *pure* symbol, in the sense of a disaffected substitute that can be perfectly arbitrary, conventional, and unmotivated, emerges of its own accord from the *circulation* and thus from the intensification of social exchanges. It appears at a precise turning point in the development of the extended exchange form. Indeed, its function as a simple medium of circulation and exchange, gold or silver currency can be replaced by any sign or symbol whatsoever that represents a certain quantity of the standard unit." Goux (1990: 127)

power of currency is not substantive but political and legal; a consequence of the power of the state that imposes taxes and enforces the currency as the legal tender against which all debts are remunerated. Authority imposes the medium that should be used in economic transactions furnishing the market with a standard of value and a means of payment. The source of the power of currency, the support of symbolic authority, is always inscribed in the currency providing a clear indication of the source of the acceptability of currency and of the monetary sovereignty of the issuing authority over a clearly defined territory.

Purchasing power is not equivalent to economic value or to utility. Currency has the ability to command all other commodities, but it is not a materialization of value in itself. Value, as it was argued in chapter three, is a relation and not a substance; it provides an ordering of things and a system of measurement, but unlike other measures that are embodiments of the quantity they measure, neither money nor currency is a materialization of value. Economic value is not a property that is part of the object of valuation, but it is rather a system of organizing objects in a taxonomy, either ordinal or cardinal (Simmel 1978: 60). Currency functions as a symbolic substitute for economic value; it may be material, but remains fiat. The ability of currency, even of commodity currency, to command commodities and to function as a means of payment depends exclusively on the collective acceptance of currency as money. The mis-recognition that is encouraged in the market is that the individual agents tend to conflate their object of desire with the means of the attainment of the commodities thus creating an illusion of value in currency. Outside of the market, money remains a mere symbol, but one which has ceased to be treated in the market as a symbol, and has become a fetish, the object of individual and collective desire (Mitchell 1986: 192). Jean-Luc Nancy is emphatic: "Currency is the fetish, where fetishism is fixed: belief in the value of the market price itself" (2001: 3). Currency is an "imaginary" symbol of economic value, and not "the incarnation human labor" or the "embodiment" of value. Money presents itself as the link between the subject and its commodified desire, exactly because it operates as the intermediate between subject and consumption. The dominance of money over commodities is the structural principle of the system of prices.

Currency and the construction of National Identity

The production of currency is the outcome of two parallel processes; the physical production of objects, of printing and of minting, and the cultural production of iconic representations of money and of the authority that sanctions its operation. Official currencies explicate at the same time as they express the shared understanding of the workings of the monetary system and the contribution of state authority. The analysis of the banknotes and coins as symbols of power and community, can trace the process of self-representation of authority and society as they are articulated and communicated in currency. Issues like history, territoriality and nationality feature prominently in the iconography of money. These elements are used to communicate trust and value, providing the foundation for the emergence of the collective intentionality towards money (Helleiner 2003).

Nationalism is a modern identity (Hobsbawm 1992: 13). The construction and the imposition of a common national grant-narrative of existence, which aligns the imaginary identification and the history of a people, has been analyzed as a consequence of the economic and technological developments of the industrial revolution. International trade, industrialization, and typography have created the conditions for the emergence of the modern nation-state.⁵² The invention of the printing press has allowed for the homogenization of language, culture, education, and of course the production of homogenous currency. In this context, the state, and the issuers of money try to construct and communicate the content of a shared national identity, through the symbols of a common culture. The aim of their efforts is the perceptual alignment of the citizens towards the representations of the nation-state. The combination of emotional attachment and normative assumptions that is inspired to a people through the ideological state apparatuses provides the basis of the national culture and of an economic community.

⁵² "All this being so, the age of transition to industrialism was bound, according to our model, also to be an age of nationalism, a period of turbulent readjustment, in which either political boundaries, or cultural ones, or both, were being modified, so as to satisfy the new nationalist imperative which now, for the first time, was making itself felt." Gellner (1983: 40)

In describing the nation, Anderson coined the term “imagined communities”.⁵³ If by imagination we can understand the propensity to perceive something that is absent, then monetary media facilitate the mass orientation of imagination to a common and therefore objective perception of economic community, replacing the necessity of social familiarity. Perception that is not based on immediate physical interaction is based on the re-cognition of symbols, such as monetary symbols, designated in various forms of standardization and imbued with meaning; symbols are effective so far as they facilitate social interaction. The fact that these symbols may be genuine or constructed does not have bearing on their function in the iconographies of the national identity. The imagery of currency functions as an integrating and homogenizing force that tends to eliminate local particularities. Currency can be analyzed as a proxy in the process whereby nationality is constructed. The alignment of normatively-defined cultural competencies is required from every citizen in the process of their national identification. It is no exaggeration to claim that currency is “a normative procrustean⁵⁴ table”, expressing the operating cultural assumptions made by the issuing authorities (Roumpanis 2007: 16 & 57-57).

Currency is issued in the name of a community and relies on the authority that governs this community for its operation. The history of currency offers a series of representations of nationality, authority and collective identity. The analysis of these representations provides an opportunity for the reflection on the relationship between identity and power and how this relationship contributes to the construction of social reality. We can recognize the condensation of value in the markings on notes and coins as well as the associations of the symbolisms of power that are omnipresent in money. Money is engraved with the most potent symbols of power; the head of the sovereign, the most prominent national symbols and personalities, the geographical area of the state. Value is represented as power, the power to enforce currency as well as the power to command commodities. These iconographies of currency try to animate the associations between economic value, political authority and national community. Alongside such emblems of state power we also find religious symbols,

⁵³ “It is imagined because the members of even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each lives the image of their communion.” Anderson (1983: 6)

⁵⁴ In Greek mythology, Procrustes was a bandit from Attica who captured people and tortured them by stretching them or cutting off their legs, so as to force them to fit the size of his iron bed. The term *procrustean* denotes an attempt or process of fitting different lengths or sizes or properties to an arbitrary standard.

trying to elevate the profanity of money to a different, more sacred plateau. These symbols relate with and manifest the religious character of value, where mystification and fetishism support the rituals of exchange and accumulation.

There is also a derived, but nonetheless important, dimension of the iconography of currency. The constitution of a uniform standard of abstract value creates a unified system of exchange and in consequence an economic community. The monetary union relies at the same time as it contributes to the emergence of a political community, with the European experiment of the Euro being just one episode in a long line of attempts pursuing political integration through economic measures. The constitution of political community was finally organized on the basis of a single market, but more importantly on the sovereign right to issue currency that aimed for an integrated economic area and potentially for a political unification. The common currency communicates both the political authority that supports and sanctions it and the homogeneity of the community in the name of which money is issued and used. The message of unity is directed both internally and externally. Individual members have to acknowledge their participation in a common political project, regulated by a common set of rules and a common culture. The outsiders have to recognize the identity and the cohesion of the community. Money employs representations of a shared culture and achievement in order to fulfill this integrating function and to signal the necessary cultural cohesion both internally and externally.

Deciphering Currency

Banknotes and coins are part of the institutional structure that supports money, which is organized and regulated on the basis of the shared representations about money's meaning and its functions. In that sense it is not far-fetched to argue that currency constructs a textual-pictorial narrative that informs our perception by communicating theories and concepts about money through which its social significance is established. The visual-textual identity of currency assumes the important function of representing money as the standard of abstract value both through words and through images. The analysis of the representational function of notes and coins intends to translate the contribution of the design of currency in the

collective intentionality towards money. Currency can be read like a text, and the text constructs the official narrative about value and authority. The analysis of the iconographic and symbolic signs as well as of the security elements that define currency, create the syntactic framework, where the issues of economic value and political authority are represented contributing to the persistence of collective intentionality towards money. Each coin or banknote can be broken down to their own visual-textual elements, the analysis of which can extract the symbolic and iconographic patterns.

The symbolic identity of the currency is comprised of the denomination, the issuer, the date, the references, the names and the titles that express linguistically the meaning of currency. Symbolic representation informs the collective intentionality of the users and integrates the piece of currency in a specific position in the monetary system by communicating all the relevant information about its identity in a simple and straightforward manner, using words and numbers. The denomination of the note or the coin is the basic determinant of its identity, indicating the economic value that the piece of currency represents. The date of issue as well as the issuing authority also feature, usually supplemented by the signature (usually in banknotes) of the person or persons with the appropriate institutional status for the issue of currency. These status indicators are also there to signal the authenticity of the currency and its affinity to legitimate power, creating a first layer of obstacles to possible unauthorized reproduction.

The iconography of the currency employs human figures and spatial references, landscapes and monuments, as well as secondary ornamental elements, supplementing language with a pictorial narrative, which articulates the imaginary construction of economic power and national identity.⁵⁵ The most common motif of the iconography of currency is the metaphor of the family: there are national cradles and patriotically sanctified national landscapes, there are “founding fathers” and prominent personalities, there are motherlands and depictions of ancestral culture as “national patrimony”.⁵⁶ The space of the family is used as metaphor for

⁵⁵ National identity has been under a process of constant re-invention, especially in the case of multicultural states like the US or the USSR, the relative young countries in South America and post-modern supra-national systems of governance like the European Union.

⁵⁶ “As a narrative, nationalist iconographic narratives are designed to transpose the feeling of intimacy from the context of the family to the public space. Much like the word *economy* – as in *oikos* meaning house – this imagery is the means by which the public colonizes the private.” Roumpanis (2013: 35), italics added.

the area of sovereignty of the issuing authority, symbolizing a space protected from outside intervention, as the national *oikos*. Space and territory are both geographical and social, and their constitution allows for the creation of claims of sovereignty, ownership, and control. The territorial aspect of space is obvious, but there is also a historical dimension, which is not as straightforward. Historical space can be understood only if we discover (or construct) the material traces from the past on a geographical area so as to establish an identity and a *topos*. Archeology in particular is the discipline that discovers and constructs these traces, providing the foundation of national identity and national geography.⁵⁷

The historical constitution of geographical space is manifest in all nation-states, but the currency of Israel can provide an illuminating example for the use of territory in the iconography and its function in aligning state, space and money. The land of Israel does not relate solely to a physical area of sovereignty and self-determination of a specific nation, but also to a space of social relations and of self-protection against others.⁵⁸ Israel is primarily the Jewish people, their culture, as well as the historically and archaeologically constructed originary land where Jewish people “came from” and “have a right to”. The fact that the culture and the land as a spaces, do not necessary overlap, if only because of the long and violent separation of the Jews from their territorial cradle and the long history of the Jewish diaspora, creates a rift in the foundation of the imaginary constitution of the territory of the Jewish state. The question of the relation between the cultural and the geographical spaces has been addressed, often in a schematic and conventional fashion, by the iconographies of the state as a place in the Israeli currency, initially in the Lira and later in the Sheqel. The constant references to the Old and the New Jerusalem as well as the omnipresence of the landscapes of the country, as they are developed by the Jewish population, from Haifa to the Negev, are attempts to construct a solid foundation for the imaginary constitution of authority, economy, and money for the young and challenged state.

⁵⁷ “in other words, archeology as a discipline, as a set of principles, devices, methods, and practices, creates its object of study, out of existing and real, past material traces. It is hard to avoid the comparison here with nationalism: nationalism produces the entity that gives meaning and purpose to it, the nation, and so does archeology, as it produces the object of its desire, its *raison d’être*, the archaeological record. This homological link is not purely accidental.” Hamilakis (2007: 14)

⁵⁸ “No state of Israel would ever have come into being if the Jewish people had not created and maintained their own specific in-between space throughout the long centuries of dispersion, that is prior to the seizure of the old territory.” Arendt (1963: 262)

The visual identity of coins and of banknotes in particular, is not only a matter of national politics, but is also shaped by considerations regarding counterfeiting. Security is central in the visual syntax of currency, and even though it is often invisible, it remains nonetheless influential in the choice of patterns, colors, and the configuration of the symbols and of the iconography. The specific visual-textual identity of the banknotes, and to a lesser extent of coins signals the authority of the state upon which they rely, at the same time as it attempts to prevent forgery but also to inspire trust, constructing a demarcating line between original and counterfeit. The barely legible micro-typography, the screen-angled ornamental patterns and the holograms cryptically enforce the authority of the state by establishing the uniqueness of currency and its recalcitrance to reproduction. The proliferation of such security technologies on banknotes tends to eclipse or to absorb all the other elements (Fisher and Papadopoulos 2013: 75). The connection between adornment and purpose becomes tentative as more advanced anti-counterfeit technologies emerge. Digital watermarking, namely watermarking that can be recognized by software, becomes the norm in preventing the illegal replication of banknotes by attempting to block the technological means of reproduction, namely the scanners, printers and other devices. In many of the contemporary banknotes, specific constellations of geometrical symbols⁵⁹ prevent the processing by computers, due to pre-installed software and hardware safeguards. Security checks are put in place to be recognized by machines indicating that the authenticity of currency tends towards a function of networks and computers. Human action becomes subordinate and often irrelevant to the circulation of monetary value at the same time as currency gets phased out by digital payment technologies (DuPont 2014).

The assortment of national icons and symbols is present in currency to instill it with the authority of the state, suggesting direct references to power and community. Associative, unconscious relations between signifier and signified, between currency and value, based on national origins, culturally specific meaning, and shared presuppositions about historicity and tradition create the foundations for the affective investment in currency. The re-composition of

⁵⁹ "Modern colour photo-copying machines refuse to copy many of the more recent banknotes, such as the pound, mark or euro. But how do they decide, what is a banknote? They search for a simple geometric pattern, consisting of five 1 mm large circles that appears on many more recent banknotes, usually in yellow, but often also in green or orange. The circles are particularly well visible in the blue channel, can be easily detected with a matched filter and tested for the presence of the characteristic constellation." Markus Kuhn, Computer Laboratory, University of Cambridge, 2002-02-08. <http://www.cl.cam.ac.uk/~mgk25/eurion.pdf>

all these textual and symbolic signs constitute the pictorial narrative of the currency and the interpretation of the imagery of value.

The Visual Identity of the Euro and the Recent Financial Crisis

If we are to employ the Flusserian hypothesis about the relationship between the technical images and the apparatuses that produce them, namely that the former are articulations of the constitutive ideology of the later, could we find in the visual identity of the Euro traces of the theoretical presuppositions and the cultural stereotypes that inform the monetary union? Such an exercise is highly speculative, but it is also a good illustration not only of the cultural significance of currency, but also of the extent that its analysis can uncover important but overlooked elements in the representations of identity and power.

The establishment of the common currency in the core of the EU in 2002 was intended as a uniform technical standard of economic accounting that would direct the integration of the Union. The European banknotes were designed by Robert Kalina after a competition held by the European Central Bank. The visual identity of the new notes was decided by the board of directors of the ECB and was also discussed by the Eurogroup at the highest level, indicating the political significance and the sensitivity of the issue of the iconography of the common currency. The iconography of the Euro attempts to account for the European cultural heritage as substitute to the lack of a unifying national identity at the same time as it aims to communicate the modernist ideology of the project of the European monetary integration through a series of abstracting architectural references. The windows and gateways that are used as icons of the European architectural style are meant to symbolize "the spirit of openness and co-operation in Europe", while the bridges are "a metaphor for communication among the people of Europe and between Europe and the rest of the world" (Calligaro 2012: 1). What is striking in this iconography is its inability, or maybe the reluctance, to refer to a common European identity, and to arouse feelings of belonging among the citizens. The abstracted architectural imagery is yet another reverberation of the arid, brutal and deterritorialized space of the market, the organizing utopia of the European monetary apparatus.

The design of the Euro banknotes was heavily criticized as “faceless”, “a-historical” or even “dull” (Delanty & Jones 2002). The criticism of the design points to a more basic question about the common European identity. The failure of the iconography of the new currency reflects up to a point the constitutive anomaly of the EU: the creation of a unified monetary system before the constitution of a political entity that can support it.⁶⁰ The Euro relies on the European Union, and communicates this relation to authority via the inscriptions on coins and banknotes, while the union finds its justification in the common currency. The peculiarity of the common currency is that it does not refer to a sovereign authority that extends beyond the bureaucratic spirit of control of the EU, while it remains the most prominent symbol of the Union, and as such it is the vehicle of communication of its authority, both internally and internationally. The issues of a shared European history, culture, and identity are not addressed in the iconography of the Euro. The use of maps is suggestive that the European territory is chosen as the foundation for the common political and cultural identity of the EU. It is not an authority that supports the circulation of the currency, but a territory that symbolically represents Europe at the political level. Each note and coin features a map of Europe, spanning from the Atlantic to the Urals, including parts of North Africa and Turkey. The omnipresent bridges, which on the one hand stress the links between countries, and on the other the stability and the technical efficiency of the emerging economic infrastructure, are a supplement to the representations of territoriality, stressing the importance of free movement and circulation. The design of the Euro has refrained from historical symbolism, or even the representative European personalities and landmarks so as to avoid tension among the member states, and opted for the geographical area of the European Continent. The choice of place-less architecture is yet another indication of the low degree of European political and cultural integration. The common identity of the new Europe is reduced to the abolition of borders and controls for the circulation of money, people and commodities in the market.

The Euro have been marketed as a manifestation of the ideal of free circulation that defines the European project. Nevertheless, the iconography of the Euro carries also clear indications us of the spatial and political boundaries of the European project. Turkey and North Africa are depicted in a lighter tone that gives a clear sense of limit to the ideologically-marketed

⁶⁰ “Representing doors and windows opened on emptiness, these notes refer only to a limitless, de-territorialized and dehumanized space: that of the market.” Théret (2001: 4) reference from Calligaro (2012).

openness of Europe. The gateways, windows and bridges that are employed as images of Europe's supposed openness could be also rethought as its borders. Bridges are not only links between otherwise divided territories but also points of controlling access or levying tolls. Windows communicate transparency, but also frame the gaze of the onlooker, directing it from the inside to the outside, while looking in through the window is considered inappropriate and intrusive. A different reading of the message of the Euro is derived, when we reverse the iconography of an open and border-less European territory, shifting the focus from the inside to the outside, to the excluded from the common European project. As a result of this reversal, a different interpretation of the message of the common currency could also be that the constitution of the European identity is equally founded on the economic exclusion of the other, the one that does not participate in the free-market institutions of the Union, provisionally or permanently, the poor, the immigrant, the one that is not allowed to partake in the shared European welfare. The message of "Fortress Europe" supplements the image of an integrated geographical space of free movement and economic exchange. The European project is dependent on the construction of new, stricter, borders that define the territory of the union, while political and economic integration are developing along with the policies of border management and migration control. The reality of exclusion, the fact that the imaginary European economic identity is also negatively construed, is probably common to all states, but particularly vivid in the case of the European Union, because of the lack of a shared, positive, cultural imagery.

The case of crisis-ridden Greece provides yet another example for the limitations of the benevolence and the solidarity of the European Monetary Union. Situated in the southeastern border of the Euroland, and being one of its poorest members, Greece occupies a paradoxical position both in the visual identity of the currency but also in the monetary union, as the inextricable foundation of the European imaginary as well as the other to its excluding normativities. Greece represents the first formal reference of the Euro: the Euro glyph €, published in 1996, is described by the European Commission on Economic and Financial Affairs, as "inspired by the Greek Epsilon pointing back to the cradle of European civilization and the first letter of Europe, crossed by two parallel lines to indicate the stability of the

Euro.⁶¹ Greece must be accounted for and alluded to; it is inscribed everywhere and provides the semiotic material for the Euro's signification. But, as it contemplates default, it is excluded from the wealth of the Union and becomes the figure of the profligate other who must carry the responsibility and burden of the Euro's collapse.

Image, Icon, Currency

The image of currency was the focus of the analysis because of its decisive role in the processes of social and economic constitution of money in day-to-day transactions. Following, the analysis of Vilém Flusser, currency was investigated as a technically produced and distributed image, while the monetary system was studied as the techno-social apparatus that produces currency and regulates its circulation. In this framework, currency emerges as “significant surface” (Flusser 2000: 8) that communicates the operative principles of the monetary system and articulates its working hypotheses on authority, nationality and culture. The chapter addressed the particular amalgamation of text, icons and security elements that characterizes currencies so as to confront its aesthetic constitution with the principles of monetarism and market exchange. The iconography of currency was analyzed as a series of “status indicators” (Searle 1995: 119) that signal its affinity to legitimate authority, supporting its authenticity via its peculiar visual identity. The analysis investigated particular amalgamation of text, icons and security elements in order to compare the aesthetic constitution of currency with the principles of monetarism and market exchange. Representation is central for the psychological investment in the monetary exchanges, and so is the illustration of the idea of value in the iconographic and symbolic elements of currency. Such representations legitimize and enforce the collective acceptance of currency, supporting its purchasing power and its circulation. The everyday engagement in the market, the rites of consumption and labor are the best arguments for sharing the collective acceptance of the official means of payment. In this context currency arises as an omnipotent argument in favor of trusting money and the system of prices, accepting at the same time the advertised consistency, stability and justice of the market through its complex visual-textual language.

⁶¹ http://ec.europa.eu/economy_finance/events/2009/theeuro/isola3_en2008-2009.pdf visited on 8.11.2013.

Chapter 5

A Dynamic Framework for the Social Regulation of Financial Innovation

Essence and Change

The history of money can be also be written as history of monetary institutions, including the different currencies, as well as a history of the various ways of producing, handling, and using these currencies. The variety and the mutability of the institutional arrangements, of the currencies, their substitutes and supplements that instantiate money suggest that a description of money just as a medium of exchange or as just an abstract standard of value simplifies the complex and varied history of money. The richness of the monetary system challenges the essentialist explanations of the emergence of money and the relationship between meaning and function. The variety in the objects, which are used as currency is the most visible but not the only manifestation of the changing identity of money. The monetary system has undergone equally important transformations changing the way that people exchange commodities, distribute social wealth and store value.

The aim of this chapter is to develop a framework of analysis that can explain the mechanism of the institutional change of the monetary system and of integration of new technologies in the institutional structure of money. Original institutional economics has already been employed to explain the existence and the operation of the monetary system through constitutive and normative rules. The same theoretical framework will be used to account for the evolution of monetary institutions. Thorstein Veblen and John Commons laid the foundations of the theory of institutional adjustment and this chapter is going to draw from their work including the contributions of their followers (Bush and Tool 2003; Foster 1981a, 1981b; Hodgson 2006, 2007b; Murkins 1988; Tool 1986, 2000; Tool & Samuels 1989; Waller

1988) in the process of constructing an evolutionary framework for the theoretical and the applied study of the institutional adjustment of money.

The Instantiation of Money in Tokens and the Importance of Technology

Technology is considered to be the motor of social development, with technological innovation being the cause that disturbs the social equilibrium leading to change and to progress. We can simply define technology as the fulfillment of human purpose (Arthur 2007: 276), and in the case of money this purpose is the fulfillment of its functions — primarily standard of abstract value and consequently means of payment, store of value, abode of purchasing power. The identity constituting functions of money remain unchanged, but the rules and the devices that are used for their fulfillment evolve through time following technological innovation, and the changes of the socioeconomic environment. The interplay between the identity constituting functions of money and the devices that are used to support its operation, including the regulatory framework that constitutes them, provides the mechanism for the historical development of money.

Theories of money tend to overlook the importance of technological progress in their analysis. Mainstream economics in particular reduces technological progress to total factor productivity analysis (TFP). TFP analysis ignores the historical, institutional and technological causes that are shaping the new configurations of money as well as their consequences that do not register in production changes. More importantly neoclassical economics tends to ignore technological innovation altogether focusing rather on continuity and comparative statics analysis. Money for commodity theorists remains essentially unchanged, and technological innovation is considered only very marginally in the operation of the monetary system. The failure to anticipate the economic importance of the ongoing ICT revolution is indicative of the limitations of this approach.⁶² Money, in this theoretical framework, is neutral and operates as a means of exchange not affected by the social and the technological progress. The limits of

⁶² According to the neoclassical analysis, technology changes more or less continuously, but without any revolutionary breaks. Total Factor Productivity analysis in the late 1980's and the 1990's suggested that the information technologies revolution was not really an important economic breakthrough. Representative of this misguided analysis are the works of Triplet (1999) and Gordon (2000). For a comprehensive critique as well as an alternative analysis of technological change see Lipsey, Carlaw and Becker (2005).

this analysis are manifest in the poverty of debate on the end of money that was triggered by the emergence of “electronic money” in the early nineties.⁶³

The analysis of money as it was developed so far in the book, combining social ontology (Schmidt 2003; Searle 1995, 2005, 2010), the state theory of money (Ingham 2004; Knapp 1924; Weber 1973) and original institutional economics (Foster 1981a, 1981b; Bush and Tool 2003; Veblen 1914) suffer from the same blind-spots as the commodity theory. The first chapters explained that the functions of money are not fulfilled in virtue of the material characteristics of the tokens that instantiate money, but in virtue of the social status ascribed to them and its behavioral implications. The description of money as an institutional fact seems to contradict the relevance of technological configurations in understanding money and its evolution. The key in resolving this contradiction lies in the relation between the rules, particularly normative rules, dictating the admissible courses of action for the fulfillment of the functions of money, and the technological possibilities to facilitate such action. Social constitution is the prerequisite of social significance and action (Searle 1995, 2010), but technological capabilities (in similar fashion to natural necessities) provide the set of alternative courses of action and, consequently, the institutional arrangements available to fulfill the functions of money.⁶⁴ Technological innovation can expand these possibilities, providing alternative configurations for the constitutive and the normative rules that give rise to money, which, when adopted, can alter its institutional configuration. The state, through its institutions, is in the center of this process legislating the necessary constitutive and normative rules for the integration of technological innovation in the monetary system, inspiring at the same time the necessary collective intentionality.

Technological devices that are used in the context of the institution of money, or of any institution for that matter, need to be socially constituted and regulated in order to acquire social significance and efficacy. In chapter four, where an analysis of the ontology of money was developed, it was argued that social facts come into being by the representations that

⁶³ The idea that money is ‘disappearing’ can be found in Kurtzman (1993), King (1999), and Solomon (1997). A complete account and a rejection of the ‘end of money’ thesis can be found in Ingham (2005) and Aglietta (2002).

⁶⁴ According to Hodgson, “the set of possible rules can be enlarged by technological and other institutional developments, one example being the way that the technology of writing makes feasible the rule that a valid contract on paper must be signed.” Hodgson (2006: 4)

people share about their social significance.⁶⁵ A credit card, if we are to examine a specific case of technological innovation in payments, can only be used as a payment device in virtue of its social status as a credit card, in the same fashion as a banknote is valuable because it is collectively accepted as representing money. The technical characteristics of this (or any) device suggest the possible uses, but they do not automatically carry any social meaning. The admissible use of the credit card is defined by normative rules and its social significance depends on constitutive rules that ascribe it with its social status as a credit card. These rules are legislated by the appropriate political authority and need to be supported by collective intentionality. Such normative rules, for example who is allowed to issue such devices, the credit limits, the protocol of use in payment, and the system for the resolution of disputes, can only prescribe a use that is consistent with the technical characteristics. Still, normative rules cannot sanction courses of action that supersede the technical standards of such payment media; for example, these rules cannot require that card based payments be used on the Internet, when the available technology cannot support this possibility. The normative rules indicate exactly which of the technically possible uses are admissible, socially significant, and can be socially useful. The introduction of credit cards is suggestive of the multifaceted character of financial innovation. Credit cards rely to a complex institutional structure in order to acquire social and consequently economic efficiency. At the same time they compete with other means of payment including cash, transforming the market for payments, including the overall structure of the payments industry, including the regulatory framework of its operation.

Banking, Governance and Progress

An evolutionary analysis of the monetary system is very much defined by the meaning of progress. Following the definition of technology as fulfillment of human purpose (Arthur 2007), the progress of monetary institutions is measured in this article by the growing capacities to serve the fulfillment of the functions of money, primarily as an abstract standard of value and consequently as a means of payment, store of value, abode of purchasing power, means of exchange and by the reduction of the cost of supporting these functions. Institutional progress

⁶⁵ "While it is entirely possible for human behaviour to exhibit random characteristics, institutionalists argue that all behavior within a community is ultimately subject to social prescriptions or proscriptions. This especially true of all problem-solving (purposive) behavior. The community at large has a stake in the manner in which its tools and its intelligence are brought to bear on its life processes." (Toul 2000: 127)

is then evaluated by the relative stability of the level of prices, which underlies the sound operation of money as standard and store of value, as well as the efficient operation of the payment system that is connected with the function of money as means of exchange or payment.

Frame and White define a financial innovation as: “something new that reduces costs, reduces risks or provides an improved product/service/instrument that better satisfies participants’ demands. Financial innovations can be grouped as new products (e.g., adjustable rate mortgages, exchange traded index funds); new services (e.g., online securities trading, internet banking); new “production” processes (e.g., electronic record-keeping for securities, credit scoring); or new organizational forms (e.g., a new type of electronic exchange for securities, internet only banks).” (Frame and White 2004: 118) Financial innovation may well be treated as exogenous, representing a shock to the institutional equilibrium and leading the transformation of the monetary system. Still, in order to be able to develop a framework to analyze the contribution of financial innovations in the monetary system, whatever their origin and form, we need to consider the agents that decide about the introduction of financial innovation in the system and especially the motivation and the interests of these agents. Institutional change, as economics has argued, is often only the unintended consequence of the maximizing behavior of self-regarding agents and not the intended outcome of agents pursuing institutional adjustment. The state, and the institutions that represent it – especially the Central Bank, are regulating the monetary system, and will remain in the center of the proposed analysis which draws from the state theory of money and from original institutional economics. Commercial banks are also an important part in the process of institutional adjustment of the monetary system. Banks may lack the legislative function of state institutions but the banking industry is the origin of technological innovation relating to the operation of finance and payments. Actually, it is often the commercial banks and their efforts to maximize revenues and profits, or in some case to defend them against the competition of potential incumbents that support the research, development and implementation of financial innovation. The sound functioning as well as the progress of the monetary system can be understood as the shared enterprise of banks and state institutions, a project that serves the public on which both banks and governments rely for their continued operation. Individual maximization and also Banks

and even the government, are motivated by their own interests and are often involved in rent seeking, an activity that is not necessarily aligned with the operational goals of the monetary system.

The privilege to issue currency held by the state can create a flow of revenue, which is described as seignorage, a term that is related to the traditional procedure of coinage functioning under a silver or gold standard. In this context a coin is simply a piece of precious metal, the weight and fineness of which is guaranteed by the authority in the name of which it is minted and whose symbol it carries. A mint operates on the basis of the following principle; bullion is brought to the mint, assayed, refined and struck into coins, and the bearers receive in return coins equal to the value of the metal brought in less a deduction known as seignorage for the service of the mint (Chown 1994, 10). Seignorage is a duty levied on the coining of money for covering the costs of minting, and for allowing a revenue to the authority that issues the currency. The abandonment of a commodity standard, being gold, silver, or both, did terminate coinage but not the income from seignorage. The issue of paper currency can function as an interest free loan drawn from the public, which is only being repaid in the future via taxation. The revenue from the issue of paper currency can exceed the traditional seignorage revenue from minting coins, considering the constant growth of the money supply (to keep the pace with the growth of the productive basis of the economy). Seignorage is a form of taxation, which remains one of the main concerns of the government in the management of the monetary system, a concern that often competes with the considerations about the efficiency of the monetary system.

Commercial banks are defined by their ability to receive deposits. In that capacity they function as intermediaries in the monetary system, both between borrowers and depositors, and also between the authority that issues money and the public that uses it. The banking industry is entrusted with the monitoring of borrowers and of loan contracts, at the same time as it is the conduit through which currency reaches the market and, with its deposit liabilities forming the majority of the money supply. Commercial banks cover the costs of their operations and profit from financial intermediation. Since, they need to keep only a fraction of the money that is deposited by the public as reserves so as to allow them to face possible requests of with-

drawals, they can create new deposits through their lending operations, which in turn provide the basis for further loans and deposits through the mechanism of the credit multiplier.⁶⁶ In addition they create revenue by charging interest on the loans they supply (a rate of interest that is considerably higher than the one that they give for the deposit they receive) and by charging fees for their services. Financial innovation is introduced in order to improve efficiency in the management of liquidity, assets, liabilities and capital adequacy management in an effort to minimize costs and to increase profitability by extending the possibilities of money creation via the credit multiplier.

The introduction of financial innovation can have a positive effect to the overall performance of the monetary system, but the interests of the banking industry that innovates, of the state authority that regulates and the society as a whole are not always aligned. Banks and government use their position in the monetary system to extract rents and in the pursuit their own agenda. The progressive institutional adjustment of money is a process of negotiation and compromise between the available institutional arrangements, sanctioned by technology, the interests of the government, of the commercial banks and the greater concerns about the efficiency of the monetary system. Original institutional economics have developed a framework for the analysis of the introduction of technological innovation in the established institutional structure that includes the considerations about the improvement of the overall institutional performance and the self-interest of the stake-holders in the process of institutional adjustment. Such a framework can be used also for the analysis of financial innovation and of its regulation by the state and its subsidiary institutions like the government and the Central Bank.

Technological Innovation and Ceremonial Encapsulation

Original institutional economics places technological innovation in the center of its theory of institutional change (Bush and Tool 2003; Foster 1981a, 1981b; Tool 1986, 2000; Tool &

⁶⁶ The credit multiplier is a mathematical expression of the relationship between the monetary base and the money supply. It defines the supply of money generated by commercial bank through their lending operations. When a bank gives a loan, it creates new deposits. The money creating power of commercial banks is made possible by the fractional reserve system under which banks are required to keep on call as reserves only a fraction of their deposits.

Samuels 1989; Veblen 1964, 1996), at the same time as it tries to avoid a simple-minded technological determinism. Veblen was the one of the first economists to analyze systematically the interplay between institutions and the transformative power of technological innovation. In his effort to construct a theoretical framework for the analysis of institutional change Veblen introduced a dichotomy between “instrumental” and “ceremonial” values against which a possible technological adjustment can be appraised (Waller 1982: 757). The two systems of valuation are antagonistic at the same as they coexist, embedded in the institutional structure. Ceremonial values mirror the power relations, the distribution of status and the invidious interests that define the institutional structure. Ceremonial considerations give rise to a system of “sufficient reason” (Tool 2000: 55) for the acceptance of the institutional rules and are connected with invidious consumption and the dominance of the leisure class (Veblen 1964). Instrumental values are directed towards the application of knowledge for the solution of specific social problems. If ceremonial values are the bastion of the status quo and the social hierarchy, instrumental thinking is the force of progress and “instrumental efficiency” (Tool 2000: 60). In the monetary system, the ceremonial values are an expression of the privileges and the rents of the banks and the state, while the instrumental values reflect the demand for the efficient operations of the monetary system.

If we recall the definition of technology as the fulfillment of human purpose, we can also think of technological change as an expression of “instrumental” values in action and as the cause for the further growth of instrumental attitudes.⁶⁷ Technological progress contributes to the growth of human knowledge, which in turn has a cumulative effect on society including attitudes, behavior, tools and institutions. Original institutional economics argues that the availability of knowledge and its growth as they are brought about by technological progress have an important impact on institutional adjustment especially because they influence the attitudes towards the established institutional structures and consequently the collective intentionality of the community. Technology gets integrated in everyday experience and encourages a practical awareness of scientific knowledge that can challenge the

⁶⁷ “In his discussion of the dynamics of institutional change, Veblen speaks of the impact of technology on the institutional structure. Technological processes, he argued, required a matter of fact preoccupation with cause and effect at the exclusion of any consideration of status or power relations. Problem solving in the technological continuum of human experience is inherently dynamic as the solution to one problem (or set of problems) opens up new areas of possibilities of consideration. This has a dislocating effect on the status quo of the existing institutional structure.” Bush and Tool (2003: 19)

preconceived ideas about social organization, which often express ceremonial concerns. Technology does not only provide new tools, but also alters, sometimes radically, the theories about our social existence including our relationship to our institutions. There is a mutuality between the available technological knowledge and the attitudes towards social organization; technological change raises the expectations towards the institutional structure along with the standards of efficiency that are used in the evaluation of the established institutional arrangements.⁶⁸ The increased efficacy from the application of novel technologies in one area enhances the optimism that is connected with technological progress and creates further expectations for institutional progress in other fields. There is an incentive, as the technological knowledge expands and is made available, to use this knowledge in resolving further economic and social problems by incorporating new devices and ideas in the institutional structures that organize social interaction. Technology brings with it a new “material culture”,⁶⁹ inspired by the new technological applications in the social domain and the consequent popularization of science and technology.

Innovation has to be integrated in the institutional structure in order to become socially significant, but only up to the point that it does not create friction with the established system of rules and privileges.⁷⁰ Veblen described the inherent conservatism of the social structures towards technological innovation and the changes that it produces as “ceremonial encapsulation” (Bush 1988: 142-49). Ceremonial encapsulation describes the dynamics of adaptation of technology into already existing institutions. New technology is both enabled and constrained by social rules, which ascribe its social significance and define its domain of application. A tension characterizes the adaptation of the ceremonial to the instrumental system of values. Ceremonial values remain inert, even backward looking, despite the pull from novel technology towards progress and efficiency. The emphasis on the conservatism of

⁶⁸ “The principle of technological determination is simply that social problems can only be solved by adjusting the institutional structures involved in the problem so as to bring them into instrumentally efficient correlation with the technological aspects of the problems. What is meant by “instrumentally efficient correlation” is that instrumental functions of the institution in question be carried on at a level of efficiency tolerable to the members of the institution in view of the possibilities indicated by those same technological factors.” Foster (1981a [1948]: 932) reference in Tool (2000: 92).

⁶⁹ Technology should be thought of in broad terms, including applied science. A different description of this broad understanding of technology is given by the term ‘material culture’, which suggests both the use of technology and the knowledge that is accompanying this use. See for example Castells (1996) and Williams (1973).

⁷⁰ “the technological innovation is encapsulated within ceremonial patterns of behavior in such a manner as not to change the existing value structure of the community” Bush and Tool (2003: 27).

institutional structures and of the values that inspire them provides an important insight in the mechanism of institutional adjustment and of the socialization of technological innovation. Nevertheless, the accent on the conservatism of institutions as opposed to the progressive influence of technology neglects the importance of stability and continuity that the social institutions serve. In the attempt to analyze the dynamics of the social development of money, we should expand on the idea of ceremonial encapsulation by investigating further the different principles that regulate the interplay between technological innovation and institutional adjustment following the developments in original institutional economics after Veblen and focusing on the work of John Foster and its systematization Paul Bush and Marc Tool.

Expanding Ceremonial Encapsulation

Foster, and his students Dale Bush and Marc Tool, expanded on Veblen's theory of institutional adjustment and particularly on the idea of ceremonial encapsulation, which they analyzed further into three principles⁷¹ of institutional adjustment, namely "technological determination", which defines technology as the main cause of institutional change, "recognized interdependence" that points to the mechanism of integration of technological innovation in institutional rules, and "minimal dislocation", which cautions about the destabilizing effect and the limits of the institutionalization of innovation (Tool 2000: 87-104).

Original institutional economics integrates governance and the state in their analysis of institutions and institutional change. In the context of the Veblenian dichotomy, governance can intervene in the process of institutional adjustment with the aim of progressive institutional change which occurs "when, for a given fund of knowledge, ceremonial patterns of behavior are displaced by instrumental patterns of behavior" (Tool 1990: 534). The three principles of institutional adjustment are developed in order to inform policy-making and to support progressive institutional change. The ultimate goal is to serve pragmatically defined public interest, expressed in terms of specific principles of evaluation; reasonable value for

⁷¹ Principles are operational propositions that can facilitate scientific explanations of the process of institutional adjustment. "In institutionalist inquiry, *principles* have scientific warrant; they are fundamental generalities; they are evidentially validated; they identify and disclose continuing economic functions and factors. They exhibit evidential grounding." Tool (2000: 91), italics in the original.

(Commons 1961) that was discussed in chapter three is an example of a system of social valuation.⁷² The democratically elected government supported by the state administration is central in the process of social valuation, in the implementation of the necessary institutional adjustments and in the animation of social acceptance towards the social rules. Democratic control opens up the political space for the representation of partisan interests in the negotiation of articulation of public interest and its bearing on regulation. The state remains in the center of the proposed analysis of money, as it is developed by the state theory of money and the theory of institutional change in original institutional economics. The three principles suggest possible considerations that the regulators of the monetary system face in the process of implementation of technological innovation and they can be employed to build a theoretical framework for the governance of the monetary system addressing the relation between technology, institutional adjustment, social constitution and, as I will argue, collective intentionality.

Technological determination

Technological determinism is one of the main hypothesis in social theory for explaining social change (Williamson 1985), but the principle of technological determination as it is advocated by original institutional economics offers a restatement of a soft⁷³ version of technological determinism constrained by ceremonial values sedimented in institutions and in patterns of thought. In original institutional economics the transformative impact of technology is channeled through the existing social structures and is expressed in their transformation. Technological determinism is constrained by the principles of minimal dislocation and recognized interdependence, which describe the inertia and the stability of social institutions.

For institutionalists the functions of the institution should be brought to the level of efficiency that is allowed by the level of technological progress and the available technology. Foster argued for the necessity of an instrumentally efficient correlation (Tool 2000: 92-93) between

⁷² Here we refer to a series of contributions by institutionalists, including Bush, Commons, Clark, Foster, Hamilton and Tool, in what is called the public interest theory of regulation. "In their view regulation is viewed as a method for resolving conflicts and coordinating social objective in an industrialized economy". Tool (1990: 535)

⁷³ William James coined the term 'soft technological determinism' in his essay "The Dilemma of Determinism", where he distinguished between two types of determinism, "hard" and "soft". James (1956 [1888]: 149)

institutional structures and the available technological knowledge. The tendency towards the improvement of institutions through new technological capabilities is driven by the need to increase efficiency and by the impact of new knowledge to the attitudes of the members of the institution. Technological innovation expands the horizon of possibility and raises also the question of “institutional innovation” (Tool 2000: 115). New technologies function as a shock that disrupts the equilibrium of the established institutional arrangements creating new possibilities and new challenges for the established rules and the supporting attitudes. New more effective solutions are made available for the problems that the institution is addressing, new problems are raised by technological progress for the institutional structure to answer, and new understanding of the situation is encouraged by innovation.

The direction of institutional adjustment is determined by a series of factors; institutional efficiency is only one of the criteria for the acceptance of technological innovation. There is no determining selection mechanism (something like the idealized market competition advocated by neoclassical economics) that can safeguard that more efficient solutions will be implemented or that the chosen solutions will increase the overall social welfare. The evolution of the monetary system exhibits that the supply and demand of new monetary technologies, the outcome of innovation depends more on ceremonial considerations of the state, the Central Bank and the commercial banks, and less on the interests of the public, who in principle should have been the ultimate target of innovation. Uncertainty, power, privileges, rents, even errors of judgment can lead to a maladjustment of new technologies into institutional structures. The history of the implementation of card based (Evans and Schmalensee 1999; Van Hove 2003) and software based payment innovations (Evans 2005; Evans, Hagiu & Schmalensee 2006) offer many examples where technological innovation has led to inefficient institutional adjustments of the monetary system only to serve the ceremonial concerns of the more powerful stake-holders.

Recognized Interdependence

The principle of recognized interdependence describes the integration of technological innovation in the institutional structure. Technological progress has to meet specific conditions

in order to be successfully incorporated in the institutional structure the most important of which are the acceptance by the community of users, the codification of the social significance and of the normative implications of the technological innovation in institutional rules. The acceptance is conditioned by the existing institutional structure, the available knowledge and the technological capacities. Recognition refers to the acknowledgment by the community of users, interdependence describes the cumulative influence of the existing institutions and attitudes for the acknowledgment, the constitution of the new rules and their collective acceptance.

John Fagg Foster in his analysis of the principle of recognized interdependence claims: “the fact still remains that the new pattern of behavior must be specified in conceptual form before it can emerge into a new pattern of behavior” and that “conceptual apprehension precedes the course of action differentiating the new pattern from the old” (Foster 1981b: 933). These statements are consistent with the description offered by John Searle (2005) in his analysis of the contribution of language in the constitution of social reality: “A status function must be represented as existing in order to exist at all, and language or symbolism of some kind provides the means of representation.” The phrasing is different, but Foster can be re-interpreted as claiming that for a new regularity of behavior to arise – for an institutional adjustment – a representation of the admissible behavior and its status should be shared by the community. A set of rules provides this representation – rules are not the only conceivable way to summarize the admissible behavior, but any possible codification of behavior can be formalized in term of such rules – to be in place in order to describe the new regularity of behavior and its social significance.⁷⁴ Actions, objects or technical devices can be socially effective only when they become socially significant, when they acquire a specific institutional status, which in turn can and needs to be represented in linguistic/ conceptual terms, communicated to the community and invested with collective intentionality.

⁷⁴ There is a terminological as well as a conceptual difference between original institutional economics in Veblen and Commons and their current interpretation by scholars like Hodgson and North. While the former suggest that institutional structures are constituted of habits or behavioral patterns, the later suggest that institutions should be defined in terms of rules – the rules of the game. The distinction is important because while habits tend to be implicit, rules are more likely to be explicit. Still, in both cases institutions lead to the regulation and homogenization of behavior.

Attempted adjustments aim at making better use of the available technological resources. The recognition of the newly introduced constitutive and normative rules as useful and understandable precedes the habituation to the new forms of action, which is necessary if new technology is to be incorporated in a specific social setting and if institutional change is to be achieved (Tool 2000: 94). Conceptual apprehension must be accompanied by the recognition of the new pattern(s) of behavior as useful and relevant.⁷⁵ Habituation into new rules of behavior involves a conscious choice by those affected by an institution, as well as a recognition that these new patterns of behavior are shared and will be attended also by (the great majority of) the other members of the society. A new technology and its use need to be regulated, supervised and enforced, so as the type of behavior that is dictated by the institution will be clear and known to everybody and will be invested with the necessary institutional status that will ensure continuity, consistency and acceptability. Original institutional economics and social ontology converge; for habituation of behavior to occur both a shared mental representation of this action and a shared collective intentionality must exist. Also for original institutional economics, something like collective intentionality seems to provide the support for the emergence, the persistence and the evolution of the institutional structure.⁷⁶

The principle of recognized interdependence is consistent with the claim that technological change in the monetary system needs to be implemented through institutional rules. Technology can fulfill its social functions only as long as it is enacted by a specific institutional status through collective intentionality. Recognized interdependence points to the importance of institutional rules as prescriptive formalizations of behavior necessary for the socialization of new technological devices in the social interaction. Any attempt to integrate technological change to the institutional structure needs to be compatible with the established institutional logic so as not to disrupt the operation of the institution. The realization of the interplay

⁷⁵ "We have already observed that Foster explains how actual changes in behavior can occur only when there is some recognition on the part those affected of the need for institutional change and a willingness to accept that change as indicated by an instrumental assessment of the problematic conditions to which inquiry is addressed." Tool (2000: 93)

⁷⁶ Social facts need to be invested by collective intentionality in order to exist, and this is a part of the definition of social facts in Searle's theory of social ontology. He claims that: "Indeed, I will define a social fact as any fact involving the collective intentionality of two or more agents." Searle (2005: 6).

between technological change and social structure brings us to the last principle of institutional adjustment, namely to the principle of minimal dislocation.

Minimal Dislocation

Financial innovation enhances the efficiency of payment systems, expanding the scope of financial intermediation, at the same time as it can undermine the ability of the central bank to control the circulation of money. The principle of minimal dislocation cautions about the disrupting effects of institutional adjustment on the face of technological innovation. Progressive institutional change needs to disturb the established patterns of behavior, but the stability of the institutional structure requires that the disruption caused by technological innovation is kept in check. Technological innovation needs to be socially constituted in such a way so as the incorporation of new technologies in the structure of institutional rules does not disrupt the operation of the institution. The content and the speed of institutional adjustments are conditioned by the established structures; new technologies are encapsulated by the existing institutional structures and these structures limit the space for the socialization of new technologies (Tool 2000: 95).

Institutional adjustment must be consistent with the overall institutional structure and its constitutive logic, for the institution to continue to fulfill its functions. If the new rules, constitutive or normative, contradict the existing patterns of behavior disruption is to be expected. In the face of contradictory rules, agents are not able to recognize how they are expected to act. The overall confusion will cause uncertainty adding up to the overall strain of the institutional adjustment and causing difficulties for the institution under adjustment to fulfill its function(s).⁷⁷ Progressive institutional change should be gradual and focused. Individuals need time to familiarize themselves with institutional change and its implications for their behavior and interests; enough time should be allowed for the new rules to be recognized and

⁷⁷ "Changes should be limited in instances where invidious and ceremonial judgments are significantly impeding economic processes" Tool (2000: 94). The principle of minimal dislocation "involves the recognition that while the dislocation of ceremonial behavior is required for technological progress, the dislocation of even ceremonial patterns of behavior cannot be so extensive as to completely unravel the social fabric of community." Bush (1989: 458)

invested with collective intentionality. Habituation to the new social environment and to the new imperatives for action needs time to be concluded.

Adjustment can and needs to happen also at the level of attitudes and consequently the principle of minimal dislocation is relevant also on the level of beliefs; the conflict between progressive instrumental thinking and conservative ceremonial concerns may hinder the process of institutional adjustment when severe. A feedback mechanism in the process of institutional change should be recognized. Technological innovation brings about a change of attitudes, which in turn can challenge the ceremonial aspects and create the conditions for further technological progress. Conversely when the progressive attitudes are destabilizing the underlying ideology of the institution, a backlash can occur even when the technology and the rules that regulate them are consistent with the established institutional arrangements. Caution has to be exercised also in the alignment of the rules and the underlying attitudes that accompany and rationalize these rules. The principle of minimal dislocation suggests that the discretion in the process of institutional adjustment is limited by the need to maintain the continuity of institutional performance.⁷⁸

The process of institutional adjustment is depicted as modest and slow; new rules should be consistent with the overall institutional structure and its underlying logic so as not to disrupt the operation of the institution. Progressive instrumental adjustments should avoid a direct conflict with the dominant attitudes that inform social organization and existence.

Institutional Change and Money

The proposed framework for the evolutionary analysis of financial innovation combines the state theory of money with social ontology, as it is developed on the concepts of collective intentionality, constitutive and normative rules and social status, and with original institutional economics and its theory of institutional change, defined by the principles of technological

⁷⁸ "The principle [of minimal dislocation] states that while technological change always involves dislocation in the institutional structure, the interdependence is such that "progressive" institutional change is possible if it involves a minimal dislocation of the behavioural patterns of the community." (Bush 1988: 156)

determination, recognized interdependence, and minimal dislocation. Technology is the motor of change in the process of institutional development, with financial innovation causing institutional innovation. Still, the institutional structure and the attitudes that constitute it create the context where technological innovation has to be adapted. State regulation and collective intentionality are necessary for new technologies to acquire social significance in order for them to become socially effective.

The interplay between ceremonial and instrumental values represents the causal mechanism of the implementation of institutional adjustment. The framework of the analysis explains the conservative inertia of social development, describing how the privileges, power and rents define the conditions for the social constitution of innovative financial technologies. This description of the social conditions of financial innovation is consistent with the evidence from the implementation of card based (Evans and Schmalensee 1999) and software based payment innovations (Evans 2005; Evans, Hagiu & Schmalensee 2006). The recent development of peer to peer, open source “cryptocurrencies” like Bitcoin deserves also to be mentioned. The case of Bitcoin is exemplary of the conservatism of financial institutions towards an innovation that may put in jeopardy their business model. Next to the conservatism that slows down the implementation of financial innovation the importance of institutions and of the shared representations has been discussed in this chapter. The importance of institutions and of the shared representations has been revisited in this chapter. In many ways the current crisis in the European Union can be blamed for a neglect of the institutional environment that supports the monetary system. The haste of the European governments to introduce a new currency, without considering the implications at the level of the institutional structure that involves not only the monetary system, banking, and finance, but also the very structure of governance of the system of prices and the mechanism of distribution of social welfare, has brought about an unforeseen crisis with devastating consequences, particularly for the poorest citizens of the Union. Similar problems are also visible in the global financial architecture, where the recent wave of deregulation, which started in the late seventies, did not bring about only growth but also increased the volatility of economic performance. Again the cause of the monetary mischief was a neglect of the inertia of the institutional structures often coupled with ceremonial

attitudes that lead to a monetary system that was unstable as it was biased towards the concentration of wealth and power in the hands of the financial industry.

Conclusions

Money as a Political Institution

Money condenses a series of ontological questions that are shared by the neighboring disciplines of economics, social ontology, and social theory, at the same time as it falls victim to their compartmentalization sanctioned by the academic division of labor, where the nature of money is delegated from one discipline to the next only to remain unaccounted for and therefore mysterious (Ingham 2004). The relative neglect of the nature of money and of its contribution in social interaction is unfortunate; its emergence and its reliance to social attitudes, both individually and collectively held, raises interesting questions and not only about the ontology of money. The dual character of money, as currency and as a system of social practices that can be codified in formal and informal rules, is relevant for the more general relation between objects and their social significance. Instantiation, the socialization of technological devices, is an interesting question ultimately referring to the causal powers that objects assume when they get socialized in human interaction. The thesis has attempted to contribute to the conversation on money and to address all these relations by proposing an institutional account, which motivates the investigation of the functions of money, its instantiation in currency, and its relation to value and to technology. The proposed institutional framework has combined both original institutional economic analysis (Bush and Tool 2003) and a relatively new paradigm in the philosophy of social science developed around the notion of collective intentionality (Searle 2010). The theoretical synthesis of institutional and ontological theory bridges the gap between economics, social ontology, and, indirectly, social theory, by constructing a system that combines theoretical concepts from all these disciplines, while offering an operational definition of money that can be employed in them for further research.

The revolution in information and communication technologies (ICT) organized around the expansion of electronic networks and the proliferation of personal computers is a further reason for reflecting on the social significance and the functions of money, relating to some of the same ontological questions of instantiation and value. The proliferation of ICT has encouraged the progressive reorganization of many social institutions, including money, on the principles of informatization and immaterialization. The consequent emergence of new monetary spaces based on electronic payments and digital currency marks a qualitative change. The possibility of the reconfiguration of the market as a network based general equilibrium model offers the benchmark of efficiency and rationality for neoclassical economics. Economic theory has insisted on the importance of the distinction between real and monetary variables, describing money as a veil that potentially distorts real exchange relations. The new capabilities on information processing and instantaneous communications encourage speculation on the organization of a network of barter exchange that can substitute money, replacing the system of prices with direct exchange relations (Kurtzman 1993). The book reflected on the speculation on a moneyless economy in the discussions of value and technological innovation. The proposed analysis of the relation between money and value has contested the idea of a neutral means of exchange; according to the state theory of money, money is shaping rather than just expressing economic relations. In addition, the institutional nature of money indicates a more complex relation to technological change, where technology is in a mutually constitutive relation with institutions that both enable and constrain the process of technological change. In this theoretical framework, the operation of money goes beyond a mediation on the exchange relations among commodities, or the function of a common denominator in the system of equations that express all exchange relations. Money has for now survived the ICT revolution because of its contribution in the constitution of the system of prices and its function in the social antagonism that shapes it. The analysis of its relations to technology and value can explain why the dreams of moneyless economy could not be realized.

The debate on the social significance of money has become dramatically current with the outbreak of the recent financial crisis. The global financial meltdown that unfolded in September 2008 has awoken the public into an important but rather disturbing realization; the

financial industry has not only been growing out of proportion but it has been abusing its size to extract rents from the rest of the society, often engaging in illegal and fraudulent activities. The lending operations of the commercial banks and the creation of money flows via the mechanism of the credit multiplier have been employed to facilitate the redistribution of social wealth towards the financial sector. Under the claim that money is just a neutral means of exchange hides a different economic reality with fiat money functioning as a “philosopher’s stone” creating wealth out of nothing and making wealth into nothing. The book addressed the theoretical challenge of the financial crisis by pointing to the active role of money in the distribution of production at the same time as it pointed to its reliance on state and society. The insistence of policy makers to a narrow-minded monetarism, both in their understanding of money and in the proposed policies for countering the crisis, has not only exacerbated and prolonged the crisis, it has also encouraged further the unequal distribution of wealth, in itself a cause of the ongoing recession. A more socially and politically informed understanding of money based on community, institutions and authority can be more constructive in addressing the current challenges. The monetary system relies heavily on the state and its ability to levy taxes and regulate the financial system, so if the authority of the state is eroded by violent deregulation and austerity, the repercussions on the stability of the financial architecture, but also on the social edifice can be devastating.

The book was structured around three questions concerning the identity of money, the mechanism that regulates its social constitution, its introduction in the economic system and its relation to value. Such questions are considered to be conclusively resolved in the mainstream economic analysis. The complacency about the exchange theory of money is founded upon the hypothesis that its functions and its identity can be adequately explained by its commodity nature. Reducing money to just another commodity, allows mainstream economic analysis to integrate it easily in economic models as a transaction saving medium of exchange, as the unifying unit of account that organizes the system of prices and finally as a convenient store of value. Ignoring the preconditions for the existence and the identity of money by defining it as a commodity simplifies many of the institutional complexities that constitute it, but cannot answer all the relevant questions about the existence and the operation, particularly of fiat money. The explanatory gap in the neoclassical narrative about the commodity nature of money has been pointed out in the book, especially in the discussion

about the identity of money in the second chapter, but also in the relationship between value and money, where the failure of an “empirical definition” and the inability to clarify the relationship between “money proper” and credit in neoclassical economics have been problematized. The thesis developed the alternative state theory of money, combining it, as it was already mentioned, with an institutional analysis of social existence and economic value. Money was subsequently defined as an abstract standard of value with an active role in the constitution of the system of prices and the distribution of social wealth.

The existence of money was discussed in the context of an institutional framework comprised of social rules and relations and based on state authority. The relational character of money is central in the argumentation and so is the claim that money is constituted on the basis of shared representations, defined as collective intentionality. Individual attitudes provide the foundation for the existence of money, but the ontology of money is safeguarded with the introduction of an authority that represents and regulates society. The collective is both the condition, predominantly via language and culture, and the outcome of individual intentionality. The mutuality that defines the relation of the individual with the community is crystallized in institutions, the most powerful of which is the governance apparatus of the state. Social institutions both enable and constrain individual behavior, giving structure, duration and meaning to social interaction. The compliance to the institutional rules, normative and constitutive, is primarily the outcome of the feedback between the individual and the collective attitudes and only subsequently the outcome enforcement and coercion. The same applies, of course, to money, which is the result of relations of interdependence between individual and collective representations about what money is and does. In this context, linguistic and iconographic representations of authority, value and community are employed to support money, communicate its social significance and contribute to its acceptance, while currency articulates the authoritative expression of these collective representations, creating a “significant surface” (Flusser 2000: 2) where these representations are depicted and communicated. Banknotes and coins are not only “status indicators” (Searle 1995: 119) that signal the affinity to the state, they are also screens for the projection of a subjective desire that animates the affective investment in money. Collective acceptance of money is conditioned by all these factors; by its usefulness, by the power of socialization and

the consequent acceptance of the linguistic and iconographic representations of money, by the coercive force of social institutions, and by the psychological attachment to money and currency.

The foundation of the value of money is analyzed on the basis of shared attitudes in the same fashion as its social existence. Actually, the question of value is one of representation, external to the objects that may instantiate money. The political character of the value of money is a further point of contention between the proposed account of money and the mainstream commodity theory. Institutions, rules and authority support are all prerequisites for the purchasing power of money. Authority in particular enforces the institutional status of money as legal tender; the support of which is both direct and indirect. Legislation of the acceptability of money is supported by taxation, which is the ultimate guarantee for the value of money. The power of the state, even when combined with taxation, is not infinite in its ability to enforce money and its value. The state is also an institution, and as such it exists in virtue of the collective intentionality of the citizens that constrains government policies. The scope of government intervention is constrained by the expectations of its citizens, and cannot overstep the limits of legitimacy drawn by the shared understanding of governance and money without risking the stability of the monetary system.

Politics feature prominently in the thesis. The choice of the state theory of money as the explanatory framework anticipates, of course, the centrality of politics in the proposed account of money. Money, it was argued, is a weapon in the struggle for economic existence, at the same time as the antagonism around the constitution of the system of prices, between debtors and creditors, between consumers and producers, between employees and employers, is regulated with the mediation of money (Ferguson 2008). The government being the arbiter in this conflict and the overseer of the monetary system can intervene both with direct and indirect monetary measures in the conflicts around the constitution of the system of prices. The differences with the received view of money are again substantial; monetarism advocates the idea of an optimal supply of money that masks the political antagonism around the formation of prices. The entanglement of money in the competition around the distribution of social production as well as in the relations of solidarity challenges the pursuit of any monetary objective and may undermine the efficacy of monetary policy as well as the

legitimacy of the implementing authorities. Money and market are part of a wider framework of social, political, and economic institutions the significance of which should be respected.

In many ways this thesis came from the recent financial crisis. The motivation behind the project was to contribute in the development of a theory of money that can illuminate its social and economic significance at the same time as it can offer some guidance in the attempts to reform the monetary system in the context of the financial disorder and the ongoing technological revolution in ICT. The last chapter of the book proposed a framework for resolving some of the tensions around the process of institutional adjustment as they grow in the interplay between technological innovation and the containing institutional structures, always shaped by the battle for economic existence. Original institutional economics has been occupied with the dynamics of institutional change and technological innovation since its establishment; this very question has been at the core of its analysis. The book attempted to provide a framework of institutional adjustment based on the works John R. Commons, Dale Bush and Marc Tool. The guiding principles for policy have been outlined, stressing the interdependence between collective attitudes, institutional rules, technology, power and vested interests. Original institutional economics constructs a useful system of appraisal, based on a more pragmatically defined conception of valuation, which resists the temptation of an “objective” value build upon the principles of rationality and efficiency. Democratic control of the institutional development becomes imperative not only as mechanism that safeguards legitimacy but also as a system of governance that can accommodate the social antagonism around money and the constitution of the system of prices, integrating the partisan interests in a centralized system of negotiation and valuation.

The conclusion of the book is that money is not only one of the most important economic but also political institutions. From the times of Solon and the first reform of the currency system in Athens in the 6th century BC to the current financial crisis, sound money and also sound banking proved to be indispensable for social welfare. The idea that the monetary management can be rationalized if it is placed outside the democratic control of the society illusory. The de-politicization of money is neither possible nor desirable. Money exists on the basis of a relation between state and society, which presupposes legitimacy and solidarity,

principles that are profoundly political and cultural. The role of money in the social antagonism for economic existence indicates that social negotiation rather than scientific objectivity should guide the management of the monetary system. Scientific analysis can inform the decisions on monetary policy but cannot relieve us from the responsibility of deciding on the terms of the distribution of social welfare as they are conditioned by money and the battle for economic existence.

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Abstract (in Dutch)
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De thesis handelt over de ontwikkeling van een kader voor de bestudering van fiat geld, met gebuikmaking van een synthese van het oorspronkelijk institutioneel economisch gedachtengoed, de theorie van geld en de staat, en een interpretatie van de sociale ontologie die gebaseerd is op collectieve intentionaliteit en constitutieve proclamaties. Geld wordt gedefinieerd als een institutie die als een abstracte standaard van waarde functioneert die het sociale antagonisme rond de totstandkoming van het prijssysteem verzoent. In dit verband heeft economische waarde ook een politieke dimensie die rust op de autoriteit van de staat, en hetzelfde is van toepassing op de institutie geld. Het toevertrouwen van geld aan de staat is geconditioneerd door de collectieve intentionaliteit van het publiek, een gedeelde wij-intentie van wat geld en staat betekenen en van wat hun rol in het economisch systeem is. De afhankelijkheid van geld van de staat en zijn soevereiniteit komt ook naar voren in de iconografie van het ruilmiddel, die de werkingsprincipes van het monetaire systeem in zijn bijzondere visueel-tekstuele taal articuleert. De autoriteit van de staat garandeert de stabiliteit en de evolutie van geld, en het toezicht en afdwingen van de regulering waardoor geld kan functioneren. Financiële innovatie verstoort vaak het institutionele evenwicht; daarbij is een voorwaarde voor nieuwe monetaire technologieën hun integratie in de institutionele structuren van het monetaire systeem zoals gesanctioneerd door wetgeving. Al deze elementen leiden tot een theoretisch programma voor een sociaal geïnformeerde en relevante analyse van geld, zijn waarde en zijn technologische configuraties waarbij geld in een interactief leerproces leidt tot een systeem van regels dat de economische waardering, de organisatie van de markt, en de verdeling van sociale rijkdom reguleert.