The Political Economy of Private Credit Money Accommodation

A Study of Bank Notes, Bank Deposits and Shadow Money

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Abstract

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Private credit money forms are debt instruments that co-exist alongside publicly provided forms of money and emerge de-centrally out of the lending activities of banks or non-bank financial institutions. In normal times, they are easily convertible into higher-ranking forms of public or commodity money. Throughout history, however, private credit money forms have repeatedly become subject to a run by investors who all at once tried to convert their private credit money balances into higher-ranking money. Such runs are an integral and unavoidable feature of the modern credit money system, which in its essence is a self-referential network of expanding, yet instable debt claims. To keep up the stability of the monetary system, governments had to react to these runs and in a range of instances decided to drag the private credit money form under the control of the state by ensuring that they do not break away from par.

This study examines this process of 'accommodating' private credit money. It establishes a functionalist theory about the transformation of the modern monetary system. To understand how and why such accommodation occurred, it develops an ideal-typical model of private credit money accommodation and applies it on three cases in the respective centres of the global financial system: the 1797 Bank Restriction in England that accommodated bank notes; the 1933 Emergency Banking Act in the U.S. that accommodated bank deposits; and the realignment of policies by the Fed and the U.S. Treasury in the 2008 crisis, which accommodated overnight repurchase agreements and money market fund shares as 'shadow money'. On the basis of those case studies, the study argues that today's *public* credit money supply is made up of accommodated, formerly *private*, credit money forms.

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List of Abbreviations

ABCP	Asset-backed commercial paper
ABS	Asset-backed security
AIG	American International Group
AMLF	Asset Backed Commercial Paper Money Market Mutual Fund Liquidity Facility
BBC	British Broadcasting Corporation
BIS	Bank for International Settlements
BNYM	Bank of New York Mellon
BoE	Bank of England
BUS	Bank of the United States
CB	Country bank
CBI	Central Bank Independence
CD	Certificate of Deposit
CEO	Chief Executive Officer
CITYPERC	City Political Economy Research Centre
COC	Comptroller of the Currency
CP	Commercial Paper
CPFF	Commercial Paper Funding Facility
CTM	Credit theory of money
DOLFINS	Distributed Global Financial Systems for Society
EBA	Emergency Banking Act
ECB	European Central Bank
EMS	European Monetary System
EMU	European Monetary Union
ESF	Exchange Stabilization Fund
FCIC	Financial Crisis Inquiry Commission
FDIC	Federal Deposit Insurance Corporation
FOMC	Federal Open Market Committee
FRB	Board of Governors of the Federal Reserve
FRBNY	Federal Reserve Bank of New York
FSB	Financial Stability Board
FSOC	Financial Stability Oversight Council
HST	Hegemonic Stability Theory
IASS	Institute for Advanced Sustainability Studies
IMF	International Monetary Fund
IMS	International Monetary System
INET	Institute for New Economic Thinking
IOU	Debt certificate ("I owe you")
IP	International Politics
IPE	International Political Economy
IR	International Relations
JPMC	J.P. Morgan Chase
LB	London bank
MLEC	Master Liquidity Enhancement Conduit
MMF	Money market fund
MMIFF	Money Market Investor Funding Facility
MMT	Modern Money Theory

MTC	Monetary theory of credit
NAV	Net asset value
NBER	National Bureau of Economic Research
NBS	National Banking System
NCC	National Credit Corporation
o/n	Overnight
OEP	Open Economies Politics
PDCF	Primary Dealer Credit Facility
QE	Quantitative Easing
Repo	Repurchase agreement
RFC	Reconstruction Finance Corporation
RIPE	Review of International Political Economy
RMBS	Residential mortgage-backed security
RPF	Reserve Primary Fund
RRP	Reverse Repo Facility
SEC	Securities and Exchange Commission
SIFMA	Securities Industry and Financial Markets Association
SIV	Special Investment Vehicle
SPV	Special Purpose Vehicle
TAF	Term Auction Facility
TALF	Term Asset-Backed Securities Loan Facility
TARP	Troubled Assets Relief Program
TSLF	Term Securities Lending Facility
U.S.	United States
UCL	University College London
USD	United States Dollar

Acknowledgments

I began this PhD project in September 2013 with the ambition of inquiring into monetary theory, monetary history and contemporary monetary crises—guided by the intellectual curiosity about how the world today *actually* works and the hunch that a lot is yet to be learned about the monetary economies that we live in. My time as a student of political science, economics and philosophy at Ludwig-Maximilians-Universität München (2006-2012) had coincided with the 2007-9 Financial Crisis and the ensuing crisis of the European Monetary Union. Through these events, I have been socialized into an academic mindset which takes it as starting point that our dominant monetary theories are not, or no longer, able to grasp the institutions of 'real world' financial capitalism. For my PhD project, I felt that—to learn about our monetary realities today—I had to make a detour and study monetary systems conceptually and historically.

In retrospect, it seems to me that the project idea I began with—to speak with Douglas Adams—had the objective of understanding life, the universe and everything in one single shot. Looking back, the broad aspirations I had back in the days mildly amuse me. At the same time, I am astonished how many of the initial ideas are still reflected in this thesis, albeit in a way that 48 months ago I could not possibly have imagined. I am grateful that the Department of International Politics at City, University of London has given me the opportunity to embark on this endeavour and funded my PhD research. Its City Political Economy Research Centre (CITYPERC) has been a unique environment to think, read, learn and teach about political economy and the monetary system.

My deepest acknowledgments go to Anastasia Nesvetailova and Stefano Pagliari for their supervision and support. They have given me the affirmation and objection, encouragement and critical appreciation, guidance and latitude that I needed to let this PhD thesis become reality. They have tolerated my excursions into monetary theory in the first PhD year, sent me off on fieldwork to study shadow banking in the second, gave me the time to dig into monetary history in the third, and had the patience to wait until the fourth year that I got to the heart of the political-economic theory. In our many meetings, they have regularly made my head spin and convinced me that only if I had not figured out something for myself, it was not necessarily a gap in the literature worth being researched. They also taught me that academia is not just about writing, but re-writing and re-re-writing. I am much obliged to them for the time and energy they have invested in me.

The person whose intellectual footprint might permeate this PhD thesis the most is Perry Mehrling. Perry hosted me in 2015 during my time as visiting scholar at Columbia University, New York. In our discussions on Broadway and Martha's Vineyard, he seized my interest in combining monetary theory, history and the present, and furthered my intellectual understanding of money and finance like maybe nobody else. Working as a teaching assistant for his online course on 'The Economics of Money and Banking' familiarized me with the Money View approach and ultimately made me adopt it as analytical language for this PhD thesis and develop it into a conceptual lens for IPE.

In my final PhD year, I have been employed at the Institute for Advanced Sustainability Studies (IASS) in Potsdam and received funding via the EU Horizon 2020 project Distributed Global Financial Systems for Society (DOLFINS). I wish to thank Armin Haas for his support, feedback and understanding of my lifestyle as a 'PhD nomad' at the time. Moreover, I thank Hugh Goodacre, for whom I have worked as a teaching assistant at University College London (UCL) and whose courses on 'Money and Banking' and 'History of Economic Thought' were very instructive to me. At CITYPERC, I received valuable advice on many occasions from Ronen Palan, Herman Schwartz, Photis Lysandrou, Amin Samman, Sandy Brian Hager, Florence Dafe and Anush Kapadia. I also owe to three anonymous reviewers who gave me very helpful feedback on my article manuscript at the *Review of International Political Economy* and many conference and workshop attendees whom I discussed my research with.

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London, August 2017

Declaration

I declare that the work presented in this thesis, except those elements specifically declared, is all my own work carried out and finished at City, University of London.

Copyright Declaration

Note on Advance Publication

Parts of this thesis, in particular Chapter 6, have been published on 17 May 2017 as the following journal article:

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Introduction

> *"[T]he State may [..] use its chartalist prerogative to declare that [a] debt itself is an acceptable discharge of a liability. A particular kind of Bank-Money is then transformed into Money-Proper [...]. When, however, what was merely a debt has become money-proper, it has changed its character and should no longer be reckoned as a debt, since it is of the essence of a debt to be enforceable of something other than itself" (Keynes 1930a: 6).*

1. Problématique and research questions

The 2007-9 Financial Crisis brought the shadow banking system to the centre of scholarly attention. The events from the near-failure of Countrywide Securities to the collapse of Bear Stearns and Lehman Brothers have convincingly been described as runs on shadow banks (cf. Gorton 2010; Mehrling 2011). As the runs took place on the wholesale money market, they were not as visible as classic runs on commercial banks, with long queues of depositors lining up in front of bank branches. Other than that, however, there were little functional differences to previous bank runs. To tame the run, public authorities intervened and established innovative backstops and emergency facilities for shadow banks. The implications of this intervention continue to be widely debated.

In this context, a small but growing group of monetary theorists started discussing shadow bank liabilities as more than just financial assets but rather as 'shadow money', i.e. money substitutes or—more precisely—substitutes for commercial bank deposits (cf. e.g. Gabor and Vestergaard 2016). The rationale is as follows: If banks create deposits as money and if shadow banking is the contemporary version of banking in an unregulated realm, then shadow banks must be creators of something that is money in a functional sense. The three key shadow money forms connected to the crisis are money market fund (MMF) shares, overnight repurchase agreements (repos) and asset-backed commercial papers (ABCPs) (Ricks 2011). Arguably, the public intervention in the shadow banking system has caused a profound change of the way in which the monetary system is organized and the role that the state plays within it (cf. Pozsar 2014).

While International Political Economy (IPE) has extensively studied the phenomenon of shadow *banking*, the concomitant phenomenon of shadow *money* has received much less scrutiny (cf. Helgadóttir 2016). As shadow money does not fit the standard view on what money is and how the monetary system works, IPE scholarship on the monetary system has difficulties integrating it into its analyses (cf. Blyth and Matthijs 2017; Cohen 2017). Thus, the rise and the crisis of shadow money can hardly be reconciled with established notions of institutional change in the monetary system. This lack of understanding—how to explain the impact of shadow money on the **transformation of the monetary system—**is the problématique guiding this study.

Coming to grips with the rise and the crisis of shadow money is—according to Morgan Ricks, former member of the U.S. Treasury and today a leading scholar in the field—one of the greatest intellectual and political challenges of our time. That the shadow money phenomenon is so tricky is not surprising as the usual focus in IPE, economics and related disciplines is on the more established forms of money, or what Keynes in the introductory quote refers to as 'money proper': On the one hand, this refers to commodity money, which is typically seen as the historically dominant form of money, mainly in the shape of gold and silver. On the other hand, it concerns money forms that are provided and controlled by public authorities and are often referred to as 'fiat money'. Thus, 'money proper'—in the conventional understanding—is either a commodity or a creature of the state. Private money substitutes such as shadow money do not fit well in that scheme. Mostly, these money substitutes are either treated as an anomaly or, even more likely, they simply drop out of scholarly attention and are largely ignored.

However, the ascent and crisis of shadow money as a substitute for more conventional forms of money is not a novel phenomenon. In modern monetary systems, it is the rule, not the exception, that more established forms of money co-exist alongside financial instruments that take on the role of privately created money substitutes (Ingham 2004). Such forms of 'private credit money' (Mehrling 2011, 2015; Pozsar 2014) emerge de-centrally out of the lending activities of banks or other non-bank financial institutions and annihilate once the debt is repaid (Wray 1990, Rochon 1999). For the contemporary monetary system—next to MMF shares, overnight repos and ABCPs—eurodollars (Ricks 2016: 51) or certificates of deposits (CDs) (Carlson and Wheelock 2016) may be perceived as such private credit money forms. Historical examples are bank notes in the 18th and 19th century (Liepmann 1933) or bank deposits, trust deposits and clearing house loan certificates in the 19th and 20th century (Kindleberger 1978). Wray (1990) and Boyer-Xambeu et al. (1986) even argue that bills of exchange were such private credit money forms that date back to pre-modern times.

Under normal circumstances, private credit money is easily convertible into 'money proper' (Giannini 2004). Throughout history, however, it has repeatedly occurred that a private credit money form lost its credibility and became subject to a run by investors who all at once tried to convert it into 'money proper' which was perceived as safer. To keep up the stability of the monetary system, governments have sometimes reacted to these runs and in a range of instances decided to drag the private credit money form under the control of the state by guaranteeing that it keeps its value and does not default. This is what the above quote from Keynes' *Treatise on Money* refers to—in its very own terminology—as the state's 'chartalist prerogative' to transform a 'debt' into 'money-proper'. While Keynes addresses it as an economic phenomenon, the exercise of the chartalist prerogative relies on a political process that follows individual rationales, institutional dynamics and decision-making practices, and that has taken shape in various historical manifestations. This process and its political economic context is the analytical object of this study and will be referred to as **'accommodation' of private credit money**.

Turning to the economic history of Western political economies, we find that the main financial instruments that we think of as 'money proper' today used to be private credit money forms in the past. In particular, this observation applies to bank notes and bank deposits, which may be thought of as the main forms of shadow money in the 18th and 19th century, respectively. Today, we naturally view them as part of the public money supply and think that they are money in the proper sense of the word. This, however, was not always the case: For example, when Thornton (1802) wrote his *Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, his assertion that bank notes were not merely 'paper credit' but actually 'money' constituted a marginalized position. Only in the run up to the 1833 and the 1844 Bank Charter Acts, this assertion slowly became the dominant view (cf. Liepmann 1933). On the other hand, in 1912, when the National Monetary Commission presented its analyses of various European banking systems in view of establishing a central bank in the U.S., it was still the academic mainstream position that bank deposits are 'credit' instruments of private commercial banks, not 'money' (cf. Kinley 1910: 2-3). Only in the writings after the Great Depression and the associated banking crises did the notion gain momentum that bank deposits actually are money (cf. e.g. Meade 1934).

These observations of monetary history indicate that private credit money accommodation plays an important role for the transformation of the monetary system. It not only seems to be relevant for long past transformations in the 18th and 20th century but also for the contemporary monetary system and the role that shadow money plays within it. However, the accommodation of private credit money is a phenomenon which is off the radar of IPE scholarship on money and the monetary system. Of course, it is well known and well researched that regulatory changes of the financial and the monetary system occurred after crises and bank runs. Still, there is a lack of understanding in IPE scholarship concerning the *form* and the *causes* of the general process that brings forth an 'accommodation' of private credit money. On the one hand, there is no adequate analytical language about the role of public and private money to grasp that process. On the other hand, it is not obvious what the similarities and differences of the various empirical manifestations of the process are. This refers to the actual instances of accommodation, its legal implications, timeframe, driving forces etc., if there is a general procedural pattern and if the accommodation was an intended or unintended result of crisis resolution.

Therefore, this study sets off to address this gap in our understanding about the dynamics of the monetary system's transformation by answering the following research questions:

> ***RQ1: How does private credit money accommodation affect the transformation of the monetary system?***
>
> ***RQ2: Why is private credit money accommodated in the public money supply?***

2. Research design

To generate answers to the research questions, the study develops a theory of private credit money accommodation that is located at the interdisciplinary intersection of IPE and heterodox economics. The theory comprises an ideal-typical two-phase model that describes and explains the phenomenon on a higher level of abstraction and is subsequently applied on bank notes, bank deposits and shadow money as the key historical cases. These are determined by looking at the contemporary empirical setup of the money supply and making an inference on the past accommodation processes that must have taken place. The study thus presents an interpretivist genealogy of the monetary system's transformation as a repeated manifestation of the accommodation process.

2.1 Research paradigm

In order to describe and explain the process of private credit money accommodation, the study operates within a research paradigm that—following Peter T. Jackson's *The Conduct of Inquiry in International Relations* (2011)—corresponds to 'analyticism' in the tradition of Max Weber. Analyticism seeks to carve out ideal-typical phenomena via analytical narratives using configurational types of causation and case study-based research.

Jackson (2011) argues that contemporary scholarship in International Relations (IR)—and thus IPE, as we may contend—effectively corresponds to four different research paradigms: 'neopositivism', 'critical realism', 'analyticism' and 'reflexivity' (cf. Figure 0.1):

		Relationship between knowledge and observation	
		Phenomenalism	**Transfactualism**
Relationship between the knower and the known	**Mind-world dualism**	Neopositivism	Critical realism
	Mind-world monism	Analyticism	Reflexivity

Figure 0.1—Four research paradigms in contemporary IR and IPE

Jackson distinguishes these four paradigms on the basis of two 'transcendental cleavages': The first cleavage addresses what is often referred to as the difference between 'positivist' and 'interpretivist' approaches and translates into the difference of *mind-world dualism* and *mind-world monism*. As to Jackson, this relates to the connection of 'knowledge' and the 'known', which "involves the relationship between the researcher and the world, and speaks to the question of whether the objects of study have a more or less determinate essential character that is separate from the researcher's activity, or whether the process of research in some sense constitutes the object of study en passant, in

the course of gathering and assembling data" (ibid: 35). The second cleavage addresses the kind of facts that can be used for empirical analysis, i.e. the relationship between knowledge and observation. In this, *transfactualism* maintains that it is possible to know things about in-principle unobservables, whereas *phenomenalism* maintains that is neither necessary nor possible to research facts that transcend experience. Thus, both cleavages, which translate into the fourfold table of research paradigms, are *a priori* assumptions about the respective study's ontology and epistemology (cf. Jackson 2011: 197).[1]

Analyticism, as the paradigm that this study identifies with, engages in a "disciplined ordering of facts of experience" (ibid: 112). Due to the assumption of mind-world monism, analyticist inquiry cannot raise the claim to create a representation of the objective reality but only a representation in which the researcher and the world are mutually constituted. Theory, from an analyticist point of view, "provides a set of more or less helpful idealizations or oversimplifications that can be used to order the complex chaos of empirical reality into more comprehensible and manageable forms" (ibid: 113).[2] Causality, in the analyticist paradigm, is not a factual empirical force that follows universal rules which lie *in* the world and have to be uncovered by the investigator. Instead, it is a projection of the researcher *on* the world in the form of an organizing principle that helps rendering specific phenomena comprehensible. In search for causal mechanisms, the methodology of choice will not be a quantitative analysis, which relies on hypothesis testing and the variation of dependent and independent variables, but a hermeneutically guided isolation of plausible factors that induce a given outcome. The criterion for validity of the causal mechanism established cannot be whether it is 'true' or not, as 'truth' in the sense of an accurate representation of the world by itself is not a meaningful category within mind-world monism. Instead, validity depends on the mechanism's instrumental value in the sense of a social purpose—if it is a meaningful way to order experience and inter-subjectively convey knowledge. Within the analyticist framework, the adequate research design is to implement small 'N' case studies that lead to individual case narratives, which embody different empirical manifestations of the causal mechanism under scrutiny. In contrast to neopositivist and critical realist research, comparing the different cases cannot meaningfully serve to test hypotheses. Instead, it allows illustrating empirical variations and helps making inference on the ideal type of the phenomenon that is to be understood—for 'ideal-typification' is the ultimate goal of analyticist research practice (ibid: 112-155).

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1 Jackson's argument about the four research paradigms emphasizes the importance of complementary co-existence of those different approaches and the advantages of methodological pluralism. At the same time, he stresses the importance of remaining consistently within the logic and the specific way of knowledge production predetermined by the paradigm chosen. The knowledge generated via a given study remains specific to the respective paradigm chosen (Jackson 2011: 210).

2 Jackson argues that Kenneth N. Waltz's *Theory of International Politics* (1979) operates in an analyticist framework: "Theories, for Waltz, are simply not something that one *compares to* reality; rather, theories 'construct *a* reality, but no one can ever say it is *the* reality,' and as such should be evaluated in terms of whether they 'convey a sense of the unobservable relations of things' and provide 'connections and causes by which sense is made of things observed'" (Jackson 2011: 113, citing Waltz 1979: 9; italics in original).

Jackson's model—although it certainly reduces complexity with regard to the ontological and methodological underpinnings of contemporary research in IR and IPE—is helpful in determining the aspiration of this study about the accommodation of private credit money and its role for the monetary system's transformation. Hence, what this study seeks to achieve within an analyticist paradigm is to establish private credit money accommodation as an ideal-typical process that appears repeatedly throughout history in varying manifestations but, on a certain level of abstraction, follows a similar pattern and causes a transformation of the monetary system. Within this paradigm, the study crafts an analytical narrative about a retrospective transformation pattern that, in its repetition, leads up to today's empirical reality of the monetary system.

With its analyticist aspiration, the study chimes in with a research tradition that Benjamin Cohen has termed 'British IPE'. In an attempt to map and systematize the contemporary field of IPE, Cohen (2007: 198) distinguishes two major strands of IPE research: American IPE, on the one hand, tends to be firmly rooted in the scientific method, with a positivist and empiricist ontology and epistemology. Methodologically, it has a strong preference for midlevel theory that seeks to develop hypotheses and systematically test them. Speaking with Jackson, it is thus more akin to *neopositivism* and *critical realism*. British IPE, on the other hand, is a less coherent strand of research within which scholars adopt a variety of different ontological, epistemological and methodological approaches. Thus, it is a field that is paradigmatically more pluralist and also offers space for research that Jackson would label as *analyticist* and *reflexivist*. British IPE tends to be more interdisciplinary, goes beyond mainstream economics and political science, and also allows tackling normative issues. It is less prone to use 'hard science' methodology and often has a more ambitious agenda as it does not shy away from 'grand theories' that ask the 'really big question' about systemic transformation (see Cohen 2008: Ch. 3).[3]

Despite the repeated criticism[4] that Cohen's broad-brush distinction has received, the label 'British IPE' grasps well this study's impetus to understand the transformation of the monetary system across a longer time scale, which—speaking with Fernand Braudel—may be referred to as the *moyenne durée*. Thus, as the study actually dares to ask one of the 'really big questions' about systemic transformation with regard to money, it can be thought of as a macrolevel theory that operates on a higher level of abstraction than in today's American-style IPE. The study also corresponds to British IPE-style as it adopts an interdisciplinary approach that combines the analysis of political economic phenomena with concepts from heterodox economics and economic history. In this, it stands in the tradition of the work of Charles Kindleberger, whose broad, interdisciplinary work focused on a wide array of subject, not least the monetary system (cf. Kindleberger 1970, 1973, 1978, 1984). Although Kindleberger was American and is seen as one of the forefathers of IPE in the U.S., his methodological approach is more akin to the research practice in British IPE today.

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[3] Cohen (2008: 66) argues that dealing with the really big questions of systemic transformation has been traditionally a focus of Robert Cox and Charles P. Kindleberger in IPE.

[4] See e.g. the 2009 special issue in New Political Economy 14(3) on "The 'British School' of International Political Economy".

2.2 Methodical approach

Bearing in mind the analyticist approach to social science, including its concomitant implications for ontology, epistemology and methodology, how does the study proceed methodically to realize its goal and respond to the research questions?

In its theoretical part (Chapters 2 and 3), the study establishes the process of private credit money accommodation as a generalized ideal type. It first determines a distinct conceptual lens on the monetary system to then build upon it a political-economic theory about the transformation dynamics of the monetary system. The theory of private credit money accommodation as a repeating phenomenon that leads to the monetary system's transformation is thus derived from the IPE and economics literature (e.g. e.g. Kindleberger 1978, Keynes 1930a, Minsky 1986), and more explicitly formulated while using the terminology and the concepts of the Money View (Mehrling 2011, 2015a). As a result, the theory contains a two-phase model that is applicable on different historical episodes about the rise and the accommodation of a private credit money form, which entails a transformation of the monetary system.

In its empirical part (Chapters 4, 5 and 6), the study demonstrates how this ideal-typical model has manifested itself throughout history. To this end, the study applies case study-based research and deploys the method of a structured, focused comparison (cf. George and Bennett 2005: 67ff) to deliver a narrative explanation of the causal path that led to the accommodation of private credit money as specific outcome. To implement its research agenda, it applies a catalogue of sub-questions derived from the theoretical chapters (cf. Table 0.1). This catalogue is 'structured' in the sense that it reflects the objective to generate an answer to the research question and pre-structures the data collection. It is 'focused' because it only carves out certain aspects of reality that are necessary to isolate the process of accommodating private credit money. The structured, focused comparison requires a small 'N' case design, in which the group of cases belong to the same class of instances.

Phase I (pre-accommodation)
• How did new private financial instruments develop? • How did the private financial instruments become money substitutes? • How was the monetary system organized prior to the accommodation? • How did the private money substitute become systemically relevant?
Phase II (accommodation)
• How did the crisis of the systemically relevant private credit money emerge? • How did public actors react to the crisis? • How did the interventions of the public actors amount to an accommodation? • How did the decision-making processes for the act of accommodation work?

Table 0.1 – Subquestions structuring the case studies

For establishing the causal mechanism that led to the various instances in which private credit money was accommodated, the study will apply the method of process tracing—"a procedure designed to identify processes linking a set of initial conditions to a particular outcome" (Vennesson 2008: 224). Process tracing requires an initial adequate and thorough description to be subsequently able to analyse "trajectories of change and causation" (Collier 2011: 823).

2.3 Case selection

As to George and Bennett (2005: 73ff), the crucial criteria for an adequate case selection are their "relevance to research objective" and that they provide "the kind of control and variation required by the research problem", which "requires that the universe or subclass of events be clearly defined". Given that the general process of accommodating private credit money has not yet been systematically scrutinized in the IPE literature, it will be necessary to deploy the technique of 'casing'. This implies "carving an aspect of reality that is different from the ways in which the phenomenon, or the event, is taken for granted" (Vennesson 2008: 229).

The nature of the contemporary monetary system—see e.g. Giannini (2004) and Pozsar (2014)—suggests that three cases lend themselves to be chosen for further scrutiny. They occurred in different centuries in the respective centres of the global monetary system and turn out to be authoritative for the way in which the monetary system is organized today: the accommodation of bank notes in England in the late 18th century; the accommodation of bank deposits in the United States during the Great Depression; as well as the accommodation of contemporary shadow money—in particular overnight repurchase agreements and money market mutual fund shares—in the United States during the 2007-9 Financial Crisis.

Although bank notes, bank deposits and shadow money came up as novel financial instruments at very different times and in very different institutional contexts, they share a range of common features. On the one hand, this refers to the way in which they emerged historically. They were brought forth by private financial institutions and took up the role of private credit money that co-existed next to the publicly regulated monetary system before they got into financial distress and their issuing institutions had to be bailed out through a public intervention. On the other hand, their creation follows similar balance sheet mechanics. In this, the issuing institutions engage in money creation and increase the total money supply as the number of liabilities they bring forth exceeds the total amount of assets they hold. For this reason, the issuing institutions are always susceptible to a run that, if not prevented, would result in a devalorization or even total collapse of the privately issued credit money.

This case selection and the concomitant view on private credit money creation can be legitimized with the works of a number of scholars such as Arnon (2011), Keynes (1930a, 1930b), Giannini (2004), Ingham (2004), Kindleberger (1978), McMillan (2014), Minsky (1986), Mitchell-Innes (1913, 1914), Ricks

(2011, 2016) and Wray (1990). Primarily, however, it makes sense in the context of the so-called Money View (cf. Mehrling 2011, 2015a; Pozsar 2014), which—as Chapter 2 will elaborate in detail—is a contemporary market-based credit theory of money and in this provides the adequate conceptual lens on the monetary system for the purpose of this study.

The choice of cases fits well to the analyticist approach adopted in this study. To develop the theory of private credit money accommodation as an ideal-type, it is necessary to focus on those instances in which the phenomenon actually did materialize. Still, as Chapter 7 will problematize more in detail, this case selection has to be treated with some caution. As the cases are chosen to comprehend the genesis of today's monetary system, the study is potentially subject to selection bias (cf. Geddes 1990):

First, the case selection follows an *ex post* logic. Taking into account the contemporary setup of the public money supply, the study only focuses on those instances in which an accommodation did occur and studies what happened with those formerly private credit money forms whose par clearance is publicly guaranteed today. This approach does not take into account cases in which a run took place on a private credit money form and did not lead to an accommodation. At the same time, however, each of the three cases studies involves other forms of private credit money that—following a Money View logic—were located further down in the hierarchy. While the systemic crisis actually started with a run on them, they were not subject to accommodation. In this regard, the study takes into account negative cases.

Second, there is the potential for a regional selection bias as all the three cases under scrutiny occurred in the respective centres of the international monetary system at their time. It cannot be ruled out that instances of private credit money accommodation may have taken place in peripheral countries that are beyond the scope of this study. This entails a number of questions: Can accommodation also occur in other countries than the global centre at all or are there reasons speaking against it? Would the process in peripheral countries be identical to the ones in the centre? This study indeed contends that accommodation with a permanent impact on the setup of the monetary system is a phenomenon specific to the apex of the (hierarchical) international monetary system and that there are spill-over mechanisms to peripheral monetary jurisdictions. However, the international considerations are beyond the scope of this study.

Both these caveats regarding the case selection potentially have an impact of the generalizability of the accommodation theory established in this study. However, as Chapter 7 will explain more in detail, they can be remedied with further research that builds on the findings of this study and adopts a different research design to test for negative cases and analyze the international effects, respectively. Notably, speaking with Jackson (2011), the findings of this *analyticist* study can provide the starting point for further studies using e.g. a neo-positivist research paradigm.

2.4 Sources

To attain the empirical information relevant for the implementation of the case studies, the study applies methodological triangulation and combines secondary literature, primary literature and quantitative data as sources.

Secondary sources comprise systematic *histories of money, banking and central banking*, more specific studies in the broader spectrum of the *political economy and economics literature* as well as *works of monetary thought*. As these sources only emerge with a considerable time lag after an accommodation process has occurred, they tend to be more relevant for the historical case studies on bank notes and bank deposits than for the contemporary case study on shadow money. Moreover, while they will be very useful to establish *what* happened, they will hardly be sufficient to understand *why* it happened.

Primary sources contain *policy documents* (e.g. parliamentary debates, technical analyses and recommendations of expert bodies), *press articles* of relevant newspapers (e.g. the Financial Times) as well as eight *interviews* with experts from international financial institutions, central banks, the private sector and academia. While some of these primary sources are available online, the acquisition of others has required actual fieldwork. On the one hand, this has taken place in archives to get access to policy documents and press articles. On the other hand, interviews were conducted in the relevant political and financial centres, most notably New York and Washington. Given the rather macroscopic level of the research question, the less formalized interview technique of semi-structured interviews was applied (cf. Mosley 2013).

Quantitative data complements the primary and secondary sources to map the process of accommodating private credit money. Valuable sources are the *balance sheets of central banks*, *quantitative estimates of monetary aggregates* and *statistics about the financial system*. The data for the historical cases were found in the secondary literature; the data for the contemporary case studies was compiled on the basis of primary sources.

3. Core argument

The answers to the research questions can be presented as follows:

RQ1: How does private credit money accommodation affect the transformation of the monetary system? *Private credit money accommodation transforms the public money supply by shifting the delineation between public and private credit money. It is preceded by a long period of financial stability during which private profit-oriented institutions conduct financial innovation. They develop novel short-term IOUs, which eventually become private credit money as they establish par clearance vis-à-vis higher-ranking money forms and attain systemic relevance as they grow in size, interconnectedness, non-substitutability and complexity. The private credit money form is accommodated at a very specific moment in time that coincides with a 'Minsky moment', i.e. a systemic financial crisis, when public balance sheets are used to create backstops against the illiquidity and insolvency of the defaulting institutions that have issued the systemically relevant credit money form.*

RQ2: Why is private credit money accommodated in the public money supply? *Private credit money accommodation is driven by the very own properties of the monetary system itself, notably its ability to create credit money out of nothing. As a self-referential network of expanding, yet instable debt claims, the monetary system's ability to bring forth new forms of private credit money sooner or later leads to an imminent threat of implosion. This creates the necessity for political authorities to bail out the struggling institutions that issue the systemically relevant private credit money form. As private agency dominates during the rise of the systemically relevant private credit money form, public actors only react* ex post *to the technical necessities in a crisis to prevent a systemic meltdown. The accommodation—i.e. the transformation of the monetary system that induces a change in the public-private setup of the money supply while exercising the state's infrastructural power—is the unintentional side-effect of those bail-outs, decided upon on the highest level of government under extreme time pressure and uncertainty while fearing a doomsday scenario for the financial system and the wider political economy.*

This theory of private credit money accommodation connects historical transformation dynamics in the monetary system with the actual empirical setup of today's money supply. Hence, today's monetary system is the result of past instances of private credit money accommodation which followed this logic. It is a functionalist political economic theory which attributes specific places to private and public agency but views the monetary system's very own properties as the key driving force of accommodation and thus its own transformation. Three major instances of such accommodation occurred in the respective centres of the world financial system: Bank notes were accommodated with the 1797 Bank Restriction in England, bank deposits were accommodated with the 1933 Emergency Banking Act in the U.S., and overnight repos and MMF shares as shadow money forms were accommodated with the 2008 establishment of the Federal Reserve's Primary Dealer Credit Facility and Term Securities Lending Facility, as well as the U.S. Treasury's temporary guarantee for MMFs.

4. Novelty and relevance

The novelty of the study lies in defining, describing and explaining a phenomenon that has not yet been systematically described and comparatively studied so far in IPE: the political process of accommodating private credit money forms by dragging them under the control of the state in order to avoid that they break away from par and make the credit money system implode. Historical processes and events that are well-known to scholars of IPE—e.g. the 1797 Bank Restriction and the 1844 Bank Charter Act, the banking crises during the Great Depression and the New Deal reforms, as well as contemporary phenomena such as disintermediation, shadow banking and the 2007-9 Financial Crisis—will be looked at from one coherent covering perspective. Such perspective has not yet been adopted in IPE but promises to yield valuable and topical findings on the political economy of modern credit money systems.

The findings on the process of accommodating private credit moneys will have relevance as a contribution to IPE scholarship on the transformation of the monetary system. On the one hand, the study furthers our understanding of what is driving the transformation of the monetary system. The accommodation process delivers an argument for how and why financial innovations affect the monetary system in general and allows us to explain via a causal mechanism how new configurations of the monetary system come up. The impact of the accommodation process on the monetary system is indeed substantial and leads to a seemingly opaque amalgam of public and private credit money forms that co-exist next to each other and are summarized by regulators via different monetary aggregates. On the other hand, the study generates insights about the entanglement of political and economic forces as concerns the transformation of the monetary system. The accommodation of private credit money is a recurring phenomenon that constitutes a channel through which private agency first develops new forms of near money forms via financial innovation and later drives political authorities to step in and put their par clearance under political control. The public-private interaction is connected via a functionalist view on the properties of the modern—or: capitalist—credit money system which is capable of creating money *ex nihilo*.

Moreover, the study presents a theoretically and historically grounded analysis of the emergence and the crisis of the contemporary shadow banking system. It demonstrates that in a functional sense, shadow banking and the associated creation of shadow money as forms of private credit money is nothing new. Overnight repurchase agreements, money market fund shares and asset-backed commercial papers as shadow money forms have historical precedents. We might argue that Bank of England notes and especially country bank notes had been the 'shadow money' of the 18th century; bank and notably trust deposits were the same in the late 19th and early 20th century. Hence, this study is a contribution to the current debates about the present and future of the shadow banking system. It may be of interest to those scholars and practitioners who occupy themselves with understanding and regulating shadow money as—to recall the words of Morgan Ricks—one of the greatest intellectual and political challenges of our time.

Finally, by developing the Money View as a conceptual lens for IPE, the study seizes cutting-edge insights from an upcoming strand in monetary economics and makes it applicable for innovative and topical political science research. The Money View framework allows systematic analyses of the monetary and financial system from a coherent perspective that adopts the notion of a credit theory of money and views money creation as a market-based phenomenon that structurally occurs endogenously on the basis of private enterprise. It provides an alternative to the dominant state- and fiat money-centered approaches in IPE. By framing the monetary system as a self-referential network of expanding, yet instable debt claims, it offers an entry point to studying current questions of money and finance from a political economy perspective from a different angle that is arguably closer to the 'real world' than much of the existing scholarship.

5. Structure of the study

To generate answers to the research questions and bring the envisioned project to reality, this study is organized as follows.

Chapter 1 reviews the literature on the transformation of the monetary system in IPE. It systematizes the different approaches that describe and explain the transformation dynamics. It argues that the literature tends to be subject to two 'biases' connected to the monetary theory they implicitly or explicitly apply: First, they neglect the full implications of the fact that capitalist money is, and has been, in its essence debt—not commodities or a legal token as suggested by the term 'fiat money'. This distracts from addressing changes in the structure of debt issuance as crucial aspects of the monetary system's transformation ('Essentialist bias'). Second, they assume that money by default is a creature of the state and rarely acknowledge the existence and the systemic relevance of private money creation beyond state control ('Chartalist bias'). Thus, the existing IPE literature fails to theorize how private credit money creation has an impact on the historical transformation of the monetary system. In consequence, the existing scholarship is not able to explain the actual empirical setup of today's money supply—a seemingly opaque amalgam of credit instruments, some of which are issued by public and most of which by private institutions.

Chapter 2 introduces the 'Money View' as the conceptual lens on the monetary system that this study applies to go beyond the Chartalist and the Essentialist bias. The Money View, as used in economics, is an institutionalist framework for the study of modern monetary systems in the tradition of the German Historical School and American Institutionalism. As a credit theory of money, the Money View takes the debt properties of modern money seriously and overcomes the Essentialist bias. As a market-based theory of money, it takes private money creation seriously and overcomes the Chartalist bias. For the purpose of IPE, four analytical ideas of the Money View play a key role: money creation as a swap of IOUs; hierarchy of different credit money forms; public-private hybridity of the money supply; and inherent instability of credit money. Taking this into account, the Money View portrays the monetary system as a self-referential network of expanding, yet unstable debt claims. This provides the entry point for an analysis and explanation of the monetary system's historical transformation.

Chapter 3 develops a theory on the political economy of private credit money accommodation. The theory describes and explains the transformation of the monetary system beyond the Essentialist and the Chartalist biases via a two-phase model using the Money View lens. In Phase I, new credit instruments emerge that become systemically relevant private credit money. In Phase II, a run on the private credit money form threatens to make the entire financial system collapse. Policy-makers then intervene and establish public backstops for the private credit money form. In this, they create an *ad hoc* public-private partnership to protect the credit money form by guaranteeing its par clearance vis-à-vis established money forms and 'accommodate' it in the public money supply. While private agency dominates in phase I, public agency becomes

crucial in phase II when political authorities react to technical necessities in the systemic crisis. Still, the transformation follows a functionalist logic as the root causes for private credit money accommodation are to be found in the inherent dynamics of the monetary system as a self-referential network of expanding, yet instable debt claims. This property unavoidably creates the necessity to accommodate at some point to self-preserve the system.

Chapter 4 analyzes and explains the accommodation of bank notes that occurred in England in 1797. Bank notes as a private credit money form developed from the 17th throughout the 18th century, with the Bank of England and country banks as main issuers. The accommodation took place when the government—as a reaction to the depletion of the Bank of England's bullion reserve in a financial crisis connected to the French-English wars—initiated the 'Restriction Period' by suspending the guaranteed conversion of Bank of England notes into gold. Via an Order of the Privy Council and later backed by Parliament, the Restriction effectively turned Bank of England notes into publicly guaranteed credit money*:* Public backstops were established via the legal proclamation that Bank of England notes were a promise to pay nothing else but themselves—they were turned into an ultimate means of payment—and the government's guarantee to accept an unlimited amount of Bank of England notes for tax payments.

Chapter 5 analyzes and explains the accommodation of bank deposits that occurred in the United States in 1933. Bank deposits emerged even earlier than bank notes; they are expressions of the debt owed by the bank to their customers and are hence a by-product of double-entry book keeping, which was already common in Renaissance Italy. Still, they developed into a fully functional private credit money form only after the accommodation of bank notes, first in England and later in the United States. The accommodation took place after the 1929 Financial Crisis when the U.S. financial system was subject to a multi-annual banking crisis, which appeared in four waves between 1930 and 1933. It could only be stopped when President Franklin Delano Roosevelt declared a National Banking Holiday and, by passing the Emergency Banking Act in March 1933, announced an implicit 100% government guarantee for bank deposits. This allowed the private deposit-issuing commercial banks to tap public balance sheets and turned deposits into publicly guaranteed credit money.

Chapter 6 analyzes and explains the accommodation of shadow money that occurred in the United States in 2008. Shadow money as a private credit money form developed roughly from the 1970s onwards. The three eminent forms were asset-backed commercial papers, overnight repurchase agreements and money market fund shares. The accommodation of shadow money took place during the 2007-9 Crisis when the Federal Reserve and the Department of Treasury intervened to backstop the shadow banking system. Overnight repurchase agreements were turned into publicly guaranteed credit money via the Primary Dealer Credit Facility and the Term Securities Lending Facility of the Fed, money market fund shares via the Treasury's Temporary Guaranty. Asset-backed commercial papers, in contrast, were not accommodated as their market had been dried out already in 2007.

Chapter 7 discusses the role of the accommodation theory in the broader framework of IPE. It first provides a comparative summary of the findings in the three case studies and thus highlights the empirical variations of the ideal type. Subsequently, it points out the contribution the study makes to field of IPE and the literature on the monetary system's transformation. It stresses three aspects: presenting a historical genealogy of the monetary system, bringing in innovative tools for IPE's conceptual apparatus and developing a distinct functionalist explanatory approach. After that, the chapter discusses some implications of the analyticist research paradigm and the functionalist explanatory approach. These concern the issue of negative cases as well as a possible underappreciation of the role of the state when it comes to creating new forms of private credit money. Eventually, the chapter illustrates venues for further research. On the one hand, this refers to developing a more systematic understanding of the follow-up processes after the accommodation. On the other hand, it takes into account possible applications of the Money View in scholarship of IPE, notably on the International Monetary System and the European Monetary Union.

Finally, the Conclusion completes the study by reconnecting its findings to the problématique, i.e. the question of how to reconcile the rise and the crisis of shadow money with IPE studies on the transformation of the monetary system.

Chapter 1
Literature Review: The Essentialist and the Chartalist Bias in IPE Studies on the Transformation of the Monetary System

> *"[M]any of the political changes in the century have been caused by little-understood perturbations in the international monetary system, while these in turn have been a consequence of the rise of the United States and mistakes of its financial arm, the Federal Reserve System" (Mundell 2000: 327).*

1.1 Introduction and plan of the chapter

This chapter reviews the literature on the transformation of the monetary system in IPE. It systematizes the different approaches that describe and explain the transformation dynamics and points to a gap in the literature, namely that the role of private credit money has not systematically been taken into account to analyze and explain the monetary system's transformation. In consequence, the existing scholarship is not able to explain the actual empirical setup of today's money supply—a seemingly opaque amalgam of credit instruments, some of which are issued by public and most of which by private institutions.

The chapter argues that this is because the vast majority of IPE studies on the transformation of the monetary system has two biases: First, they neglect to take into account the full implications of the insights from the studies that have argued how capitalist money is, and has been, in its essence debt—not commodities, a mere legal creature, or a social construction as suggested by the term 'fiat money'. As a result, the existing literature barely addresses changes in the structure of debt issuance as crucial aspects of the monetary system's transformation ('Essentialist bias'). Second, they tacitly assume that money by default is a creature of the state and rarely acknowledge the existence and the systemic relevance of private money creation beyond the purview of the state. In this, they underemphasize the role of private agency, notably within a credit leverage cycle, for changes in the monetary system ('Chartalist bias'). In a nutshell, with both biases combined, the existing IPE literature fails to theorize how private credit money creation and the dynamics associated with it has an impact on the transformation of the monetary system in general.

What is the body of literature that this chapter reviews and to which this assessment applies? In contemporary academia, disciplinary boundaries are difficult to draw. Studies connected to the "economy" or "political economy" are scattered across a wide array of subfields, many of which have developed a distinctive disciplinary identity. The field of "economics" is, in its mainstream—as it developed in the tradition of the Marginalists William Stanley Jevons and Léon Walras—founded on a methodological account that, based on the Arrow-Debreu version of the Walrasian general equilibrium theory, effectively models a non-monetary economy and by assumption rules out that questions about the

institutional transformation of the monetary system can be reasonably asked (cf. Hahn 1983: 1, 5; Romer 2016). Thus, the monetary system's transformation is a theme profoundly underdeveloped in mainstream economics. Other fields and theoretical approaches—especially those that do not see a clear-cut distinction between economic and political rationales as the Marginalists and their successors—found their home in various 'neighbouring' disciplines to economics. Today, IPE is the leading discipline studying the linkages of politics and economics (cf. Cohen 2008) and thus has a say on describing and explaining processes of the monetary system's transformation. At the same time, the boundaries of IPE cannot be clearly determined. There are unavoidable overlaps with other fields such as economic history, 'heterodox economics' (e.g. Post Keynesianism), economic sociology, history, finance, legal studies, or philosophy.

The remainder of this chapter is organized as follows:

Section 1.2 reviews the existing literature in IPE and asks how the transformation of the monetary system is described and explained. It highlights the main descriptive themes that have emerged from this literature—the international exchange rate arrangements, central banking, the physical shape of the monetary units, and the relationship of money and the nation state—across a variety of historical key phases: the early modern period, the Classical Gold Standard, the Bretton Woods System, and generalized floating. Explanations of these monetary transformations typically correspond to realist, rationalist, constructivist, structuralist, or functionalist approaches. They reflect in various ways on the respective roles of states and markets, as well as agents and structures, and point to different conceptualisations of power as the force driving the transformation of the monetary system.

Section 1.3 argues that the reviewed literature on the monetary system's transformation is subject to two biases. Both refer to the monetary theory that —mostly implicitly—is adopted. The Essentialist bias denotes the neglect of addressing the credit properties of the contemporary and the historical British-style monetary system upfront. It is made evident when those studies become more explicit on *what* money is, as well as how and where it originated. The Chartalist bias, in its strong version, points to the fact that money creation is seen as an exclusive privilege of the state. In a lighter version, it assumes that the general money supply was under the control of the state. These assumptions are evident when it comes to discussing the role of public and private actors in money creation. The prevalence of both biases leads to the current state of affairs, in which IPE studies do not take into account the role of private credit money as a driving force of the monetary system's transformation and hence have a blind spot both in their description and their understanding of how the modern credit money system changes its shape over time.

Section 1.4 concludes by calling for a theory of the monetary system's transformation that attributes crucial relevance to private credit money creation and develops a notion of the role of the state, which involves accommodating private credit money in the public money supply..

1.2 The transformation of the monetary system in IPE

This section sets out to review the literature in IPE on the transformation of the monetary system. The main motivation informing this review—corresponding to what the introductory chapter has established as the problématique guiding this study—is to understand how the literature portrays the historical processes of institutional change that have led up to today's institutional reality in the monetary system. To achieve this goal, the section analytically distinguishes between the various approaches to *describing* and *explaining* the transformation of the monetary system: On the one hand, the section reviews which particular phenomena of institutional change the IPE literature pays attention to. It identifies four key themes: the transformation of international exchange rate arrangements, central banking, the monetary unit's physical shape as well as the relationship between money and the nation state. On the other hand, the section systematizes how the various aspects of institutional change in the monetary system are explained with regard to the forces driving the transformation. It identifies realist, rationalist, constructivist as well as structuralist explanatory approaches.

1.2.1 Describing the transformation of the monetary system

The IPE literature addresses the monetary system's transformation sometimes explicitly as a subject, yet more often refers to it implicitly. What specific phenomena does the literature focus on when it studies historical institutional change in the monetary system? What actual transformation processes leading up from the past to today do IPE scholars take into account?

When investigating transformations in the monetary system, the existing IPE scholarship focuses on four main themes: the transformation of international exchange rate arrangements; the transformation of central banking; the transformation of the monetary units' physical shape; as well as the transformation of the relationship between money and the nation state. In its depiction, the transformation of the monetary system inherently is attributed a national and an international dimension; both are connected with each other, and influence each other, in various fashions (cf. Walter and Sen 2009). Traditionally, the eminent countries under scrutiny are the United Kingdom and the United States, due to their hegemonic status as the world's financial centres, as well as France and Germany as the two most influential countries on the European continent, which in the 1990s merged and became the core countries of the European Monetary Union (EMU). Other countries and regions such as the former communist block and emerging economies are occasionally taken into account but are less systematically studied. The remainder of this section provides an overview on the current state of research on the monetary system's transformation in IPE. It reviews some of the main debates by looking at the four main themes and discussing for each of them which emphases are made in IPE scholarship throughout the various historical stages. In this, the review establishes what *is* on the radar of IPE in terms of actual historical phenomena in order to later point out what is *not*.

First, the dominant theme discussed within the IPE literature on the monetary system's transformation is the changing shape of the **international exchange rate arrangements** that are in place between monetarily sovereign states. As is conventionally understood, there are four main eras of those exchange arrangements: the Early Modern Period (until 1873), the Classical Gold Standard (1873-1932), the Bretton Woods System (1944-1973), as well as Generalized Floating (since 1973) (cf. e.g. D'Arista 2009, Eichengreen 2008, Helleiner 2011a, Mundell 2000). As Figure 1.1 demonstrates, those exchange rate arrangements are typically connected to what Cohen (1993b) calls the "unholy trinity" or Broz and Frieden (2001) refer to as "impossible trinity" (critical: Widmaier 2004). It is a framework based on Mundell (1960, 1963) and Fleming (1962) that connects the exchange rate arrangements—first and foremost the choice of fixed or flexible exchange rates—with regulations for international capital mobility and the ability of states to conduct autonomous monetary policy. In typical parlance, those arrangements—in line with the respective regulations for international capital mobility as well as the autonomous domestic monetary policy—are also referred to as the International Monetary System (IMS).[5]

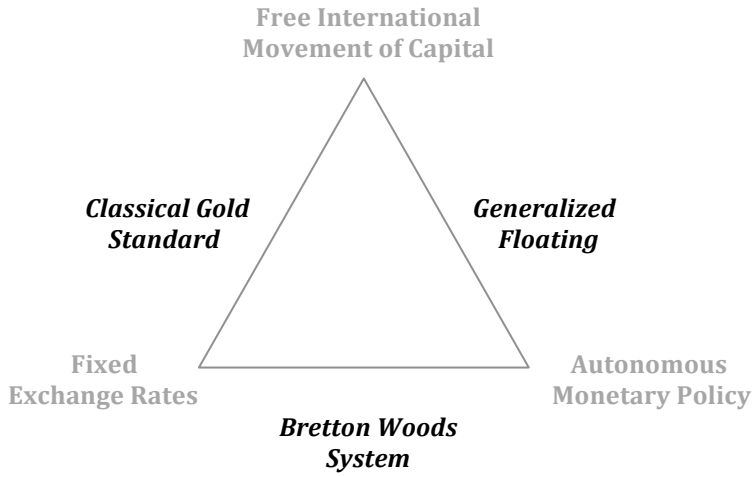

Figure 1.1—International monetary systems and the 'Impossible Trinity'

In the literature, the transformation of these exchange rate arrangements, or—more generally speaking—the IMS, is discussed on the one hand with regard to the transition from one historical formation to another. Within this perspective, the historical process of the monetary system's transformation led from relinquishing domestic monetary policy autonomy over prohibiting international capital mobility to today's system of largely unregulated international exchange rate relations (cf. Cooper 1968; Andrews 1994).

[5] Some scholars such as Mundell (1972), Cohen (1977) and Strange (1996) make a distinction between the international monetary *system* and the international monetary *order*, arguing that the latter was similar to the 'constitution' of the former. This overview sympathizes with this approach but will not get so much into detail that the distinction is of practical relevance.

On the other hand, the literature discusses dynamics within those formations that ultimately led to institutional stability or change. The literature then focuses on issues such as the scope of monetary cooperation, monetary regionalization, financial liberalization, political control over the system, role of a monetary hegemon and its national currency, as well as the distribution of costs for international adjustments (cf. Walter and Sen 2009: 97).

The early modern period is typically portrayed as the time preceding the Classical Gold Standard, virtually as the *ex negativo* against which all subsequent formations are compared.[6] The dominant perspective on this time views the international exchange rate system as a non-system that had merely orderly structures within the British Empire. The main transformation analyzed is how the gold standard as an initially domestic structure developed into a world encompassing system (cf. Bordo and Schwartz 1984; Redish 1990, 1995; Knafo 2006, 2013). As milestones of the monetary system's transformation, the literature singles out the year 1717 when Isaac Newton, then Master of the Mint, fixed the mint price of gold and overvalued it relatively to silver, *de facto* creating a monometallic standard (Vilar 1969, Hall 2008), and 1821 when Britain returned to convertibility after the Restriction Period, during which Bank of England notes could not be converted into gold (Harrod 1969; Bordo and Schwartz 1984). At that time, the British Pound Sterling gradually replaced the Dutch Guilder as the hegemonic international currency (Arrighi 1994: 147, 163; also Braudel 1982). In contrast, Flandreau (2004) portrays this time as a consistent international monetary regime that rested on the interaction among the British Empire as the 'gold bloc', a 'silver bloc' dominated by the German States and Holland, and the 'bimetallic bloc', for which the French economy acted as a pivot-point and which also included the U.S. in the 19th century. The literature then discusses the monetary system's transformation as changes within these blocs, involving a series of international monetary conferences and the foundation of the initially bimetallic Latin Monetary Union (Friedman 1990, Gallarotti 1993) until the bimetallic standard eventually faded out (Flandreau 2004).

The Classical Gold Standard is regarded as the first full-fledged international monetary system (cf. Bordo and Schwartz 1984; Eichengreen and Flandreau 1985). Since it was only gradually adopted, the literature differs in its accounts of how the transformation towards it occurred and when it actually started (D'Arista 2009: 635). One of the most convincing suggestions is to date the beginning of the Classical Gold Standard on 1873 when the U.S. demonetized silver and Germany went "on gold", whilst France was forced to give up its bimetallic standard after the military defeat against Germany in 1871 (Frieden 1997). IPE debates about the Classical Gold Standard and its associated transformation range from its emergence (Broz 1997b; Knafo 2013a, 2013b) and

[6] Preceding the Classical Gold Standard typically refers to the European state system in the 18th and 19th century, during the early stages of capitalism. A broader historical focus rather falls under the scrutiny of historians, although occasional references are made within the broader field of IPE (cf. e.g. Arrighi 1994). Also a wider geographical focus is possible but would rather refer to the field of anthropology or ethnography. This study's interest is understanding and describing monetary transformation in Western capitalism.

its heyday at the turn of the century to its collapse with the First World War, attempts to restore it during the Interwar Years, and its terminal breakdown during the Great Depression in 1932 (Ahamed 2009; Bernanke 2000; Cleveland 1976; Galbraith 1954) when the faltering British Empire decided in an unorderly manner to "go off gold" for good (Cassel 1936; Gallarotti 1995; Eichengreen 1992; Kindleberger 1973; Walter 1991). The standard narrative argues that the Classical Gold Standard was stabilized by a natural and automatic adjustment mechanism for prices and current account imbalances, based on the price-specie model of Hume (1742). Allegedly, this did not require political intervention (cf. Cohen 1977; Polanyi 1944) and enabled the first age of financial globalization (Abdelal 2007; Flandreau and Zumer 2004) as it created a system of fixed exchange rates with free international capital flows. National central banks could allow the international adjustment mechanisms to function smoothly (Knafo 2006: 81-82) if only they adhered to the "Rules of the Game" (Keynes 1925; McKinnon 1993). If the gold standard actually functioned in this quasi-automatic way has sparked debates in IPE. Critical voices contend that the smooth adjustment did not actually work, that central banks actually sought to shield their economies from the gold standard's detrimental effect and that hence this was by no means an apolitical arrangement (cf. e.g. Bordo 1999, Knafo 2006).

For the Bretton Woods System, in contrast to the Classical Gold Standard, the literature typically determines a clear start date. The system was put in place as the result of the negotiations mainly between the U.S. and the United Kingdom at the 1944 conference in New Hampshire (De Cecco 1979; Widmaier 2016). The conference is typically portrayed as a contest between the Keynes Plan, which suggested the end of commodity money and an *International Clearing Union* with Bancor as international currency, and the White Plan, which foresaw a gold-dollar standard with restricted international capital mobility and was eventually adopted (Andrews 2008; Cesarano 2006; Cohen 1977; Gardner 1956; critical: Helleiner 2014b, 2016). The Bretton Woods System acknowledged the decline of Pound Sterling (Strange 1971a) and positioned the U.S. Dollar as the new hegemonic currency (Gilpin 1987). It granted the U.S. the 'exorbitant privilege' of realizing unprecedented seigniorage gains while issuing the world's reserve currency in an environment of ever expanding international trade with increasing demand for liquidity (Eichengreen 2011). As the main source for institutional instability, the literature points to the 'Triffin dilemma' according to which the guaranteed dollar-gold peg became ever harder to remain credible (Machlup 1968; Triffin 1960). Hence, institutional transformation in the sense of the system's demise is associated with U.S. President Nixon's refusal of the French request to convert its dollar holdings into gold in 1971, and the year 1973 when the fixed exchange rate system fell apart because a number of countries decided to no longer peg their currencies to the U.S. dollar (Block 1977). The literature stresses that this occurred in a situation when the restriction of capital flows had become ever more difficult to sustain (Best 2005; Chwieroth 2010; Frieden 1987; Helleiner 1994), e.g. due to the emergence of the eurodollar market (Burn 1999, 2006; Palan 1998; Strange 1986; Talani 2012).

Generalized Floating is the IMS's formation that came about with the demise of the Bretton Woods System and lasts until today. The IPE literature

studies the transformations connected to this era from a variety of different angles. Scholars often stress that Generalized Floating is marked by the absence of any centrally planned political organization (Bernhard and Leblang 1999; Broz and Frieden 2001; Cohen 1976; Cooper 1975; Kindleberger 1970; Meier 1974)—at times, it is even called an 'international monetary non-system' (Bibow 2008). With the end of international capital controls, global capital flows have reached an unprecedented extent. This transformation has attracted widespread attention in the IPE discourse and is often referred to as the second era of financial globalization (Abdelal 2007; Cerny 1994; Cohen 1996; Frieden 1991; Germain 1997; Gill and Law 1989; Goodman and Pauly 1993; Kapstein 1994; Kirshner 1999; Krippner 2011; Panitch and Gindin 2012; Porter 2005; Strange 1986; Watson 2007) and precipitating various regional and global crises (Amato and Fantacci 2012; Best 2009; Cafruny and Schwartz 2013; Eichengreen 2004; Helleiner 2011b; Schwartz 2009, 2012; Widmaier 2003b). Generalized Floating transformed the monetary system by triggering processes of regional monetary cooperation, most importantly the project of European monetary integration (Cohen 1993a; Eichengreen 1997; Eichengreen and Frieden 2001; Henning 1998; Jabko 2006, 2008; McNamara 1998; Padoa-Schioppa 1994). It led from the Snake in the Tunnel over the 1979 European Monetary System (EMS) with fixed but adjustable exchange rates to monetary unification with the European Monetary Union, agreed upon with the Treaty of Maastricht in 1992 and becoming effective in 1999 (Brunnermeier et al. 2016; James 2012), with various ups and downs following ever since (Blyth and Matthijs 2015; Braun 2015a; Copelovitch et al. 2016; Enderlein 2006; Enderlein and Verdun 2009; Frieden and Walter 2017; Jones et al. 2016; Krampf 2014; Lapavitsas 2012; Mabbett and Schelkle 2015; Schwarzer 2015). Similar but less far reaching processes have been taking place elsewhere, e.g. in Asia (Dieter and Higgott 2010). However, most developing countries have continued to peg their exchange rates (Kirshner 2003).

Most IPE scholars agree that the era of Generalized Floating is marked by continuous dollar hegemony and centrality of the U.S. (Bibow 2010; Cohen 2015; Cohen and Benney 2014; Eichengreen 2011; Helleiner and Kirshner 2012; Kirshner 2014; Norrlof 2014; Strange 1971b; Stokes 2014; Wyplosz 2010), although this is regularly put into doubt due to the competition of other currencies such as the Euro (Cohen 2012a; McNamara 2008; Norrlof 2009; Germain and Schwartz 2014) or the Renminbi (Cohen 2012b). In the 2000s, the so-called Bretton Woods II hypothesis had sparked some discussions about a new system of quasi-fixed exchange rate that was said to have emerged as the result of endogenous developments (Dooley et al. 2003, 2009). International monetary collaboration takes place in a rather informal and technocratic fashion via different fora, most notably the G7 (formerly G5, G6 or G8) and the G20 (Helleiner and Pagliari 2009; Soederberg 2010), as well as the Financial Stability Board (FSB), earlier Financial Stability Forum (FSF) (Porter 2003; Helleiner 2010b). The IMF re-defined its role from scratch and changed its institutional orientation rather towards long-term lending (Broome 2010; Chwieroth 2014; Moschella 2009, 2010; Woods 2006). Debates about future transformations of the IMS are ongoing (see e.g. Awrey 2017; D'Arista 2009; Eichengreen 2011; Helleiner 2010a; Hocket 2013).

In conjunction with the domestic dimension of the Impossible Trinity, the transformation of **central banking** is the second theme that the IPE literature addresses with regard to the transformation of the monetary system. It is connected to varying national experiences with central banks (cf. Goodhart 1988; Singleton 2011) and organizational forms of national banking system (cf. Smith 1936). As to Marcussen (2006, 2009), based on Fischer (1994), central banking history broadly corresponds to the four eras of the IMS.

Scholarship on central banking in the Early Modern Period is relatively scarce. The literature typically portrays the mint as the core monetary institution of the time, which—in a mercantilist setting—conducted 'monetary policy' by realizing seigniorage gains, e.g. through currency debasement and coin clipping (Vilar 1969). The transformation towards the use of central banks took place gradually, and at an accelerating pace in the 19th century (Hixson 1993; Hodgson 2015). IPE discusses the rise of central banking in a variety of aspects, taking into account different countries' experiences.[7] England was at the forefront of developing new financial techniques of credit money creation, which contributed significantly to the appeal of the early gold standard (Carruthers 1996; Desan 2014; Kreitner 2012; Knafo 2006, 2013a). This coincided with the 1694 foundation of the Bank of England, initially as a private institution, which is commonly referred to as the prototypical central bank.[8] Further milestones in British central banking history were the 1797 Bank Restriction, which suspended the convertibility of Bank of England notes into gold during the Napoleonic wars; the 1821 resumption of convertibility; and the 1844 Bank Charter Act, which restructured the Bank of England by splitting it up into a banking and a note issuing department (Cameron et al. 1967; Capie et al. 1994; Giannini 2004; Kindleberger 1984; Sgambati 2016). The English experience in transformation is depicted as unique, while France and the U.S. are discussed as the two major counter-experiences. On the one hand, French central banking in the 18th century is discussed in the literature primarily as a story of failure, with various unsuccessful attempts to introduce paper money. Most notably, the years 1716 to 1720 witnessed John Law's "first full-blown implementation of fiat money in Europe" (Velde 2007) and the years 1789 to 1797 the assignats as the French revolutionary currency. Both led to major inflations. In 1800, the Banque de France was founded but financing techniques never reached the same level of sophistication as in England (Cameron et al. 1967; Kindleberger 1984). On the other hand, an extensive literature addresses the transformations the U.S. went through. Topics under scrutiny are the emergence of the First and the Second Bank, which were in place from 1791 to 1811 and 1816 to 1836, respectively. Subsequently, the country entered the Free Banking Era (1836-1864), followed by the National Banking System, put in place after the Civil War in 1865. Both phases were marked by the absence of a central bank (Frieden 2015; Giannini 2004; Kreitner 2011).

[7] Singleton (2011: 9) makes the very valid point that "no two central banks are identical". Yet, it seems adequate to discuss generalizable tendencies while taking into account variations across different countries.

[8] Still, Kindleberger (1984) points to the Bank of Amsterdam as the prototypical central bank.

Under the Classical Gold Standard, most major countries had already established a central bank or were about to do so (Goodhart 1988). As the argument goes, central banking to a large extent was connected to complying with the requirements of the international Gold Standard and to manage the domestic monetary and banking system (Bloomfield 1959; Kreitner 2010), predominantly for the purpose of note issuing (Kisch and Elkin 1928). The inception of the Classical Gold Standard coincided with the publication of Walter Bagehot's *Lombard Street* (1873); under the impression of recurrent financial crises that marked British banking history, he argued that the Bank of England does and should act in the public interest of financial stability as a lender of last resort. During the Gold Standard, the Bank of England is portrayed as constantly having had to mitigate between the requirements of operating the international Gold Standard and managing the domestic banking system. As to Gallarotti (1995: 7), central bank cooperation mainly involved ad hoc bilateral arrangements to transfer liquidity when needed. This went reasonably well until the First World War but less so in the Interwar Years when Sterling was in decline (Calomiris and Haber 2015; Hawtrey 1932; Strange 1971). The U.S. experience, as the literature contrasts, differs profoundly. Scholars point out that at the turn of the century, the U.S. still had the National Banking System without a central bank. Only the 1905 crisis initiated a process which culminated in the foundation of the Federal Reserve in 1913. The system improved the monetary situation, but yet proved to be insufficiently equipped to prevent the Great Depression in the Interwar Years (1930-33) (Broz 1997a; Conti-Brown 2016; Grossman 2010; Kindleberger 1978; Konings 2011; Meltzer 2003; Rothbard 2002). Events prominently debated in the literature on monetary transformation in Germany is the foundation of first central bank in the unified German Reich in 1875 and the German hyperinflation in 1923 (Ahamed 2009; Bibow 2017). Negotiations over German wartime reparations eventually led to the foundation of the Bank for International Settlements (BIS) in 1930, the first international institution for monetary cooperation (Seabrooke 2006b; Toniolo 2005).

With the Bretton Woods System, as IPE scholarship contends, central banking became subject to a transformation towards a relatively broad mandate. This involved maintaining the politically agreed exchange rates as well as pursuing domestic monetary policy which sought to manage the perceived trade-off between price stability and full employment (Davies and Green 2009; Fischer 1994; Siklos 2002; Singleton 2011). Expansionary monetary policy was seen as a legitimate tool in the macroeconomic policy mix. As the conventional story goes, there was a broad consensus to accept higher inflation rates to keep the economies close to full employment (Blyth 2002; Hall 1989; Jessop 2003; Meltzer 2009a, 2009b). The Bretton Woods System relied on fixed but adjustable exchange rates, with the International Monetary Fund (IMF) functioning as the key international institution that provided short-term credit to the participating central banks to help them intervene in the foreign exchange market and induce the politically agreed exchange rates (Endres 2011). At the same time, the inception of Bretton Woods corresponds with a 'nationalisation' of many central banks (e.g. Banque de France in 1945 and Bank of England in 1946) by establishing full state ownership of its shares (Goodhart et al. 1994).

In the era of Generalized Floating, with the end of gold convertibility and under the impression of stagflation, central banks adopted a new role with a much stronger focus on price stability. Key reference points in the IPE literature are the introduction of transparency, inflation targeting and central bank independence (CBI) to ensure 'credibility' (Bernhard et al. 2002; Blinder 2004; Dyson and Marcussen 2009; Eijffinger and De Haan 1996; Goodman 1992; Hall 2008; Henning 1994; Kirshner 2003a, 2003b; Krippner 2007; Siklos 2002). Vice versa, there is a wide discourse on the retreat of central banks and the de-regulation of the banking system (Christophers 2013; D'Arista 1994; Erturk 2016; Goldbach 2015; Kapstein 1989; Kay 2015; Kotlikoff 2010; Lall 2012; Persaud 2015; Rethel and Sinclair 2012; Thiemann 2014). Whilst France repeatedly sought to sustain a Keynesian monetary policy orientation, Germany clinged to its rather monetarist Bundesbank tradition, while running the EMS. The decision in favour of EMU implied irrevocably uniting the French and German monetary systems and putting them under the control of the ECB (Bindseil 2004, 2014; Busch 2009; De Haan 2000; Dyson 2009; Flassbeck and Spiecker 2011; McNamara 1998). This step occurred in the context of the German unification, which also implied the introduction of Deutschmark in East Germany (De Grauwe 1992; Streeck 2009). The United Kingdom sought to adjust to the new monetary realities, e.g. by temporarily adopting a monetarist experiment and temporarily joining the EMS (Capie 2010; Elgie and Thompson 1998). The Fed restored its hegemonic position, despite the Volcker shock in the 1970s (Dowd 1993). Decades of low interest rates persisted throughout the 'NICE' years (non-inflationary constant expansion) under the leadership of the eminent Alan Greenspan (Golub et al. 2015; Mayer 1990), until the 2007-9 Financial Crisis changed everything (Admati and Hellwig 2013; Blinder 2013; Crotty and Epstein 2009; Drezner 2014; Ingham 2008; Kaufman 2009; Konings 2010; Mian and Sufi 2014; Nesvetailova 2010; Samman 2014; Varoufakis 2011) and led to multiple bank bailouts (Culpepper and Reinke 2014; Woll 2014). The Fed had to set up numerous emergency facilities, sharply expand its balance sheet, and adopt an array of new responsibilities (Broz 2015; Brunnermeier 2009; Mehrling 2011; Wray and Nersisyan 2016). In terms of international collaboration, the Fed established innovative swap lines with the major central banks, among them the ECB and the Bank of England (Henning 2015; McDowell 2012, 2016). Since the crisis, with interest rates at the zero lower bound, central banking resorts to emergency measures such as Quantitative Easing (Bibow 2016; Braun 2015b, 2016b; Gabor 2014; Koo 2014; Pettifor 2017; Schwartz 2015) and further transformation of central banks into the unpredictable future (Gabor 2016; Gabor and Ban 2016; Goodhart et al. 2016; King 2016; Ricks 2016).

As third theme, the IPE literature discusses the transformation of the **monetary units' physical shape**. In conjunction with the transformation of the International Monetary System, this involves changes in the prevalence from commodity money over paper money and book money to 'fiat money' (cf. Giannini 2004) as well as the role of 'credit money' and other alternative money forms. In this, neither the terminology nor the interpretation of historical events are consistently used.

The literature contends that money in the Early Modern Period was mainly commodites, notably gold and silver, but also other precious metals such as copper (Cottrell 1992; Flandreau 2004; Kreitner 2011; Redish 1995; Vilar 1969). It is noted that this monetary system was confronted with a permanent shortage of supply. To have sufficient monetary commodities in a country, it was important to have export surpluses and attract precious metals (Desan 2014). For early banking institutions such as the Bank of Amsterdam, guaranteeing a proper quality of commodity money was the main business model (Kindleberger 1984). The literature occasionally acknowledges that there were money-like credit instruments, e.g. bills of exchange, which helped facilitate international trade without commodity money (Boyer-Xambeu et al 1986; Ingham 2004; Kindleberger 1984). More prominently, IPE discusses the rise of paper money, notably in the form of the French paper money experiments (Velde 2007) and the more successful Bank of England notes (Arnon 2011; Helleiner 2003; Knafo 2013). Insofar as these paper notes were not or no longer convertible into commodity money—as e.g. during the French paper money experiments, the English Restriction Period or the American Greenback era—they are said to be fiat money, relying on nothing else but the government's guarantee (D'Arista 2009). Before the 1844 Bank Charter Act established a note issuing monopoly, bank notes were also issued by English country banks (Pressnell 1956; Cameron et al. 1967); the same was true in other monetary jurisdictions—for example the U.S. (see e.g. Rothbard 2002)—until the 20th century. After the 1844, the physical shape of the monetary unit transformed itself as 'book money' or 'bank money' in the form of bank deposits became more influential and widespread (Liepmann 1933). Occasionally, yet as an exception in the reviewed literature, British bank notes and bank deposits are also discussed as 'credit money' (Guttmann 1994).

The Gold Standard and the Bretton Woods System are discussed as commodity money standards, which consolidated the commodity money basis to one single monetary commodity (Bordo 1999). Throughout the 20th century, paper money declined in its importance, leading to today's suggestions to abolish it entirely (Rogoff 2016). Instead, the role of deposits at commercial banks became eminent (Bruner and Carr 2009). With the rise of IT technology, their physical shape was further transformed, leading to 'electronic money' (Helleiner 1998). At the same time, a major concern was finding new forms of international money, e.g. in the form of the IMF's Special Drawing Rights (SDRs), which—developed during the Bretton Woods System to counteract the Triffin Dilemma (Helleiner 2011a)—constitute a basket of the world's major currencies and could potentially be turned into an international currency in its own right (Cooper 2010), eventually termed 'paper gold' (Bordo 1999: 2). In addition, alternative money forms emerged. For example, the discussion refers to private money in the form of local currencies (Helleiner 2000) and alternative money forms such as vouchers and loyalty cards, which have monetary properties as they constitute a medium of exchange, a unit of account, and a store of value (Cohen 2003). Zelizer (1994) focuses on alternative 'domestic' currencies.

In recent times, extended attention is given to the rise of Bitcoin (e.g. Hendrickson et al. 2016), the possible transformation of derivatives into money (Bryan and Rafferty 2006), and—most importantly for this study—the rise of

'shadow money' such as repurchase agreements, money market fund shares, and asset-backed commercial paper (Gabor and Vestergaard 2016; Gorton 2011; Ricks 2011, 2012a, 2012b, 2013, 2016). Most prominently, however, the inception of Generalized Floating is discussed as initiating the age of fiat money, portrayed as a fundamental transformation that money is no longer connected to a tangible physical commodity base but instead relies on pure government 'fiat' (cf. e.g. Amato and Fantacci 2012; Drezner and McNamara 2013; Gallarotti 1995; Giannini 2004; Jessop 2013; Macesich 1999; Redish 1993). As to D'Arista (2009: 635), the inception of fiat money completed a transformation that had started long before: "In today's national economies and the international monetary system, fiat currencies are the norm. With no backing other than the full faith and credit of the governments that issue them, the evolution of today's money began with the introduction and acceptance of paper money in the seventeenth century in the form of receipts for deposits of gold in the Bank of Amsterdam."

The fourth theme is the transformation of the **relationship between money and the nation state** i.e. the rise and fall of the 'Westphalian monetary system' with the principle "One nation/ one money" as the key reference point (cf. Cohen 1998, 2008; Helleiner 2003; also Dowd and Timberlake 1998). Accordingly, in the Early Modern Period, money was nationally issued but could be used in other monetary jurisdiction without major restrictions. Only with the rise of nation states, political actors excluded foreign currencies from their domestic circulation and established a monopoly for national money (Cohen 1998, 2003). Hefeker (1995, 1997) studies monetary integration in Germany and Italy, the latecomers among the European nation states. Polanyi (1944) sees this transformation as an aspect of the transition from the feudal to the capitalist order based on a market economy. Helleiner (2003) argues that in monetary jurisdictions at the time, with official currencies being barely homogenous and standardized, domestic and foreign currencies would circulate alongside each other. Only with the inception of the Classical Gold Standard, the transformation towards territorially homogeneous and exclusively national money was completed in Europe, the U.S. and Japan. In former colonial states of Asia, Africa, Latin America and the Middle East, it was only in the Interwar Years or after World War II that exclusive territorial currencies were established (also see Gilbert and Helleiner 1999). Since the era of Bretton Woods and throughout Generalized Floating, the Westphalian monetary system is said to be in decline. Cohen (1998, 2003) points out the role of market-driven currency competition, in which the cross-border demand and use of the major currencies is increasing. This leads to a deterritorialization of money and more complex currency usage.

To sum up, the depiction of the four themes that address aspects of the monetary system's transformation provides an overview on the big picture of the focal points of IPE scholarship. Portraying the discourse in this way shows what is on the radar, and what is not. All four themes reconstruct a historical development towards today's world of fiat money—in the IMS, for domestic central banks, from a physical point of view, and as concerns the role of the modern state for supplying money. Before setting up an argument about what this body of literature is missing in descriptive terms, the next section reviews the theoretical approaches towards explaining the observed phenomena.

1.2.2 Explaining the transformation of the monetary system

Within the body of literature that studies the monetary system's transformation, which theoretical approaches are prevalent to explain the observed phenomena? What are the forces said to be driving the monetary system's transformation?

This section shows that, insofar as the reviewed works go beyond a mere description[9] and establish a somewhat delineable causality, the explanatory approaches to the transformation of the monetary system correspond to eminent strands of IPE theories—notably realism, liberalism, constructivism and structuralism.[10] These explanatory approaches reflect in various forms on the roles of states and markets (cf. Strange 1988) as well as the agent-structure problem (cf. Wendt 1987). This section sketches some core assumptions of the four explanatory approaches and points to selected works on the monetary system's transformation in which these are manifested.[11] Such undertaking necessarily is an abstraction, generalization and simplification, both with regard to the way in which the theories and the actual arguments are portrayed; but it may nevertheless yield valuable insights in how existing arguments about the causes and drivers of monetary transformation are construed.

Realist explanations see states as the relevant actors and states' pursuit of their interests as the decisive vehicle to bring about monetary transformation. Such views are often connected to rather traditional conceptualizations of state power, e.g. termed 'compulsory power', in line with the respective state's capabilities to push through their interests and get others to do what they would not do otherwise (Barnett and Duvall 2005). Realist approaches to 'monetary power' have been brought forth by Kirshner (1995), who argues that states choose the monetary unit that is most conducive to the own interests or best advances their own political goals, and Cohen (2015) as to whom it is ultimately state power, e.g. by its sheer size, that determines the international use of a domestic currency (also see Andrews 2006; Hardie and Maxfield 2016). Also Strange (1971a) provides a realist view on a state's currency power, depending on its currency's status within her framework of Top, Neutral, Master, as well as Negotiated Currencies. The most influential realist explanation for stability and change in the monetary system is the Hegemonic Stability Theory (HST), based on Kindleberger (1973; also 1970, 1981), which—in its application to monetary matters—contends that a liberal international monetary system has to be maintained by a hegemonic power (cf. Walter 1996).

Realist explanations of monetary transformation are manifested in the literature primarily with regard to the transformation of exchange rate arrangements and, associated with it, international capital account openness. Frieden (1997) portrays the transformation away from bimetallism towards the

[9] Kindleberger (1984), for example, is a book so rich in detail about various aspects of monetary transformation that it cannot be reduced on one single explanatory approach.

[10] See Cohen (1996) for a discussion of various ways to structure IPE scholarship on money.

[11] It has to be noted that some authors resort to different explanatory approaches in different publications (e.g. Cohen and Eichengreen), or even provide competing explanations within a single monography (cf. Helleiner 1994).

Early Gold Standard as a power play between England and France, and traces back the inception of the Classical Gold Standard to the military victory of Germany over France (also see Eichengreen and Flandreau 1997). Gilpin (1987), Mundell (2000), and Eichengreen (2011)—along the lines of the HST—summarize the transformation of the IMS in conjunction with the roles of the UK and the U.S. as monetary hegemons. Kirshner (1995) suggests that those hegemonic states established and maintained the respective systems in order to distribute their advantages, e.g. in terms of the costs of adjustment, to themselves. Most prominently, HST is related to the collapse of the Gold Standard in the interwar years when the UK was to weak, and the U.S. not yet strong enough, to act as a stabilizing hegemon (Kindleberger 1973; Walter 1991). The Bretton Woods System, as it was politically planned from scratch, is a paramount example for state agency and state power to establish an IMS (Andrews 2008, De Cecco 1979; also Panitch and Gindin 2012). Furthermore, realist arguments can be found regarding today's dollar hegemony (Cohen 2015; Cohen and Benney 2014; Germain and Schwartz 2014; Helleiner and Kirshner 2012; Kirshner 2014; Norrlof 2009, 2014; Stokes 2014) and Germany's role in the EMU (Krampf 2015), as well as the Fed's international swap lines (McDowell 2016) and the rise of fiat money (Macesich 1999).

Liberal explanations attribute monetary transformation to the choices of interest groups which act as rational utility-maximizers to enforce their interests within their respective countries (cf. Helleiner 2011). Most prominently features the Open Economy Politics (OEP) paradigm; it combines the assumptions of neoclassical economics and international trade theory with political variables and explains monetary transformation by aggregating individual preferences that influence domestic political institutions, which in turn determine the bargaining position between states with different interests (cf. Lake 2009; Cohen 2016). A second and complementary theoretical strand is rational choice institutionalism, a deductive approach that explains the existence of institutions via their value for the actors affected. Hence, institutions are assumed to be purposefully built and institutional transformation occurs primarily due to benefits for the relevant actors involved. Politics is seen as a series of collective action dilemmas, often modeled by game theory (Hall and Taylor 1996: 944-946). Such explanations have exogenous interests on a micro level as main drivers of the monetary system's transformation and often point to an understanding of 'instrumental power' held by interest group, e.g. through lobbying, to make polities act according to their preferences (Pagliari and Young 2016).

From this perspective, transformations of the international monetary systems are caused by interest groups influencing national political institutions who upload their choices to the international level (Pagliari and Young 2014, 2016), e.g. with regard to the Gold Standard (Broz 1997b; Eichengreen 1992), the demise of Bretton Woods (Cohen 1976, 1977; Cooper 1975), the choice of exchange rate regimes under Generalized Floating (Bernhard and Leblang 1999; Broz and Frieden 2001; Sattler and Walter 2010), macroeconomic adjustments (Walter 2013), preferences about capital mobility and hence the trade-offs within the impossible trinity in general (Frieden 1987, 1991), as well as the EMU

and its crisis (Copelovitch et al. 2016; Eichengreen and Frieden 2001; Frieden 2015; Frieden and Walter 2017; Jones et al. 2016). Furthermore, liberal arguments can be found with regard to the transformation of central banking (Broz 1997a; Meltzer 2003; Rothbard 2002; Siklos 2002), monetary policy strategies (Bernhard et al. 2002; Henning 1994), banking crises (Calomiris and Haber 2015), bank bail-outs (Woll 2014), banking regulation (Admati and Hellwig 2013; Busch 2009; Culpepper 2015; Culpepper and Reinke 2014; Goldbach 2015; Roos 2016) and monetary nationalization (Cohen 1998, 2003; Hefeker 1995, 1997).

Constructivist explanations attribute crucial importance to ideas and discourse when it comes to the transformation of the monetary system. Schmidt (2008) unites those approaches under the umbrella term of 'discoursive institutionalism', arguing that ideas can refer to policies, programmes, or philosophies, and that discourse may imply both 'communicative' discourses within the wider society and 'coordinative' discourses within a technocratic setting. The latter points to the critical importance of epistemic communities (Haas 1992) and the associated knowledge networks (cf. Seabrooke and Tsingou 2009; Tsingou 2015). Blyth (2002) brings forth a constructivist theory of institutional change. He argues that ideas shape actors' identities and interests, and come to the core in particular in moments of crisis under Knightian uncertainty. Carstensen and Schmidt (2016) develop a concept for 'ideational power', which they define as the capacity of actors to influence other actors' normative and cognitive beliefs, by using power *through* ideas, *over* ideas, and *in* ideas. Drezner and McNamara (2013) associate constructivist explanations of the monetary system's transformation with a focus on 'global financial orders', which are stabilized by economic ideas and political power.

As to the transformation of the IMS, Blyth (2002) makes recourse to economic ideas for explaining the transition away from the Gold Standard and towards Bretton Woods by 'embedding' liberalism, and to Generalized Floating by 'disembedding' it again. Similiarly, Cesarano (2006), Peter Hall (1989) and, to a certain extent, Helleiner (1994) study the role of economic and monetary ideas in connection with Bretton Woods and, at its end, the demise of Keynesianism and the rise of monetarism. Best (2005) adds to this a constructivist focus on the role of ambiguity to stabilize ideas and institutions. Wesley Widmaier analyzes the transition between economic orders in the 20th century, which broadly correspond to the three types of the IMS (2016), and points to the social construction of monetary crises (2003b) as well as the Impossible Trinity as a frame of reference (2004). Abdelal (2007), Chwieroth (2010, 2014), and Endres (2011) study the ideational underpinnings of capital account liberalization. To explain European monetary integration, Jabko (2006) focuses on strategic ideas, McNamara (2008) points to the role of ideas to explain and overcome policy failure, and Blyth and Matthijs (2015) to the influence of ideas in the euro crisis. Furthermore, constructivist scholarship tackles central banking (Rodney Bruce Hall 2008; Braun 2015b, 2016b; Gabor 2014; Golub et al. 2015; Kreitner 2010) and the physical transformation of the monetary unit with regard to the rise of fiat money (Drezner and McNamara 2013).

Structuralist explanations suggest that the monetary system's transformation needs to be understood with respect to its relation vis-à-vis the larger system or structure, which organizes the world economy (cf. Wendt 1987). Structuralist scholarship both involves rather descriptive-analytical and more critical-normative approaches and refers in its explanations to broader structures such as capitalism, financialization, or financial globalization. Contemporary theoretical strands that resort to structuralist explanations and have a say on the monetary system's transformation are e.g. (Neo-)Marxism, World Systems Theory, the regulation school, and approaches in the context of the discourses on neoliberalism or financialization. Structuralist approaches often adopt perspectives of grand theories and, following Marx's project of critiquing political economy (cf. Murau 2011), focus e.g. on the rise and fall of financialized hegemons (Arrighi 2006), capitalist instability (Itoh and Lapavitsas 1998), power structures of debt (Di Muzio and Robins 2015), or—as Amato and Fantacci (2009)—adopt a dialectical-speculative approach to understand the genesis of money and finance in a phenomenological sense (ibid: 10; also see Krüger 2012).

Structuralist explanations of the IMS's transformation interpret e.g. the rise of the Gold Standard as an aspect of the transition from a feudal order to the capitalist market economy (Polanyi 1944) and the rise and fall of the Bretton Woods System in the context of the Keynesian Welfare National State as an institutional order or 'spatiotemporal fix' (Jessop 2002). Structuralist analyses and explanations of the capital liberalization and financial globalization under generalized floating are provided by Andrews (1994), Goodman and Pauly (1993), Gill and Law (1989), Krippner (2011), Schwartz (2009), Seabrooke (2001), Soederberg (2010), Strange (1996), and Watson (2007). Similarly, international structures are attributed an explanatory role for the Global Financial Crisis (Schwartz 2009), European monetary integration (Henning 1998), the Eurocrisis (Lapavitsas 2012), or the Bretton Woods II system (Dooley et al. 2003, 2009; critical: Bibow 2008). Krippner (2007) connects the rise of central bank transparency with neoliberalism. Konings (2011) focuses on the rise of the Fed in conjunction with the rise of U.S. finance with a focus on social structures and its inherent contradictions. Concomitantly to the changing shape of central banking, Christophers (2013) as well as Rethel and Sinclair (2012) develop structuralist analyses of the transformation of commercial banking. Crotty and Epstein (2009), Erturk (2016), Kay (2015), and Varoufakis (2011) view the transformation of banking in the context of financialization. Finally, Zelizer (1994) presents her study of 'household' currencies as a sociological approach to the transformation of the monetary units' physical shape.

In summary, the body of literature that tackles the four themes of the monetary system's transformation contains realist, rationalist, constructivist and structuralist explanatory approaches for the observed phenomena. While realist approaches stress the role of state agency, liberal approaches focus on the rational interests of domestic actors. Constructivists position the role of ideas center-stage whereas structuralist approaches attribute causation to macroscopic structures and processes.

1.3 Two biases: The strange absence of credit money and private money

The above section has pointed out how the transformation of the monetary system is described in the IPE scholarship and along which theoretical lines it is explained. The review has placed a particular emphasis on the reconstruction of the historical genesis towards today's monetary system. The remainder of this chapter develops the argument that this literature has a major shortcoming with regard to the monetary theory that is predominantly applied—mostly implicitly, sometimes explicitly. This study contends that in the majority of IPE works on the monetary system's transformation, the underlying monetary theory is insufficiently able to grasp the workings of the capitalist monetary system and the dynamics it is subject to. It thus operates with a stark simplification—or rather: a premodern anachronism—of the way in which the modern monetary system works. This translates into a gap in the understanding of its transformation throughout history. As a consequence, the existing body of literature in IPE is neither able to account for the past transformations *within* the modern credit money system, nor can it fully account for the actual empirical setup of today's money supply and how it historically emerged.

This section frames said shortcoming in the predominant monetary theory in terms of 'two biases'—the Essentialist and the Chartalist bias—with regard to the scholarship on the monetary system's transformation. The implication of the Essentialist bias is a tendency to neglect the credit money properties of the modern monetary system. The Chartalist bias refers to a tendency to not appreciate the crucial role of private money creation. It demonstrates to which extent those biases apply to the body of literature on the transformation of the monetary system, both as concerns the phenomena described and the explanatory approaches. The implication is that the IPE scholarship on the monetary system's transformation tends to operate with an incomplete picture of today's reality in the monetary system. Taken together, the IPE literature fails to systematically theorize the functional role of private credit money for the monetary system's transformation. This is the gap that this study seeks to fill.

These biases, however, do not relate to the entire literature on the monetary system's transformation in general. There are notable exceptions, i.e. authors who overcome one or even both of those biases and do take into account credit money and private money. At the same time, these authors have not fully developed a clear systematic understanding of the monetary system's historical transformation process that would take into account both private money and credit money. The scholar who comes closest to such an assessment is Charles P. Kindleberger who alleges to the relevance of repeatedly emerging private credit money for the monetary system's transformation, but does not go more into depth. Furthermore, the scholarship of those authors does not speak to each other in a consistent explanatory approach that would explicity attribute the causality for the monetary system's transformation within the properties of that system, which might force political authorities to bring about institutional change in a largely pre-determined fashion.

1.3.1 The Essentialist bias

A key reference point in the IPE literature on the transformation of the monetary system—as has been demonstrated in Section 1.2—is the concept of fiat money. On the one hand, analyses studying the transformation of the IMS discuss how there was a commodity money base during the early modern period, the Classical Gold Standard, and the Bretton Woods System; and how through the inception of Generalized Floating this commodity base went away and was replaced by a pure fiat money standard. On the other hand, when the transformation of the physical shape of the monetary unit is discussed, a transitional logic is established ranging from precious metals over paper money to today's fiat money.

This logic—that money initially used to be a commodity and then has become a 'token' backed by state power, i.e. through government 'fiat'—can be found e.g. in the work of Benjamin Cohen on the transformation of the IMS. In examplary fashion, he writes in *Organizing the World's Money:*

> "All forms of international liquidity may be classified as either commodity reserves or fiduciary (fiat) reserves. *Commodity reserves* are those which have some intrinsic economic value quite apart from their value as money; the most prominent example of course is gold […]. *Fiduciary reserves*, by contrast, have no intrinsic economic value apart from their value as money: their general acceptability as international liquidity rests upon the confidence of governments rather than upon any promise of redemption in commodities. Prominent examples of fiat reserves include national currencies that are formally or informally inconvertible into precious metals such as gold" (Cohen 1977: 68).

Similarly, in *The Gold Standard and Related Regimes*, Michael Bordo puts the fiat money logic in the context of the transformation of central banking:

> "Under a gold standard the money supply is determined by (and in some cases consists partially or entirely of) the monetary gold stock. A gold standard provides a natural constraint to monetary growth because new production is limited (by increasing costs) relative to the existing stock. Under a fiat or paper monetary standard, by contrast, there is no limit to money issue other than the good performance of the monetary authorities. Unlike a fiat standard, however, under a gold standard, monetary authorities have considerably less flexibilityto deal with shocks" (Bordo 1999: 6).

Daniel Drezner and Kathleen McNamara, when studying the monetary unit's physical transformation, view fiat money as essentially a social construction:

> "Modern money […] is the ultimate social construct. Fiat currency obtains value only in social interactions among human beings. Be it a printed piece of paper or an electronically represented number, money only has value to the extent that those using it can agree upon that value. Intersubjectively constructed, it does not exist unless symbolically represented, and depends upon shared understandings and ongoing practices for its existence and valuation" (Drezner and McNamara 2013: 159).

Eric Helleiner, in *The Making of National Money*, connects the rise of fiat money with the process of nationalizing the money supply. In this, he focuses on the physical properties of money and underappreciates its debt qualities:

> "Territorial currencies could not be created, furthermore, without a technological transformation that has received less scholarly attention: the application of new industrial technologies to the production of coins and notes in the nineteenth century. This development dramatically and rapidly improved the uniformity of the money in circulation by enabling the production of standardized currency in mass quantities. For the first time, public authorities also found it possible and affordable to produce large quantities of high-quality, low-denomination coins that were linked in a stable fashion to the rest of the official monetary system. Equally important, the high quality of the new industrially produced money made counterfeiting a much more difficult proposition, a development that in turn strengthened the ability of state authorities to maintain stable national 'fiduciary' forms of money on a mass scale. This latter development was of enormous significance in enabling states to create and maintain territorial currencies" (Helleiner 2003: 7).

Filippo Cesarano, in *Monetary Theory and Bretton Woods. The Construction of an International Monetary Order*, epitomizes the alleged centrality of the fiat money concept when he argues that

> "the demise of the short-lived Bretton Woods experience did not just put an end to the postwar monetary reconstruction, but it brought about the generalized diffusion of fiat money, an epoch-making change after 2,500 years of commodity money" (Cesarano 2006: ix).

How does this concept of fiat money as a derivative of commodity money correspond to the way in which 'money' is treated in practical terms today? The conventional way of approaching the money supply is to look at different monetary aggregates. The definitions of those aggregates differ across various monetary jurisdictions in detail, but are broadly consistent to each other. Most influential are those by the ECB, the Bank of England, and the Fed. As to O'Brien (2007: 6-8), the ECB operates with the monetary aggregates M1 (narrow money), M2 (intermediate money) and M3 (broad money). As money issuers, it defines on the one hand monetary financial institutions (MFIs). This includes the Eurosystem (i.e. the ECB and national central banks, NCBs), domestic credit institutions (i.e. commercial banks), all other resident financial institutions, and money market funds (MMFs). On the other hand, by definition, central governments issue money on Post Office accounts, national savings accounts, and Treasury accounts. The Bank of England largely follows the ECB's definition but uses a different approach to M3 and in addition publishes the aggregate M4. Also it used to denominate central bank money as M0. The Federal Reserve, in contrast, only operates with the monetary aggregates M1 and M2 as the publication of M3 was discontinued in 2006. Money issuers, by definition, are depository institutions, Federal Reserve Banks, and the U.S. Treasury. Table 1.1 and Table 1.2—taken from O'Brien (2007: 18, 19)—provide an overview on the definition of the money aggregates used by the ECB and the Fed.

Components of Major Aggregates	Definition of Each Component
M1 (Narrow Money)	Sum of the following two components.
(1) Currency in Circulation	Notes and coins issued by money issuers held by private non-FMI residents located in and **outside** the EMU.
(2) Overnight and Similar Deposits	Deposits which can be converted into currency or used for cashless payments.
M2 (Intermediate Money)	M1 plus non-M1 component of M2
Non-M1 Component of M2	Sum of the following two components.
(1) Short-term Saving Deposits	Deposits redeemable at a period of notice up to 3 months.
(2) Short-term Time Deposits	Deposits with an agreeable maturity of up to 2 years.
M3 (Broad Money)	M2 plus marketable instruments issued by MFIs.
Marketable Instruments Issued by Monetary Financial Institutions (MFIs)	Sum of the following three components.
(1) Money market fund shares and units (MMFs)	Excluding shares and units held by MFIs, CGs, and non-euro are residents.
(2) Repurchase Agreements (repos)	Repo liabilities of the MFIs with the money-holding sector.
(3) Debt securities with an original maturity of up to 2 years	Liabilities of the MFIs held by the money-holding sector.

Table 1.1—Composition and Definition of Monetary Aggregates in the EMU

Components of Major Aggregates	Definition of Each Component
M1	Sum of the following four components.
(1) Currency Component	Currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions.
(2) Demand Deposit Component	Demand deposits at commercial banks (excluding those amounts held by depository institutions, the U.S. government, and foreign banks and official institutions) less cash items in the process of collection (CIPC) and Federal Reserve float.
(3) Other Checkable Deposits (OCD)	Including negotiable order of withdrawal (NOW) and automatic transfer service ATS accounts at depository institutions, credit union share draft accounts, and demand deposits at thrift institutions.
(4) Non-bank Traveller's Checks	Traveller's checks issued by non-depository institutions.
M2	M1 plus non-M1 component of M2.
Non-M1 Component of M2	Sum of the following three components.
(1) Saving Deposits	Including money market deposit accounts (MMDA), but excluding those held by the U.S. government.
(2) Small-denomination Time Deposits	Time deposits in amounts of less than $100,000, less individual retirement account (IRA) and Keogh balances at depository institutions.
(3) Retail Money Market Mutual Funds (MMFs)	Excluding those held in IRA and Keogh accounts.

Table 1.2—Composition and Definition of Monetary Aggregates in the U.S.

This overview on the monetary aggregates points to an important insight about the empirical setup of the contemporary monetary system: The financial instruments that together make up the money supply are all *debt instruments* or *IOUs* issued on balance sheets of various financial institutions. Neither are they

connected to an essential commodity basis, nor could it be made immediately clear that they are tokens established by the powers of government fiat. The majority of works in the IPE literature on monetary transformation, have difficulties establishing connection to the writings of monetary practitioners and the applied discourse of political and financial institutions. So it comes that the studies reviewed in the preceding section have very little to say about how it happened that the money supply today looks the way it does. There is no compelling analysis capable of explaining the setup of the various monetary aggregates and how such institutional reality developed. It is this absence of a proper conceptualization of the empirical fact of a credit money system in the IPE literature on money, which this study refers to as the Essentialist bias.

What is the origin of this essentialist bias? How to explain its prevalence? This study suggests that an answer to this question can be found in a body of scholarship that is rising in volume since the latest financial crisis. Following the work of scholars such as Christine Desan, Perry Mehrling, and Stefano Sgambati, the Essentialist bias can be traced back to what may be viewed as premodern, or precapitalist, intuitions about how monetary systems and money creation work.

Christine Desan, in her book *Making Money. Coin, Currency, and the Coming of Capitalism*, makes a compelling argument that provides an explanation for the prevalence of the Essentialist bias. As she argues, the financial revolution in early modern England "reinvented" the medium money. While premodern monetary systems relied essentially on commodity money, the English invention of credit money has an entirely different operational logic. In fact, the rise of capitalism in 17th and 18th century England is inherently connected to redesigning money and establishing a new monetary architecture paradigmatically different than commodity money (Desan 2014: 1-2). However, this fundamental change in the way the real monetary system operates has not been well reflected in the way money is theorized by economists who typically characterize money as "a simple commodity, a social convention, or an abstract 'numéraire'". Desan points out that this "diverts attention from the institutions that really make and maintain money" (ibid: 6). Following this assessment about the theory of money in economics, we may as well translate it to scholarship in IPE and the analyses of monetary transformation.

Perry Mehrling, in his article *Beyond Bancor*, applies this assessment on the way the in which the transformation of the IMS is typically studied. Mehrling (2016)—in line with Kindleberger (1970)—presents a counter-narrative to the dominant view on the transformation from commodity money to fiat money when he argues that the commodity base for the gold standard and the Bretton Woods System was not actually very relevant. Instead, those were credit money standards with the Bank of England running an international pound sterling system until the early 20th century, and the Fed running an international dollar system since the end of the World War II. The commodity base was merely a (barbarous) relic of the premodern monetary system. The transition away from gold in the 1970s was then not actually such a major revolution, but just stripping off the nominal relic. IPE seems to rely on the intuition that the commodity base was necessary to guarantee the moneyness of the pound or the

dollar. This gives rise to the argument that the abolished commodity base had to be replaced by state power or a social construction.

Stefano Sgambati, in his *Rethinking Banking. Debt Discounting and the Making of Modern Money as Liquidity*, sketches how the Essentialist bias affects the portrayal of central and commercial banking. As he argues, not only the concept of fiat money but also the predominant notions of fractional reserve banking and banking as financial intermediation follow the premodern lines of thinking about money, which presuppose the existence of money before debt can be issued. Sgambati views this as inherently connected to the fiat money logic:

> "Our understanding of banking is still anchored to a dogmatic notion of banking as a system of financial intermediation. This notion implicitly neglects the fact that through the banking process new money (qua liquidity) is infused in the financial system. It is therefore not a coincidence that the dogma of banking as intermediation is often preached together with the myth of modern money as a creation *ex nihilo* or by fiat. […T]hese two beliefs support each other and are subtly employed to contrive an a-historical and pre-political view of modern banking" (Sgambati 2016: 275,).

> "[T]he concept of fractional reserve banking is not only used to explain the functioning of modern banking but is also evoked in many cases to justify the historical transition from precious-metal 'commodity money' to scriptural 'fiduciary money' (or 'fiat money')" (ibid: 278).

Similar to Desan, Sgambati sees a fundamental difference between the premodern logic, which embraces the concepts of commodity and fiat money, and the credit money logic, which emerged with the English financial revolution:

> "a number of financial innovations took place specifically in England throughout the seventeenth century which were responsible for producing no less than an 'epistemological revolution' in the English culture of credit" (Sgambati 2016: 284).

In a nutshell, Sgambati (2016) frames the Essentialist bias—the neglect of taking fully into account the operational logics of the modern credit money system—as a "pervasive dogma of banking as financial intermediation" (ibid: 286).

The essentialist bias thus refers to the observation that the vast majority of works in IPE do not take into account the full implication of the fact that modern monetary systems are principally based on credit money. The focus on (historical) commodity money and (contemporary) fiat money gives evidence of a dominant understanding of money that seeks to root the true *essence* of money in either a 'real' commodity basis or in 'pure' government power, and in this misses the point that capitalist money has been predominantly, and today is exclusively, a network of debt claims that does not have or require an *essential* basis after all. The notion of the monetary system as a debt network without a material or immaterial anchor is largely absent in the reviewed IPE literature. Hence, with regard to the monetary system's historical transformation, the literature rarely focuses on pivotal changes and dynamics *within* the network of debt claims and the political economy implications connected to it.

1.3.2 The Chartalist bias

The Chartalist bias refers to the notion that the institution of money is, by and large, a privilege of the state. In its strictest version, the Chartalist bias points to the insinuation that money is exclusively provided by the state; in a more relaxed version, it alleges that the money supply is at least controlled by the state, even though not exclusively provided by public institutions. Similar to the Essentialist bias, this position is rarely expressed explicitly but rather shines through as an implicit assumption. Due to the Chartalist bias, the vast majority of IPE literature on money barely accounts for autonomous and systemically relevant private money creation in general, and underestimates the role of private money in its depiction and explanation of the monetary system's transformation in particular. This study will argue that private credit money—sometimes also termed 'endogenous' money—is much more relevant for the operational logic of the monetary system than suggested in the current body of IPE literature. Similarly to the Essentialist bias, the Chartalist bias can be traced to the underlying monetary theory that is used in most IPE studies.

In the IPE literature on monetary transformation, the Chartalist bias comes to the surface in three main versions: When a given currency is suggested to be just provided by the state it is associated with; when the central bank is suggested to be identical with the state; and when it is suggested that money creation by commercial banks is a function of central bank decisions.

First, the literature gives evidence of a tendency to starkly simplify questions of money issuance and suggest the states' full control over their money supply. When the literature refers to the "U.S. Dollar", the "British Pound", or the "Euro", it abstracts from any institutional underpinnings of money creation and does not ask what "the Dollar", "the Pound", or the "Euro" actually are, i.e. as specific money forms. It then reads as an insinuation that it would be the states themselves who issue and control their money supply. At the same time, such notion often comes with an equalisation of 'money' with 'currency'.

Focusing on explanatory approaches, this form of the Chartalist bias applies primarily to realism, rationalism, and constructivism. Realist scholarship tends to view the state as a money-issuing black box. For example, it is reflected in the conceptualisations of monetary power following Kirshner (1995) and Cohen (2015) and writings applying the logic of Hegemonic Stability Theory. It is also prevalent in the literature that follows the scheme of international currency hierarchy (cf. Strange 1971a), when the Euro is portrayed as a "negotiated currency" because it does not actually have a single issuing country. In this approach, the state as the primary issuer of money is naturalized. Rationalist scholarship alleges that the state could determine its money-related politics in accordance with the relative influence of interest groups (see e.g. Broz 1997b). In the logic of the analysis of Open Economies Politics, the nation state by definition—when it aggregates interests and preferences and then translates them via domestic institutions into policies—must be the entity that issues and controls the money supply. And constructivist scholarship, with its emphasis on the role of ideas, also puts the state at the centre of its attention.

Focusing instead on descriptive themes, the Chartalist bias in this form is first and foremost reflected in the discussions of the transforming relationship between money and the nation state. For example, when Cohen (1998 4-5) writes about the rise of the Westphalian monetary system, he suggests that by establishing a national monopoly, the money supply was put under the control of the state. While he acknowledges a decline of the Westphalian monetary system, this only refers to a change in the *use* of or the *demand* for money due to enhanced currency competition, but decisively not for the *creation* or the *supply* of money (see e.g. Cohen 1998: 4-5). Moreover, also the debates on the transformation of the IMS rest to a large extent on the view that money issuance is, by and large, conducted by the state. On the one hand, this is made evident in concepts such as the Impossible Trinity, which—as pointed out in 1.2.1—guides our way of thinking about international monetary relations and alleges state autonomy over the exchange rate, capital mobility, and domestic monetary policy. On the other hand, in more general terms, the antagonistic logic between the 'national' monetary system as the logical prerequisite of the 'international' monetary system may be viewed as an expression of the Chartalist bias itself, given that thinking about the IMS as the organized interaction of, *prima facie*, 'monetarily sovereign' states pre-supposes that states are the autonomous creators of money.

Overall, it is often viewed as a defining criterion of IPE to form an opposition towards the market-orientation of the economics discipline, and to postulate and illustrate the primacy of the political over the economic. Hence, it may not be surprising that the state is attributed crucial relevance and agency for money creation. What is the problem with the assumption that the state is issuing and controlling its domestic currency?

The insinuation that the U.S. would control the U.S. Dollar and Britain the Pound Sterling—just as in the case of the Essentialist bias—abstracts from the way in which the money supply is actually set up. As the money aggregates in Table 1.1 and Table 1.2 show, "the state" itself does not provide money but a number of financial institutions that can be public or private. Simply put, the money issuers in a given contemporary monetary jurisdiction are the central bank, commercial banks, as well as non-bank financial institutions or 'shadow banks'. The different aggregates contain different 'financial instruments', namely currency (i.e. bank notes issued by the respective central banks), demand and savings deposits (i.e. deposits issued by commercial banks with different maturities), as well as a range of other instruments issued by shadow banks such as money market fund (MMF) shares and repurchase agreements (repos). Central bank money sometimes is still referred to as the 'monetary base' or M0.[12] It contains currency and deposits held by commercial banks at the central bank.

Figure 1.2 and Figure 1.3—compiled with the tools provided by the website of the St Louis Fed—present quantitative overviews on the (not seasonally adjusted) monetary aggregates as published in the EMU and the U.S.

[12] http://www.bankofengland.co.uk/statistics/Pages/iadb/notesiadb/m0.aspx (accessed 29 April 2017).

from 1980 to 2017.[13] As these figures demonstrate, the component of public money (which is just a fraction of M1) within the general money supply is very small and almost negligible compared to the volume of private money. Hence, it is somewhat questionable whether the emphasis on currency, which is often reflected in IPE works, is appropriate to give a good representation of the monetary system.

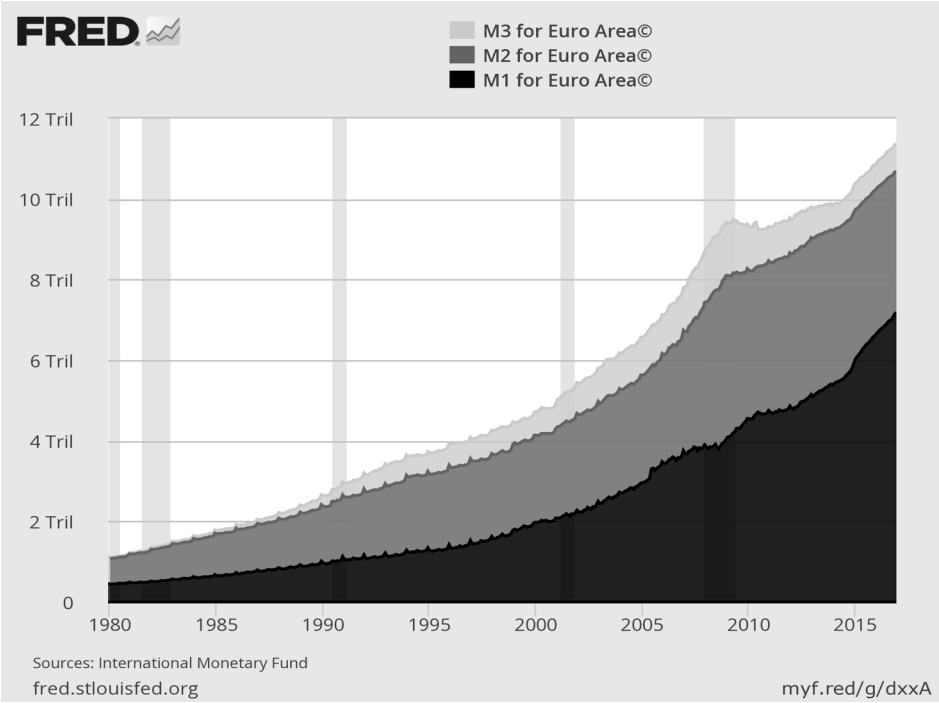

Figure 1.2—Monetary aggregates in the EMU (1980-2017, in trillion EUR)

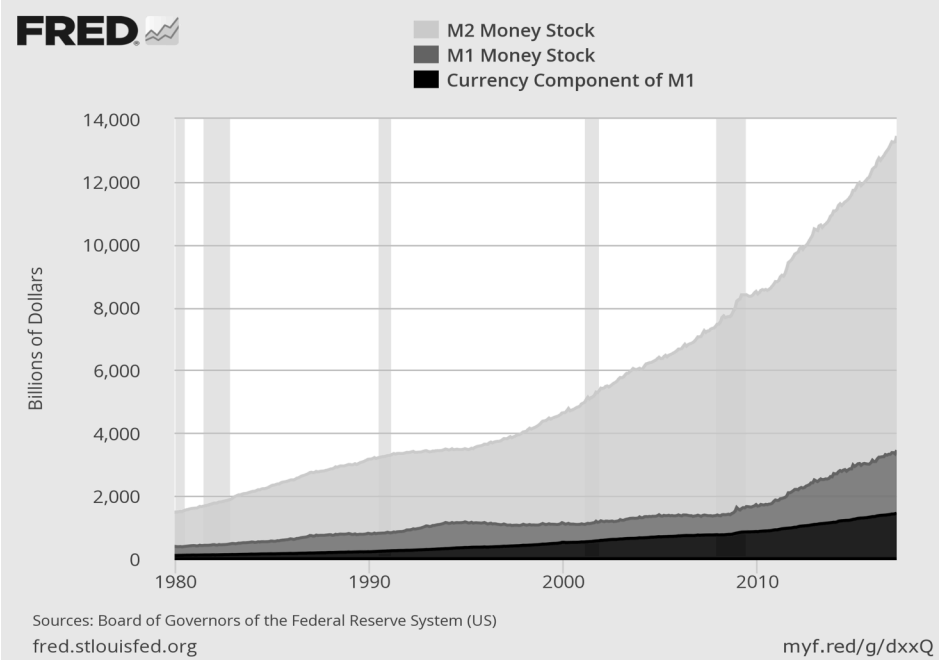

Figure 1.3—Monetary aggregates in the U.S., 1980-2017 (in billion USD)

[13] https://fred.stlouisfed.org/tags/series?t=monetary%20aggregates (accessed 29 April 2017)

Now it is true that, when tackling the transformation of money's physical shape, the IPE literature does take into account private money, e.g. in the form of local currencies (Helleiner 2000), vouchers and loyalty cards (Cohen 2003), or domestic currencies (Zelizer 1994). However, these private money forms are typically seen as being situated outside the main, systemically relevant money supply and typically use a different unit of account. Hence, these approaches see private money as an opaque alternative to mainstream money, and not as the crux of the matter. Overall, the ideas of what is often termed the 'endogenous money discourse' (cf. Section 2.2.1) have rarely found their way into IPE.

Lighter versions of the Chartalist bias are to be found in the strand of literature that studies the transformation of central banking. In this form, the Chartalist bias is even more closely connected to the prevailing monetary theory and the actual mechanics of central banking.

On the one hand, the Chartalist bias appears through the assumption that, while the central bank is issuing money on its balance sheet, it does so upon the command of the government. In fact, the dimensions of central bank dependence and independence have constantly been varying from country to country, and from time to time (cf. Singleton 2011). Certainly for the era of Generalized Floating, with the spread of central bank independence, this assumption is difficult to uphold. Both the Bank of England and the Federal Reserve, at the times of their foundation, were decisively *private* institutions, although they assumed special responsibilities vis-à-vis their country's governments (cf. Goodhart 1988). The Chartalist bias appears in this form e.g. in Blinder (2004), Frieden (2015) or Hardie and Maxfield (2016).

On the other hand, in its weakest form, the Chartalist bias appears via the assumption that central banks can control the volume of the commercial banks' money creation. This idea is part of the economic textbooks (cf. e.g. Mishkin 2009) through the so-called money multiplier. It suggests that the central bank's provision of reserves and its determination of the minimum reserve ratio limit the commercial banks' ability to lend out money and thus puts a cap on the amount of deposits they can create as 'inside money'. In a nutshell, this view assumes that there is no autonomous private money creation through commercial banks (cf. e.g. Cohen 1998). This view, in line with the belief in the money multiplier, has increasingly been challenged in recent years—most prominently through the Bank of England's paper, directed to wider public, in which it announces that banks *do* actually autonomously create money (McLeay et al. 2014). Discussing this matter would require digging deeper into the mechanics of the discount window and open market operations, and has been the subject of vivid debates between endogenous and exogenous money approaches, notably in the 1970s to the 1990s (cf. Moore 1988). A number of works in the IPE literature on the transformation of central banking tend to refer to concepts of inside money and the money multiplier.

While the Chartalist bias is prevalent in rather traditional studies of money in IPE, a number of topical publications go beyond this bias and stress the

role of money creation beyond the purview of the state. A few of them shall be singled out here as they will prove authoritative for this study:

Dan Awrey, in his article *Brother, Can You Spare a Dollar? Designing an Effective Framework for Foreign Currency Liquidity Assistance***,** demonstrates why this is the case. Awrey (2017) criticizes the view that the state is the issuer of money, applying a revisionist notion of the IMS. Along the lines of Mehrling (2016), he insists that the IMS in the age of Generalized Floating is actually run via *private* international credit money creation, first and foremost through the Eurodollar market. Thus, he stresses the approach that Strange (1971a) had explicitly repudiated. The main source of their disagreement is, again, the underlying monetary theory applied for the respective analyses on the institutional reality. In this, Awrey is in line with the arguments provided by Stefan Avdjiev, Robert McCauley and Hyung Song Shin. In their BIS working paper *Breaking Free of the Triple Coincidence in International Finance*, Avdijev et al. (2015) point to the Chartalist bias when they argue that a style of thought is pervasive in matters of international money, according to which there is always an overlap between the economic area, the decision-making unit, and the currency area; or—in a nutshell—that "each economic area has its own currency and the use of that currency is largely confined to that economic area" (ibid: 3). As they contend, this simplification might be useful in theory-building but is empirically misleading.

A counter theory, which transcends the Chartalist bias and is increasingly being acknowledged within IPE, is the shadow money approach by Daniela Gabor and Jakob Vestergaard. In their 2016 working paper *Towards a Theory of Shadow Money*, written for the Institute of New Economic Thinking (INET), they develop a nuanced approach of different shadow bank liabilities and their role as private credit money forms as they function as substitutes for bank deposits (Gabor and Vestergaard 2016). An author who thinks along similar lines is Morgan Ricks—in his 2016 book *The Money Problem. Rethinking Financial Regulation* as well as his previous publications (cf. Ricks 2016; also 2011, 2012a, 2012b, 2013). Benjamin Braun, in his article *Speaking to the People? Money, Trust, and Central Bank Legitimacy in the Age of Quantitative Easing*, stresses the role of private money creation from a central banking perspective. He brings forth the argument that central banks actually do have a stark interest in pretending vis-à-vis the public that they would be able to control the money supply—with a 'folk theory of money' to induce monetary trust (Braun 2016b).

With their analyses, and by purposefully starting from an alternative view on monetary theory, said authors operate outside the Chartalist bias and present innovative approaches towards private money creation, both in an international and a domestic context. However, they do not embed their analyses in a wider context of the monetary system's historical transformation.

1.3.3 The gap: The transformation of the monetary system beyond the Chartalist and the Essentialist bias

As the preceding sections have indicated, the two biases lead to an incomplete representation of how the monetary system has been transforming empirically and how the empirical credit money supply is made up today. Neither is the fact of credit money, nor the fact of systemic private money creation systematically accounted for in the IPE literature. While the literature predominantly focuses on specific historical episodes, it does not provide a convincing theory capable of making sense of the monetary system's historical transformation in such a way that it could explain the appearance of the money supply today—made up of a seemingly opaque amalgam of credit instruments, some of which are issued by public and most of which by private institutions.

This shortcoming is neither surprising nor specific to IPE. Instead, the discrepancy between prevailing monetary theories and the institutional realities of today's monetary system permeates other disciplines, first and foremost economics. Hence, the findings on the IPE discourse thus are only the manifestation of a 'status quo' in which the dominant theories about money are relatively distant to the institutional realities and the operational logics of the monetary system. Along with this comes a disconnect between the academic and the practioners' literature on money. Yet, as IPE is the main discipline that asks questions about the transformation of the monetary system, the Essentialist and the Chartalist bias are especially relevant here. So far, IPE has not brought forth a theory of change in the monetary system based on both, a credit money and a private money logic. and which takes the role of private credit money seriously. To understand the type of transformation that can explain how today's setup of the monetary system came about, we have to shift our focus to the non-commodity sphere; to the sphere that evolved in path-dependency from the English system, prospered under the umbrella of the gold standard, led to massive monetary and industrial expansion, and—since the demise of gold—is the only remaining monetary system at present. It is not a sphere of token or fiat money, but it is a sphere of credit money. Private and public credit instruments co-exist next to each other and make up the monetary system. The historical transformation leading up to the monetary system as we know it must refer to the way in which this amalgam of debt instruments is organized and structured.

IPE therefore fails to provide a theory of the monetary system's transformation that takes both the logics of private money and of credit money seriously and views this system's properties as a driving force for institutional change. Such theory could actually help us understand what historically happened in the credit money sphere beyond the "golden umbrella", and why the money supply adopts the shape it has today according to the interpretation of central banks who define it via different aggregates in the form of concentric circles. The gap thus is a political economy explanation of the monetary system's transformation that on the one hand addresses a pivotal role to the dynamics associated with private credit money creation and on the other hand finds space for political agency and power in its explanation of the historical processes that led to the public-private money supply we are confronted with today.

1.4 Conclusion

This chapter has reviewed the significant literature within IPE investigating the transformation of the monetary system. In this, it identified the key themes and explanatory approaches characteristic of this literature. Based on this review, the chapter has argued that the literature is subject to two biases that imply a neglect of credit money and private money and thus, taken together, lead to a state of research that fails to theorize the role of private credit money for the monetary system's transformation. In a descriptive sense, this applies to the various phenomena the literature takes into account—from international exchange rate arrangements over central banking and the monetary units' physical shape to the relationship of money and the nation state. From an explanatory perspective, this is true for whatever is perceived as the key driving force of institutional change in the monetary system—whether state agency in realist, private agency in liberalist, ideas in constructivist or wider social formations in structuralist scholarship.

To remedy this gap, this study will add a political economic analysis to the literature on monetary transformation that places private credit money center stage: the theory of **private credit money accommodation**.[14] The theory will describe and explain how new credit instruments emerge that become systemically relevant private credit money before a run on them threatens to make the entire financial system collapse which forces political authorities to establish public backstops and integrate the credit money form in the public money supply. This will be depicted as a repeating process in monetary history which keeps up a permanent tendency to transform the monetary system and has eventually led to the current—hybrid—setup of the empirical money supply.

To develop the argument about private credit money accommodation as a repeating process that drives the transformation of the monetary system, this study will first introduce a conceptual lens going beyond the Essentialist and the Chartalist bias in IPE. This is the 'Money View'—a contemporary market-based credit theory of money which provides a frame for the monetary system as a self-referential network of expanding, yet instable debt claims (Chapter 2). Subsequently, the study will develop a two-phase model to describe and explain the phenomenon of private credit money accommodation. This will bring forth a theoretically driven understanding of how the monetary system transforms through necessities created by the system's very own properties themselves and effectively implemented via the infrastructural power of the state (Chapter 3).

[14] Section 2.1 will discuss the choice of terminology for disambiguation. While the term 'accommodation' is sometimes used in a different context when referring to the monetary system, Hoacket and Omarova (2016) have a very similar understanding as this study.

Chapter 2
Framework: The Money View as a Conceptual Lens for IPE

"We must have a good definition of Money,
For if we do not, then what have we got,
But a Quantity Theory of no-one-knows-what,
And this would be almost too true to be funny.
Now, Banks secrete something, as bees secrete honey;
(It sticks to their fingers some, even when hot!)
But what things are liquid and what things are not,
Rests on whether the climate of business is sunny.
For both Stores of Value and Means of Exchange
Include, among Assets, a very wide range,
So your definition's no better than mine.
Still, with credit-card-clever computers, it's clear
That money as such will one day disappear;
Then, what isn't there we won't have to define"
(Boulding 1969: 555).

2.1 Introduction and plan of the chapter

This chapter introduces the 'Money View' as the conceptual lens on the monetary system that this study applies. As a market-based credit theory of money, the Money View goes beyond the Essentialist and Chartalist biases found in the IPE literature (cf. Chapter 1). This chapter argues that the monetary system constitutes a self-referential network of expanding, yet instable, debt claims, based on the hybridity of public and private credit money. This notion will be the prerequisite for studying private credit money accommodation as a repeating transformation process that the monetary system is subject to.

The Money View is an institutionalist theoretical framework for the analysis of credit money systems, which is most prominently represented in the works of Perry Mehrling and Zoltan Pozsar (cf. e.g Mehrling 2011, 2013b, 2015a; Pozsar 2012, 2014).[15] As Mehrling (2011: 4) claims, thinking according to the logic of the Money View—albeit never explicitly called this way—used to be common sense among central bankers in the late 19th and early 20th century, yet was ousted after the World Wars. Mehrling (2011) characterizes the Money View as a mode of studying the monetary and financial system that analyses cash flows and payments commitments in the present. This stands in contrast to the more dominant approaches of economics and finance which focus on the past or the future, respectively. Both alternative views have in common that they essentially abstract from money and the technical details of money creation:

[15] Currently, no coherent, systematic theoretical account of the Money View has been brought forth so far. Next to Mehrling (2011), a number of blog posts as well as the online course *The Economics of Money and Banking* are key reference points. In addition, Pozsar (2014) claims the label 'Money View' in his paper on shadow money. This study chimes in with some of his notions, notably as concerns the representation of the hybridity of money.

> "On the one hand, we have the view of *economics*, which resolutely looks through the veil of money to see how the prospects for the present generation depend on investments in real capital goods that were made by generations *past*. On the other hand, we have the view of *finance*, which focuses on the present valuations of capital assets, seeing them as dependent entirely on imagined *future* cash flows projected back into the present.
>
> The economics view and the finance view meet in the present, where cash flows emerging from past real investments meet cash commitments entered into in anticipation of an imagined future. This *present* is the natural sphere of the *money* view. But both economics and finance abstract from money; for both of them, money is just the plumbing behind the walls, taken for granted. Both largely ignore the sophisticated mechanism that operates to channel cash flows wherever they are emerging to meet cash commitments wherever they are most pressing" (Mehrling 2011: 4-5; italics in original).

The Money View thus has the self-proclaimed goal of focusing on the actual 'financial plumbing' of the 'real world'—this is to say to take the historically contingent institutions of the financial system at different stages of its development seriously and to not shy away from the rather technical and detailed knitty-gritty of how financial markets and institutions operate, in particular with regard to the continuous creation and destruction of money.

As a so-called 'heterodox' economic theory, the Money View stands in contrast to the model-based, ahistoric approach of neo-classical mainstream economics and rather emerges from the tradition of the German Historical School (cf. e.g. Schmoller 1901, and in particular Schumpeter 1912, 1954, 1970) and American Institutionalism (cf. e.g. Commons 1924, 1931, 1934, and in particular Minsky 1957, 1986). In its approach to the monetary system, the Money View goes beyond the conventional notion of a homogenous, clearly delineable money supply as is conventionally found in the type of mainstream economics that is based on Walrasian general equilibrium theory and models *de facto* a non-monetary economy (Hahn 1983; Romer 2016).[16] Instead, it assumes that the money supply is an inherently hierarchical conglomerate of publicly and privately created debt claims with various degrees of 'moneyness' that are convertible into each other within different segments of the payments system. Those debt claims are permanently created and destroyed as transactions within the payment system occur. A methodical key element of the Money View to grasp the 'plumbing' of the monetary and financial system is to base its arguments on the analysis of balance sheet dynamics. This allows highlighting the way in which debt-issuing financial institutions operate and thus the mechanisms of money creation (cf. Mehrling 2011). In this, the Money View takes the proverbial assessment of Minsky (1986) seriously, according to which money creation is nothing but a mere balance sheet operation.

[16] A prominent example for the idea of a clearly identifiable and delineable money supply in mainstream economics is the eminent Fisher Equation MV=PT, which is still to be found in the vast majority of textbooks on the matter. Following the logic of the equation, the determinate quantitative money supply M must have a fixed *ex post* relationship with the velocity of circulation of the given quantity of money units (V), the price level P and the number of transactions T.

As an analytical framework, the Money View is predominantly used in the context of the academic disciplines of economics and law (cf. e.g. Mehrling 2011, Pistor 2013) and applied by practitioners in financial markets and regulatory financial institutions (cf. e.g. Pozsar 2014, Mehrling et al. 2013). Yet, with its institutionalist underpinnings, the Money View can also serve as a conceptual lens for studies in IPE. It involves a range of tangible concepts as well as a rich body of already existing analyses that may well be applied for analyses of the (global) political economy of money and finance in an IPE context. Still, a systematic exposition of the Money View which contextualizes the approach and highlights its core ideas that are relevant in an IPE context is missing. This chapter seeks to fill this gap by contextualizing the Money View approach paradigmatically in the history of monetary thought and by presenting a handy interpretation of it that boils it down to four key concepts.

The remainder of the chapter is organized as follows:

Section 2.2 defines the place of the Money View within the broader context of monetary theories. As to be demonstrated, the Money View is unique in combining two theoretical traits in the thinking on money: On the one hand, it is a credit theory of money, which—in contrast to the more dominant tradition of monetary theories of credit—considers money and credit in a non-dichotomous, not mutually exclusive relationship. In this, it overcomes the Essentialist bias in IPE. On the other hand, it is a market-based monetary theory, which—in contrast to state-based approaches connected to the Chartalist bias—assumes that money can be created privately outside the public monetary realm and that private actors are able to develop new forms of credit money. The combination of both these propositions makes it uniquely suitable to study the accommodation of private credit money.

Section 2.3 presents a systematic account of the key concepts of the Money View as a market-based credit theory of money to make it applicable as a conceptual lens for scholarship in IPE. The section systematically develops the Money View on the basis of four key ideas: money creation as a swap of IOUs within the monetary system as a payment system; hybridity of public and private money forms; hierarchy of money forms; as well as the inherent instability of credit money.

The concluding section 2.4 summarizes the particular understanding of the—often viewed as problematic—connection between the categories of ‘money’ and ‘credit’ that comes along with a Money View perspective. It points out why it comes with the Money View approach that the monetary system is to be portrayed as a self-referential network of ever-expanding debt claims, and reveals in how far this is relevant to scrutinize the role of private credit money for the transformation of the monetary system.

2.2 Two fundamental propositions of the Money View

As this section will point out, the Money View incorporates two fundamental propositions that are key analytical prerequisites to overcome the Essentialist and Chartalist biases in IPE:

- *'Credit money':* As all modern money is essentially tradable debt, there is a logical superiority of the category of 'credit' compared to the category of 'money' as expressed in the tradition of 'credit theories of money'. This insight will define a counterposition to the Essentialist bias.
- *'Private money':* While credit money can both be issued by public and by private institutions, new credit money forms are first endogenously developed by private actors in the financial system before they find their way into the public monetary sphere. Hence, as a logical superiority of private money creation compared to public money creation, this view presents an alternative to the Chartalist bias.

To contextualize both these fundamental propositions, this section will provide discussions of both ideas on a conceptual level and give an overview on how they are reflected in the history of monetary thought. It will begin with outlining the implications of a credit theory of money as compared to the opposite, more widespread approach of a monetary theory of credit. Subsequently, it will discuss the antagonism between market-based theories of money, which regard money as emerging in reaction to private enterprise, and state-centered theories of money, which assume that it is the state's recognition that makes money money. These discussions will allow to flesh out the implications of the Money View as a ***market-based credit theory of money***.

2.2.1 A credit theory of money, not a monetary theory of credit

The Money View is a contemporary version of a credit theory of money. The conceptual distinction between monetary theories of credit (MTCs) and credit theories of money (CTMs) has been introduced by Schumpeter in his 1954 work *History of Economic Analysis*. Schumpeter establishes the antagonism of MTCs and CTMs as a guiding principle for how conceptual approaches to money and the monetary system are constructed, to then argue in favour of the analytical advantages of CTMs. Arnon (2011) supports the notion that the distinction between MTCs and CTMs is a guiding principle if we are to understand the fundamental propositions of monetary theories, both in the past and today.

Monetary theories of credit, according to Schumpeter, proclaim a logical superiority of the category of 'money' over 'credit', and have been the dominant way of forming monetary theories:

> "[T]extbooks on Money, Currency, and Banking are more likely than not to begin with an analysis of a state of things in which legal-tender 'money' is the only means of paying and lending. The huge system of credits and debits, of claims and debts, by which capitalist society carries on its daily business of production and consumption is then built up step by step by introducing claims to money or credit instruments that act as substitutes for legal tender

> and are allowed indeed to affect its functioning in many ways but not to oust it from its fundamental role in the theoretical picture of the financial structure. Even when there is very little left of this fundamental role in practice, everything that happens in the sphere of currency, credit, and banking is construed from it, just as the case of money itself is construed from barter" (Schumpeter 1954: 686).

Following the logic of MTCs in the way monetary theories are designed stands to reason, according to Schumpeter, given the institutional realities of the pre-capitalist world:

> "Historically, this method of building up the analysis of money, currency, and banking [according to MTCs, S.M.] is readily understandable: from the fourteenth and fifteenth centuries on (and even in the Graeco-Roman world) the gold or silver or copper coin was the familiar thing. The credit structure—which moreover was incessantly developing—was the thing to be explored and to be analyzed. The legal constructions, too—remember that most economists who were not businessmen were jurists—were geared to a sharp distinction between money as the only genuine and ultimate means of payment and the credit instrument that embodied a claim to money" (Schumpeter 1954: 686).

Schumpeter, however, is very critical about the MTC's approach of starting with coins or other forms of commodity 'money' and regarding them as logically superior to 'credit' instruments. He views this as a historical relict that unavoidably leads to conceptual quarrels. To theorize money under the conditions of a capitalist system, he supports the opposite analytical approach of **credit theories of money** which view the category of 'credit' as logically superior to 'money':

> "[L]ogically, it is by no means clear that the most useful method is to start from the coin—even if, making a concession to realism, we add inconvertible government paper—in order to proceed to the credit transactions of reality. It may be more useful to start from these in the first place, to look upon capitalist finance as a clearing system that cancels claims and debts and carries forward the differences—so that 'money' payments come in only as a special case without any particularly fundamental importance. In other words: practically and analytically, a credit theory of money is possibly preferable to a monetary theory of credit" (Schumpeter 1954: 686).

Following from Schumpeter's explanation, we can establish the following distinction (cf. Table 2.1):

- MTCs view a clear separation between the economic categories of 'money' and 'credit'; both categories as dichotomous and mutually exclusive. Analytically, MTCs proclaim a logical superiority of the 'money' category and regard 'credit' as logically subordinate. As a consequence, granting 'credit' without 'money' is not considered possible.
- CTMs, in turn, treat 'credit' as logically paramount to 'money'. Hence, moneyless debt is considered very well a meaningful idea. Money is seen as an endogenous product of lending activity, it is tradable credit. Thus, a clear-cut delineation between the categories of 'money' and 'credit' is not

possible. In particular, whether a given debt certificate is viewed as 'money' always includes an arbitrary aspect. 'Money' and 'credit' are not dichotomous, as any money form can as well be a form of credit'.

Monetary Theories of Credit (MTCs)	Credit Theories of Money (CTMs)
Money is the logical prerequisite of credit	Credit is the logical prerequisite of money
Money and credit are dichotomies	Money and credit are two sides of the same coin
Credit instruments that function as near-monies are a theoretical problem	Credit instruments that function as near-monies are a normal phenomenon

Table 2.1—Monetary theories of credit vs credit theories of money

In the history of Western monetary thought, the antagonism between MTC and CTM approaches came to the surface in various forms and at various stages. Some major authors and their principal works are to be identified according to eight subsequent phases: the Early Modern Period (1600-1800); the Bullionism Debate (1801-1819); the Currency School-Banking School Controversy (1830s-1844); the Gold Standard era from the Second Peel's Act to World War I (1844-1917); the interwar debates (1919-1939); debates during the Bretton Woods era (1944-1973); the discourses during the period from the inception of Generalized Floating until the Global Financial Crisis (1973-2007); and the post-Financial Crisis scholarship (since 2008). The subsequent overview will underpin the point made by Schumpeter that CTMs—although there are good reasons to believe that they are conceptually superior to MTCs for explaining capitalist monetary systems—have always had a marginalized status and were seen as 'critical' or 'heterodox' theories opposed to the theoretical mainstream, which relied on the logic of MTCs.

In contrast to CTM approaches, the origins of MTCs are more easily detectable in Western philosophy and can be traced back as far as Aristotle's *Politics*. In the **early modern period**, seminal authors bringing forth MTC ideas in Britain are Petty (1660), Mun (1664), Locke (1689) and David Hume's publications *On the Balance of Trade* (1742) as well as *Of Interest* and *Of Money*, both published in 1752. Associated with ideas of mercantilism, they place emphasis on money as precious metall. Adam Smith's 1776 *Wealth of Nations*—without a doubt the most referenced economic publication and the founding work for classical political economy—similarly views money as ultimately derived out of commodities and hence follows the MTC logic.[17]

The first time that the antagonism between MTCs and CTMs came to the surface, in a form still prevalent in today's collective memory, was the **Bullionism Debate**, which Britain witnessed in the first two decades of the 19th century.[18] During the Restriction Period, when Bank of England notes could not be converted into gold, the 'Bullionists' wanted the Bank of England to return to convertibility, whilst the 'Anti-Bullionists' supported the suspension of convertibility. While the Bullionist followed the conventional MTC logic, the Anti-

[17] For a discussion of Smith's monetary theory, see Weber (2015a).
[18] Cf. Viner (1937), Fetter (1965), Humphrey (1988), Arnon (2011) as well as Marx (1863a-c).

Bullionist's arguments started developing the logic of CTMs. Among Bullionist authors were Walter Boyd (1801) and, even more importantly, David Ricardo. His 1810 pamphlet on *The High Price of Bullion* addressed the debate most directly, but his contributions to monetary theory can also be found in his 1817 magnum opus *On the Principles of Political Economy and Taxation* and the 1824 *Plan for the Establishment of a National Bank*, which was published after his death. Ricardo's monetary ideas were to become highly influential for the 'British monetary orthodoxy' (Fetter 1965) and still shape mainstream economic thought today (cf. Stadermann 2002). Among the most prominent Anti-Bullionist authors were Baring (1797, 1801) and Henry Thornton who wrote the 1802-book *An Enquiry into the Nature and Effects of the Paper Credit on Great Britain* individually and the 1810 Report of the Bullion Committee together with two co-authors. Thornton may well be considered the first major theorist of the CTM approach (cf. Arnon 2011).

A second debate that referred to the adequate choice of monetary system occurred after the return to convertibility: the **Currency School-Banking School controversy**, which had its heyday at around 1840.[19] The Currency School, based on the heritage of Hume and Ricardo, was in some sense a continuation of the Bullionists' position and defended a MTC position. Its most important proponent was Samuel Jones Loyd, later called Lord Overstone, who published his book *Further Reflections on the State of the Currency and the Action of the Bank of England* in 1837. Other authors were Robert Torrens and George Warde Norman. Since the Currency School's proposals found their way into policy via the 1844 Bank Charter Act (also known as 'Second Peel's Act'), it is considered the 'winner' of the controversy, although the Act caused harsh criticism in the decades after it became effective. Whilst the arguments of the Currency School were based on analytical principles, the Banking School rather brought forth aphorisms critical towards the Currency School's Ricardian tradition. Prominent representatives of the Banking School were John Fullarton and James Wilson. Its most important work, however, is the 1844-pamphlet *An Inquiry into the Currency Principle* written by Thomas Tooke, who— together with Henry Thornton—may be regarded as the pioneer of modern CTM thought.

In the second half of the 19th and the early 20th century, during the time of the **Early and the Classical Gold Standard**, the main works on monetary thought cannot be as neatly divided into specific debates as before. Most authors from the Anglo-Saxon and the continental traditions remained clearly within the realm of MTCs. What was to become 'British monetary orthodoxy' (Fetter 1965) was first defined by John Stuart Mill's 1848 *Principles of Political Economy* (although he was said to have had proximity to the Banking School in his earlier writings) and later by Marshall (1890) and Pigou (1917). The 'orthodoxy' incorporated the thoughts of the scholars who pushed forward what today is known as the 'marginalist revolution' (cf. Jevons 1875, Walras 1886, Edgeworth 1888). Within the logic of Walrasian general equilibrium theory, MTC thinking received the status of a logical necessity. Seminal works from the Austrian School

[19] Cf. Hayek (1929), Liepmann (1933), Viner (1937), Horsefield (1944), Mints (1945), Fetter (1965), Arnon (2011).

on that matter were Carl Menger's 1892-article *On the Origin of Money* and Ludwig von Mises's 1912-book *Theorie des Geldes und der Umlaufmittel*. Georg Friedrich Knapp, the founder of Chartalist monetary theory, equally belongs to the realm of MTCs with his *Staatliche Theorie des Geldes*, published in 1905.[20] Influential contributors to the debate from the American side were Fischer (1911) and Kemmerer (1907). Finally, also Karl Marx with his critique of political economy, most prominently brought forth in the three volumes of *Das Kapital* (1867, 1885, 1894), is to be put in the MTC tradition—provided that we follow an interpretation of his unfinished work according to which the *Wertformanalyse* of Vol. I, Ch. 1, Sec. 3 is the heart of his analysis on the logical origin of money (Marx 1867: 62f.). Accordingly, the concept of money ('money form') is systematically to be derived out of the concept of a marketable commodity ('commodity form') and logically superior to all forms of credit instruments, which are brought into the picture in Vol. III and may be summarized under the umbrella term of 'fictitious capital' (cf. Marx 1894: 413f.). On the other hand, Walter Bagehot who had a huge impact with his 1873 *Lombard Street* is an author who stands in the tradition of the Banking School and thus CTM theory. In the U.S., Charles F. Dunbar's *Chapters on the Theory and History of Banking* published in 1885 clearly stress the credit character of money. Further, Wicksell (1898, 1906) and Schumpeter (1921) are two authors with a German-speaking background whose work is reminiscent of CTM ideas. Shortly afterwards, in 1913 and 1914, Alfred Mitchell-Innes wrote two articles called *What is Money?* and *The Credit Theory of Money* that were to become important points of reference for CTM thought throughout the 20th century.

Monetary thought in the **interwar years** was shaped primarily by debates over the return to the gold standard and the Great Depression. Those topics are closely related to the work of John Maynard Keynes. In his earlier publications such as the 1924 *Tract on Monetary Reform*, Keynes's monetary thought still was rooted in the British orthodoxy. However, his principal works—the 1930 *Treatise on Money* and the 1936 *General Theory of Employment, Interest and Money*, which triggered the so-called 'Keynesian Revolution'—contain traces of CTM.[21] Those ideas are also to be found in Ralph Hawtrey's 1919 *Currency and Credit* and 1932 *The Art of Central Banking*, as well as Allyn Young's 1929 *Mystery of Money*, John R. Commons's 1934 *Institutional Economics,* Hans Neisser's 1928 *Der Tauschwert des Geldes* and Schumpeter's *Das Wesen des Geldes*, which was written at around 1929 but only published in 1970 from fragments that were found after is his death.[22] Yet, most publications advocate an MTC view: Among them are Marshall (1923), Crick (1927), von Hayek (1929) as well as Fisher (1927, 1936). Those works all emerged prior to the Keynesian Revolution. The most important publication after it was John R. Hicks's 1937 *Mr. Keynes and the 'Classics'*. This article cemented an authoritative interpretation of Keynes's work that assigned it to the MTC realm.

[20] See 2.2.2 for a brief discussion of Knapp's monetary theory and his categorization in the history of monetary thought

[21] See Leijonhufvud (1968), Minsky (1957), Bibow (2006) and Hayes (2006).

[22] An English version of Schumpeter's book has only appeared in 2015 titled *Treatise on Money*.

In the era of the **Bretton Woods System**, the opposition of Monetarism and Keynesianism (mainly in the form of the 'Neoclassical Synthesis', also called 'Neo-Keynesianism') was formative. Yet, both schools adhered to the MTC concept: The central monetarist works, on the one hand, were Milton Friedman's 1956-edited volume *Studies in the Quantity Theory of Money*, his 1963-book *Monetary History of the United States 1867–1960* (co-authored with Anna Schwartz) and his 1968-speech *The Role of Monetary Policy*. Influential authors of the Neoclassical Synthesis, on the other hand, were Samuelson (1948), Mundell (1961) and Patinkin (1956). In their Keynes interpretation, they followed the path trodden by Hicks (1937). Contrasting to this, Post Keynesians presented a divergent exegesis of Keynes's work that focused on the CTM aspect (cf. Eichner and Kregel 1975). Relevant works are Kalecki (1954) and Robinson (1956) who come from the Cambridge milieu, as well as American Post Keynesians like the young Hyman Minsky (1957) and Davidson (1972). Other U.S. economists that advocate aspects of a CTM approach but cannot easily be ascribed to the Post Keynesian school are James Tobin with his 1963-article *Commercial Banks as Creators of 'Money'* as well as John G. Gurley and Edward S. Shaw who published their book *Money in a Theory of Finance* in 1960. Finally, a Cambridge scholar who is referred to as Post-Keynesian but applies a MTC concept and thus founded Neo-Ricardianism is Piero Sraffa with his 1960-book *The Production of Commodities by Means of Commodities*.

After the inception of **Generalized Floating**, mainstream economics came up with the 'New Keynesian' approach under the influence of the Lucas Critique (Lucas 1976) and the time inconsistency problem (Kydland and Prescott 1977). This led to the evolution of rational expectations-based Real Business Cycle models (following Kydland and Prescott 1982) and Dynamic Stochastic General Equilibrium models (after Rotemberg and Woodford 1997), which are both essentially subjecting the MTC logic. This is also true for influential works in the 'rules vs. discretion' debate (Barro and Gordon 1983; Taylor 1993). Michael Woodford's 2003-book *Interest and Prices,* which has been widely regarded as the main contribution to monetary theory in the last decades, models a pure credit economy in the tradition of Wicksell, in which the central bank has no control over monetary aggregates, and thus is sometimes regarded as bearing the idea of endogenous money. Yet, as Woodford abstracts from money as an institution and merely holds interest rates for relevant, *Interest and Prices* emanates from the tradition of the monetary Walrasianism found in MTCs.[23]

In contrast, Post Keynesian endogenous money theory, which applies the CTM rationale, flourished in relative separation from mainstream economics. Next to a new generation of British scholars (Chick 1977; Kaldor 1982; Dow and Chick 2002), Post Keynesian endogenous money theory is represented in North America by authors such as Hyman P. Minsky (*Stabilizing an Unstable Economy*, 1986), his student L. Randall Wray (1990) and Thomas I. Palley (2002). Moore (1988) introduced the 'horizontalist approach' and Lavoie (1985) the 'verticalist approach' to endogenous money. Besides, outside the U.S. developed the

[23] Cf. e.g. McCallum (2005), Laidler (2006), Lavoie (2006: 20), Mehrling (2006), Arnon (2011: 358) and Romer (2016) for comments on that matter.

'Monetary Circulation Theory' that embraces authors like Graziani (1989) and Rochon (1999). John Hicks, with his 1989 *A Market Theory of Money*, made a U-turn in his monetary thinking and shifted from the MTC logic of his 1937 article to a determined CTM approach. Werner (1997, 2005) and economic sociologist Geoffrey Ingham with his 2004-book *The Nature of Money* published further contributions in the CTM framework. Joseph Huber, another economic sociologist, descriptively acknowledges the CTM logic, yet rejects systemic credit money creation from a normative point of view and calls for a purely governmental monetary system (see e.g. *Vollgeld*, 1998). Hayek's 1976 *Denationalisation of Money*, also an example for a CTM, argues in the opposite direction and advocates for the end of the alleged government monopoly on money issue and calls for currency competition.

The latest event that exercised substantial influence on monetary thought was the 2007-9 Financial Crisis. Several novel contributions in the **post-Financial Crisis** scholarship constitute reactions to the crisis from a monetary theory point of view and can be attributed to the realm of CTM. Of primary relevance for the purpose of this study, of course, is the scholarship that can be broadly connected to the Money View. The key authors in this regard are Mehrling (2011, 2012a, 2012b, 2012c, 2013a, 2013b, 2015a), Mehrling et al. (2013) and Pozsar (2011, 2014, 2015). A major aspect of the Money View perspective, which is of particular relevance for this study, is the insinuation that shadow banking constitutes a monetary phenomenon and goes along with the creation of 'shadow money'. Such considerations are to be found in Gabor and Vestergaard (2016), Gorton (2010, 2012), McMillan (2012, 2014), Moe (2012, 2014), Ricks (2011, 2012, 2016). Approaches emerging from Post Keynesianism are the so-called 'Modern Money Theory' or 'Neochartalism' (cf. Fulwiler 2010, Wray 2015), Thomas I. Palley's Asset Based Reserve Requirements doctrine (cf. Palley's 2013, 2014) as well as Borio (2011, 2012) and Werner (2012, 2015). David Graeber contributed to the debate as an anthropologist, with his widely renowned 2011-book *Debt. The First 5000 Years*.

2.2.2 A market-, not a state-based theory of money

The second antagonism within the history of monetary thought, which is formative to characterize the Money View as the conceptual lens for the study of private credit money accommodation, is that between state- and market-based theories of money. The fundamental opposition refers to the question of whether it is ultimately public institutions or private agency that define what money is. Both approaches can be consistently thought trough within the MTC and the CTM logic. In its 'classical' form, the antagonism appeared in the Gold Standard era between two MTCs—Menger's Metallism and Knapp's Chartalism (cf. Semionova 2014: 108). Within contemporary credit theories of money of the post-2008 era, it can be found between the Neo-Chartalist Modern Money Theory and the Money View (cf. Table 2.2).[24] These four approaches will be compared as quintessential for the antagonism.

[24] A related version of this table has been provided in Bruun (1995: 25).

	State-based monetary theories	Market-based monetary theories
Monetary theories of credit	Chartalism (Knapp 1905)	Metallism (Menger 1892)
Credit theories of money	Neochartalism (Fulwiler 2010, Wray 2015)	Money View (Mehrling 2000, 2011, 2015a; Pozsar 2014)

Table 2.2—Antagonism of state- and market-based theories of money

The **Metallism** of Menger (1892) is one of the main expositions of the approach that sees money, in its purest form, as a commodity that had been singled out as a medium of exchange through market processes and due to practical and historical reasons is made up of precious metals. As to Menger (1892: 239), the origin of money involves "certain commodities (these being in advanced civilizations coined pieces of gold and silver, together subsequently with documents representing those coins) becoming universally acceptable media of exchange". The alleged reason for the rise of such commodity money is to overcome the inherent problem of a barter economy. As barter exchange relies on a 'double coincidence of wants', exchange between parties could only take place under the condition that each of two individuals was willing to exchange what they possessed for that which was offered by someone else. Money then is said to haven arisen spontaneously in the private sector as a means to eliminate the deficiencies of barter (Bell 1998: 2-3). To determine what functions as money, an involvement of the state is not necessary: The primacy of the market is exemplified when Menger frames as the main puzzle of monetary theory "why it is that the economic man is ready to accept a certain kind of commodity, *even if he does not need it, or if his need of it is already supplied*, in exchange for all the goods he has brought to market" (Menger 1892: 239).[25]

The **Chartalism** of Knapp (1905) concurs with Menger that money is ultimately a commodity ("The favourite form of money is specie", Knapp 1905 [1924]: 1); it thus remains within the MTC logic. However, Knapp sees it as the legal privilege of the state to decide whether a commodity may function as money or not: "The soul of currency is not in the material of the pieces, but in the legal ordinances which regulate their use" (Knapp 1905 [1924]: 2). In criticizing the Metallist approach, he holds the attempt to deduce it without the idea of a State to be not only out of date, but even absurd, however widely these views may still obtain" (Knapp 1905 [1924]: viii). Knapp argues against the metallist position that, as the intrinsic value of the commodity's material content does not correspond to its face value (ibid: 30), "[o]ur means of payment, then, wheter coins or warrants, […] are pay-tokens, or tickets used as means of payment. […] Perhaps the Latin word 'Charta' can bear the sense of ticket or token, and we can form a new but intelligible adjective—'Chartal.' Our means of payment have this token, or Chartal, form. Among civilised peoples in our day, payments can only be

[25] Giannini (2004: 18) argues that Menger does not fully exclude the state in his approach but merely grants a subordinate role following the logic 'The market produces and the state perfects'.

made with pay-tickets or Chartal pieces" (ibid: 32). Knapp's guiding theoretical principle therefore is: "Money is a creature of law" (ibid: 1).[26]

Both approaches, Metallism and Chartalism, emphasize money's role as a 'means of payment', which is the common approach of the MTC logic.[27] CTMs, in contrast, prioritze the 'unit of account' function: Since money is primarily debt, which originates in the lending activity of economic units, it requires a common unit of account to denominate this debt. This view has been well made explicit by Mitchell-Inness (1913, 1914). The Modern Money Theory as well as the Money View, as two contemporary CTMs, follow this rationale and concur in claiming a priority of the unit of account function. They differ, however, with regard to the role they attribute to the state in choosing this unit of account, determining what credit money is as well as its general status and role in the monetary system.[28] Moreover, while the Money View is meant to be specific to a capitalist setting, Modern Money Theory claims to be relevant also for pre-capitalist times.

The **Modern Money Theory (MMT),** according to its proponents, has been developed since the 1990s as an approach to monetary theory on the basis of Knapp's state money approach, the credit money view of Mitchell-Innes, Abba Lerner's functional finance approach, Minsky's views of banking as well as Wynne Godley's functional finance approach (Fullwiler et al. 2012: 17). Most recently, it has been represented in contributions such as Fullwiler et al. (2012), Tymoigne and Wray (2013) as well as in Wray (2015)—an introductory *Primer* on MMT to which this depiction will refer.

Wray (2015) describes MMT as a "theory of sovereign currency" (ibid: 41). As a Neo-Chartalist approach, MMT suggests that it is the state that choses the unit of account and defines which IOUs, denominated in this unit of account, may function as money. Hence, for "4000 years", the monetary system has been a "state money system", in which "the state chooses the money of account, imposes obligations (taxes, tribute, tithes, fines, and fees), denominated in that money unit, and issues a currency accepted in payment of those obligations" (ibid: 1-2). This is the unique power of the sovereign government, which also holds it in its discretion to decide how monetary contracts can be legally enforced in courts (ibid: 43-44). The structural root for this power of the state is that the populace by definition owes tax debt to the state ("taxes drive money", ibid: 50), and that the state is in the unique position to create and provide the only acceptable IOUs

[26] Many contemporary authors, in particular those from a Neo-Chartalist tradition, read Knapp's work as if he represented a CTM approach that establishes a logical superiority of 'credit' over 'money'(cf. e.g. Bell 1998). To the conviction of the author of this study, such an interpretation is hard to justify on the basis of Knapp's original work. Still, Knapp's writing remains hermetic to a large extent, not the least because of a very complex system of neologisms he introduces as well as a not straightforward way of presenting his arguments.

[27] Giannini (2004: 5) suggests that the discrepancy between Menger and Knapp can be traced back to an antagonism within the work of Aristotle who in his *Politics* adopts a metallist and in his *Nicomachean Ethics* a Chartalist approach.

[28] Michell (2016) provides an excellent juxtaposition of MMT and Money View approaches with regard to the debate on 'shadow money'.

to discharge this debt.[29] Hence, "[o]ur currency is government's liability, an IOU that is redeemable for tax obligations and other payments to the state" (ibid: 7). It is thus the state's "fiat"—this is to say the Chartalist power of the state—that makes an IOU money:

> "[W]hy would anyone accept government's 'fiat' currency? Because the government's currency is the main (and usually the only) thing accepted by government in payment of taxes and other monetary debts due to government. To avoid the penalties imposed for nonpayment of taxes (including prison), the taxpayer needs to obtain the government's currency" (ibid: 49).

Prima facie, following the MMT logic, any kind of non-state institution that might be interested in issuing credit money upon its own discretion would act beyond legality and commit the crime of counterfeiting (ibid: 44). Private institutions may only issue money-like IOUs if they have been explicitly entitled by the state to do so. This is the case for banks who have been put in place by the state as intermediaries and who are supervised by the central bank as a public institution: "Today with banks intermediating, it is the bank that delivers the currency. In the old days, taxpayers did it directly without an intermediary—they actually brought coins, tally sticks, or paper currency to the exchequer of the treasury to pay taxes, fees, and fines due to the government" (Wray 2015: 49). Thus, within the logic of MMT as a state-based credit theory of money, the adequate way of thinking about private money creation—primarily by banks—is to think of them as leveraging state money, i.e. creating private credit money as promises to pay 'actual' government money (Wray 2015: 79).

The **Money View,** in contrast to MMT, postulates a primacy of market mechanisms with regard to the origination of credit money. It assumes that financial market participants are in the position to develop new credit instruments that function as substitutes for established money forms. Those near-monies find application in various subsections of the financial system. In this, it follows up on Hicks (1989) and his *Market Theory of Money*, and is in line with the famous verdict of Minsky (1986: 228) according to which "everyone can create money; the problem is to get it accepted".[30] The difference between the market-centered Money View and the state-centered MMT is well addressed in

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[29] Wray (2015: 50) makes a very telling remark about Bank of England notes: "The 'promise to pay' that is engraved on UK Pound notes is superfluous and really quite misleading. The notes should actually read 'I promise to accept this note in payment of taxes'. We know that the UK Treasury will not really pay anything (other than another note) when the five Pound paper currency is presented. However, it will and must accept the note in payment of taxes. If it refuses to accept its own IOU in payment, it is defaulting on that IOU". The analysis of bank note accommodation in Chapter 4 will shed light on this issue and present a counterargument to Wray's notion. Accordingly, the function to discharge tax debt was only introduced with the act of accommodating Bank of England notes more than a century after the first Bank of England note had been issued. Hence, the understanding that discharging tax debt is the origin of what makes an IOU money is historically inaccurate.

[30] Curiously enough, also MMT sees Minsky (1986) as one of the key reference points for their approach. The antagonism between MMT and the Money View thus has some aspects of an intellectual quarrel among heirs.

Mehrling (2000)—an article termed *Modern Money. Fiat or Credit?,* which here is seen as laying the foundations for what was later to become the Money View.

Accordingly, from a Money View perspective, "state money is not a fiat outside money but, rather, an inside credit money because it is the liability of the central bank. Further, there is a kind of power involved in taxing authority, but it is a power we understand better when we treat it as an asset on the government's balance sheet" (Mehrling 2000: 401). Thus, the MMT approach "misconstrues the nature of the modern state that issues modern currency" (ibid). From a Money View perspective, not the state, but "private finance is a better logical place to start when trying to understand modern money" (ibid: 402). Hence, the state is not the logical origin of what money is and the anchor of the monetary system, but merely the largest among a number of other, private, payment communities. Thus, "the significant point about the modern state is not its coercive power but the fact that it is the one entity with which every one of us does ongoing business. We all buy from it a variety of services, and the price we pay for those services is our taxes […]. It is the universality of our dealings with the government that gives government credit its currency" (ibid: 402-403). Yet, the state does not logically precede the private economy but, adopting effectively a Lockean position, the state is seen as logically subordinate: "[O]ur government is our creation. It is only able to tax us to the extent that we allow it to do so. Its taxing authority arises not from its raw power but from its legitimate authority" (ibid: 402). The fact that the state sets the unit of account is not an inherent necessity but a matter of historical practicality as it is the largest of all payment communities. Hence, "the state is ideally placed to be the issuer of the ultimate domestic money" (ibid: 403).

In this logic, since the state is just any payment community among others, the creation of credit money by other actors—i.e. private credit money creation—is an entirely logical concept from a Money View perspective:

> "Monetary systems are always hierarchical, with the best quality debts circulating as money to clear lesser-quality debts. The important point is that 'quality' in this context is *not* primarily about default risk, but rather about the pattern of payments. Liabilities that are default-free may make good investments for the risk-averse, but they do not make very good money unless a large number of people need to make regular payments to the issuer of the liabilities. The problem that there may be no such individual in the economy is the principle obstacle standing in the way of a purely private monetary system. It is this obstacle that banking overcomes. […A] bank holding a portfolio of self-liquidating bills is an entity whose own liabilities are suitable to serve as money. Thus, money can and does easily arise out of private financial arrangements in private pay communities. Furthermore, the fact that a certain private pay community accepts a certain private money will tend to make that money acceptable also to members of other overlapping pay communities whose own money is something else" (ibid: 403-404, emphasis in original).

Hence, in contrast to the MMT approach, according to which banks merely by state authority are granted the privilege to issue debts as substitutes for the

'true' public money, the issuance of bank money is seen as a genuine, privately driven enterprise which logically precedes the state's action:

> "[I]nstead of seeing banks as purely intermediary, linking the longs and shorts, it is probably more helpful to see banks as themselves taking the short positions that correspond to the long positions of their depositors, and hence themselves facing the prospect of a short squeeze. […] Second, it is probably more helpful to see bank loans as the bank's long positions corresponding to the private borrowers' shorts. In this conceptualization, the role of bank lending enters naturally into the theory of money" (ibid: 405).

Table 2.3 summarizes those findings and contrasts the views of MMT and the Money View. Accordingly, MMT alleges that the provision of money has always been the privilege of the state and in this follows what in Chapter 1 has been termed the "Chartalist bias" in the IPE literature on the transformation of the monetary system. The Money View, in contrast, sees money first and foremost as a private construct and assumes that private agency and society precede the state and its structures. For this study of private credit money accommodation, the key difference between both approaches refers to the idea of private credit money creation beyond the control of the state. Conceptually, this is only a meaningful notion within an market-based monetary theory such as the Money View. While this study acknowledges the relevance of the MMT perspective, especially with regard to pre-capitalist times, it suggests that the Money View is more suitable to grasp the functioning of the capitalist monetary system.

Modern Money Theory	**Money View**
The state has logical priority in determining what money is	The private financial system has logical priority in determining what money is
The state necessarily sets the unit of account because it is the logical starting point to understand how monetary systems operate	The state happens to set the unit of account because it is the biggest payment community
The state's taxing power is what makes an IOU money when it is declared by government fiat to discharge tax debt	The state's taxing power is just an asset on the state's balance sheet, i.e. a promise for a future payment flow
State-issued money is outside money that relies on government fiat	State-issued money is inside money that relies on government credit
Bank-issued money is a derivative form of debt that leverages the quantity of 'original' money, which has been provided by the state	Bank-issued money is genuine money and not necessarily subordinate to or a derivative of state-issued money
Autonomous private credit money creation beyond the purview of the state is not a meaningful concept	Autonomous private credit money creation beyond the purview of the state is a meaningful concept
Private enterprise cannot develop new forms of private credit money	Private enterprise is capable of developing new forms of private credit money

Table 2.3—MMT vs Money View on private money creation and the role of the state

2.3 The Money View as a Conceptual Lens for IPE

The Money View, as a market-based credit theory of money, has the potential to overcome the Essentialist and the Chartalist biases in the IPE literature on the transformation of the monetary system, which is connected to an ultimately pre-modern understanding of how the monetary system works (cf. Chapter 1). As Table 2.4 indicates, the Essentialist bias coincides with an explicit or implicit application of the MTC logic. The Chartalist bias, in turn, goes along with the explicit or implicit endorsement of a state-based monetary theory that interprets the state as the paramount issuer of money and sees private money creation at best as a subordinate aspect of the monetary system. Adopting the Money View as a conceptual lens on the monetary system allows to explicitly adopt an alternative conceptual perspective beyond both biases and to address the blind spot that IPE has with regard to the transformation of the monetary system.

Chartalist bias

	State-based monetary theories	**Market-based monetary theories**
Monetary theories of credit	Chartalism (Knapp 1905)	Metallism (Menger 1892)
Credit theories of money	Neochartalism (Fulwiler 2010, Wray 2015)	Money View (Mehrling 2000, 2011; Pozsar 2014)

Essentialist bias

Table 2.4—The Chartalist and the Essentialist bias in monetary theories

The Money View offers a body of literature that brings along great potential for studies in the political economy of money and finance from an IPE point of view: On the one hand, publications within the Money View framework present cutting-edge insights into the contemporary monetary and financial system—in particular how non-bank financial institutions in the so-called shadow banking system ('shadow banks') create short-term IOUs that may be considered 'shadow money'. The Money View has thus been specifically taylored to analyze the institutional realities in the age of financial globalization, i.e. the financial plumbing of the shadow banking. As a market-based credit theory of money, it understands the shadow banking system as an arena for autonomous private money creation (cf. Pozsar 2014; Gabor and Vestergaard 2016). On the other hand, the Money View literature is well rooted in economic history. The analysis of shadow banking implies that the traditional commercial banking system—i.e. those institutional structures that had been established after the 1929 crisis—is not seen as a general norm for how the monetary and financial system works, but as historically contingent. It has been man-made, and it can change. To underpin that point, scholarship on the Money View engages with economic history and studies the 'financial plumbing' of other eras. For example, in *Bagehot was a Shadow Banker*, Mehrling et al. (2013) scrutinize the British monetary and banking system of the late 19th century.

In order to develop the Money View as a conceptual lens for IPE, the way ahead is to narrow down the core ideas in the literature broadly associated with the Money View on a number of key concepts that incorporate the insights of a market-based credit theory of money and that can be applied as the conceptual background to analyze political-economic phenomena. Following the depiction of Mehrling (2015a), this section will synthesize the core principles of the Money View on the basis of four key aspects, which represent the essence both of the CTM aspect and the market-based approach: money creation as a swap of IOUs; hierarchy of different money forms; hybridity of Public and Private Money, as well as inherent instability of credit money.

2.3.1 Money creation as a swap of IOUs

As a CTM, the Money View considers money in its essence as nothing but circulating debt. In this, it applies the ideas of the tradition that started with the 19th century Anti-Bullionists and the Banking School (Thornton 1802, Tooke 1844 and later Bagehot 1873), was reflected in early 20th century British works (Mitchell-Innes 1913, 1914, Hawtrey 1919, Keynes 1930) and further developed in the U.S.-dominated endogenous money theories of the Post Keynesian tradtion (Kaldor 1982, Minsky 1986, Moore 1988).

The underlying notion of the monetary system in this is that of a 'payment system' (Mehrling 2011) or an 'accounting system of exchange' (Arnon 2011: 152ff): Payment occurs via tradable debt claims ('inside money') that are transferred between the accounts of the participating institutions. Such inside money is a specific instrument that promises convertibility into other 'financial' assets or 'real' commodities or services. A transaction within the payment system necessarily follows the accounting rules of double-entry bookkeeping, given that always two participants in the payment system are affected. Hence, the formally accurate way that allows representing the dynamics in the payments system is an analysis of balance sheet mechanics. The creation and destruction of money is ultimately a balance sheet operation, regardless of the physical shape of the money form.[31] Credit money creation as a swap of IOUs is thus the 'byproduct' of granting credit (McMillan 2014: 6).

In such a credit money system, money creation takes place when financial institutions, in exchange for a loan or a bond as long-term IOU owed to them, create a short-term IOU that can be traded on secondary markets against commodities, services or other financial instruments. In terms of balance sheet

[31] As Boyanovsky and Erreygers (1999) argue, the idea of portraying the monetary system as a payments system can be traced back to the writings of Ernest Solvay in the late 19th century (cf. Solvay 1900). Lakomski-Laguerre (2016: 490, 495) points out that Schumpeter's *Das Wesen des Geldes*, is built upon a consistent theory of a social accounting system following Ernest Solvay (cf. Schumpeter 1970). This is consistent to a Money View approach and institutionalist scholarship: "In order to go beyond the current debate opposing the metallists (commodity money) and the chartalists (state money), Schumpeter assumed, as a basic assumption, that money is an institution. The concept of a social accounting system gives rise to a general theory where money principally acts as a unit of account and a clearing process for debts and claims" (Lakomski-Laguerre 2016: 491).

mechanics, this involves that the credit money issuer expands its balance sheet on both sides and swaps IOUs of different maturities (see Figure 2.1). The short-term IOU, in so far as it is tradable on a secondary market, functions as money that can be used by the issuer of the loan or bond. Assuming that regulatory restrictions are absent, money creation can thus literally occur out of nothing.

Borrower		Credit money issuer	
+ Money (short-term IOU)	+ Loan or Bond (long-term IOU)	+ Loan or Bond (long-term IOU)	+ Money (short-term IOU)

Figure 2.1—Credit money creation as a swap of IOUs

If credit money created today is a promise to pay credit money tomorrow, we seem to be approaching logical difficulties. What is the payment of ultimate money supposed to be? A traditional argument would be that it is a money form with 'actual value'. This is why until the 20th century, the vast majority of monetary theorists, which ultimately adhered to the MTC logic, believed that it was not possible to decouple monetary systems from a scarce commodity such as gold (cf. Arnon 2011). A counter-argument comes from Mitchell-Innes who postulates that we only need the highest money as an 'idea'—as a 'unit of account'. "The eye", he argues, "has never seen, nor the hand touched a dollar. All that we can touch or see is a promise to pay or satisfy a debt due for an amount called a dollar" (Mitchell-Innes 1914: 155).

The notion of credit money creation via a swap of IOUs is, in the words of Mehrling (2015a), the "alchemy of banking"—a process fundamentally at odds with our natural intuitions about what it means to 'lend' something, but crucial for the understanding of the 'financial plumbing' of capitalist monetary systems. The position is a radical expression of the idea of endogenous money creation. Traditionally, endogenous money theory is specific to deposit-banking and the interactions between a central bank and commercial banks (cf. e.g. Moore 1988). The 'swap of IOUs' argument goes further than that. By systematically tracing back money creation to a more basic root, any institution is structurally able to create money-like IOUs, while only facing the challenge to get them accepted (Minsky 1986: 228). The swap of IOUs scheme can be applied to different specific institutions. The actual credit money then takes on the shape of various short-term IOUs, named differently and acceptable in different contexts. Today, 'traditional' forms of money co-exist with 'shadow money'.

On the one hand, in the traditional banking system, commercial banks — and similarly the central bank—create bank money by swapping IOUs. Private bank notes were the dominant form of bank money until the mid-19th century (see Chapter 4). Since then, bank deposits have replaced notes as the main form of bank money (see Chapter 5). Deposit creation is usually taken as the most straightforward example to refer to credit money creation. Banks issue loans by creating deposits. The loan constitutes an asset of the bank, as it is the long-term IOU owed *to* the bank; the deposit, as the short-term IOU owed *by* the bank, is the bank's liability. In this specific form, money creation as a swap of IOUs has been exemplified by Ralph Hawtrey in his 1919 *Currency and Credit:*

> "When a banker lends, we say that he grants or creates credit or 'a credit'. This is a loose way of describing a double transaction. The banker assumes an immediate obligation to his customer, in exchange for the customer's obligation to him at a future date. The banker's obligation or 'bank credit' meets the customer's need, because it can be assigned away as a means of payment. The customer's obligation, since it yields interest or discount for the period before it becomes due, supplies the banker's profit. Thus *two* credits or debts are really created, though only one of them is destined to be used as a means of payment" (Hawtrey 1919: 9).

On the other hand, in the contemporary shadow banking system, various non-bank financial institutions—conceptually understood as shadow banks—create short-term IOUs that function as 'shadow money' (see Chapter 6). As to Ricks (2012), three main forms of shadow money have been developed in the shadow banking system since the 1970s: asset-backed commercial papers (ABCPs), overnight repurchase agreements (overnight repos) and Money Market Fund shares (MMF shares). The issuance of those shadow money forms inherently relies on a swap of IOUs of different maturities:

- ABCPs are issued by Special Purpose Vehicles (SPVs), which are typically established by large commercial banks as off-balance-sheet constructs to circumvent capital requirements. SPVs swap ABCPs as short-term IOUs against asset-backed securities (ABSs) as long-term IOUs.
- Overnight repos are issued by Securities Dealers who issue them as private debt instruments which are constructed around the sale and repurchase of securities. Dealers swap overnight repos against term-repos with longer maturities.
- Finally, MMF shares are issued by Money Market Funds which pool the funds of institutional investors and households on the retail money market and invest them in the shadow banking system. Accordingly, MMFs swap their shares against other shadow bank liabilities, in particular ABCPs and overnight repos (Murau 2017).

Figure 2.2—taken from Murau (2017: 8)—synthesizes the notion that traditional and shadow money are both created by commercial and shadow banks as a swap of IOUs.

	Assets	Liabilities
Commercial Banks	Loans and bonds (long-term IOUs)	Notes and Deposits (very short-term IOUs)
SPVs	ABSs (long-term IOUs)	ABCPs (short-term IOUs)
Securities Dealers	Term repos (long-term IOUs)	Overnight repos (short-term IOUs)
MMFs	ABCPs and overnight repos (short-term IOUs)	MMF shares (very short-term IOUs)

Figure 2.2—Traditional and shadow money, created as a swap of IOUs

2.3.2 Hierarchy of different money forms

From a Money View perspective, the monetary system as a payments systems is fundamentally hierarchical (Mehrling 2000, 2015a). This hierarchy refers to two different aspects: On the one hand, the domestic money supply is made up of different credit money forms which are located on different layers within a hierarchical relationship. On the other hand, the international monetary system is structured hierarchically, with one country situated at its apex and other countries forming the periphery to it.

In the first place, the idea of hierarchy refers to the different forms of credit money within a domestic payments system and the various institutions issuing them as their liabilities. Money forms higher up in the hierarchy are safer, more acceptable from a demand side and of more stable value, yet scarcer and more exclusive to supply; money forms further down the hierarchy are more 'elastic' to create and more accessible from the supply side, but are less acceptable from a demand side. Figure 2.3—based on Mehrling (2012a)—highlights this idea in the form of a 'Monetary Pyramid', a concept that has been brought up by Minsky (1986: 228) and also elaborated upon e.g. in Foley (1989), Bell (1998) and Wray (2015), following a MMT logic.

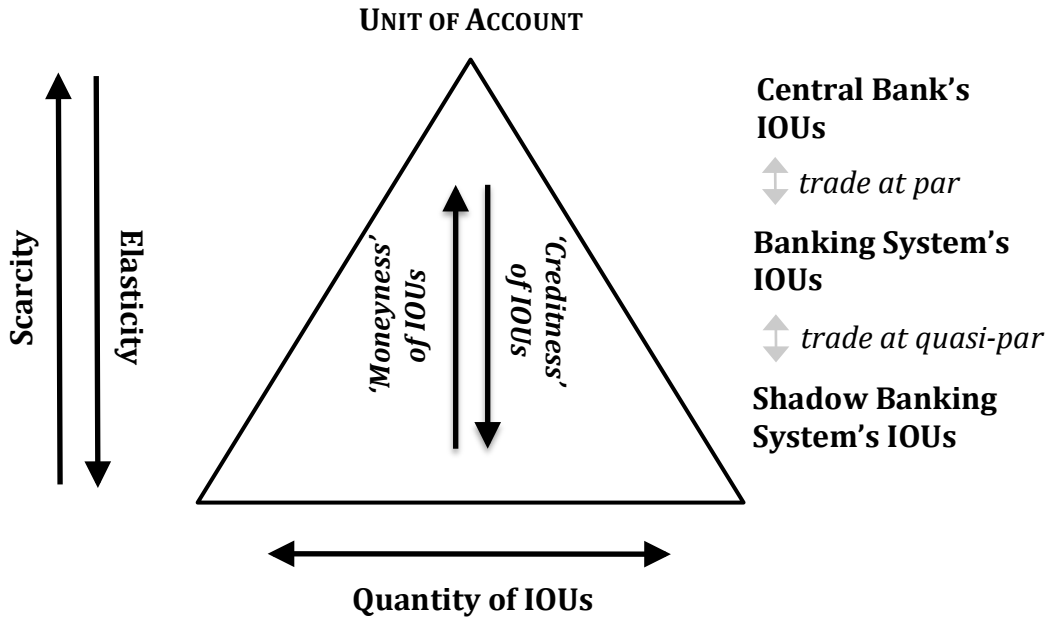

Figure 2.3—The hierarchy of money (conceptually)

On the top of the monetary pyramid—well in line with Mitchell-Innes's verdict—is an actual or a fictional unit of account, e.g. gold or dollar, respectively. Below this are a range of institutions issuing debt claims as inside money. In today's world, the IOUs issued by the central bank are higher ranking than those of the commercial banking system, which in turn are higher ranking than those of the shadow banking system. Within the hierarchy, the various IOUs imply a promise to pay the higher-ranking form of money. Money creation as a swap of IOUs involves transcending the different layers of the hierarchy. The money form situated at the top is the final means of settling payment (cf. Pozsar 2014: 7-8).

Within the monetary pyramid, corresponding to the CTM logic, there is no dichotomous division between the categories of 'money' and 'credit'. Depending on the issuing institution's position in the hierarchy of money, a credit money form will look like 'money' if held as asset on the institution's balance sheet or 'credit' if held as liability on the institution's balance sheet (cf. Mehrling 2012a). The money forms further up in the hierarchy have a higher 'moneyness', i.e. they appear as money to a greater number of actors, while the 'creditness' of money increases further down the hierarchy:

The crucial criterion for whether a given short-term IOU is part of the pyramid or not is if it is instantaneously or almost instantaneously convertible into hierarchically higher money forms—and thus, in consequence, to the final means of settling payments at the top of the hierarchy—at par value, i.e. at a one-to-one exchange rate. In turn, the money form at the top of the hierarchy is defined as trading in par to the 'fictional' unit of account. As to Pozsar (2014: 7), it is "the quintessential attribute of money—that money always trades at par on demand". In this, money forms further down the hierarchy—i.e. with a lower 'moneyness'—have a higher risk of breaking away from par. "Money claims are also hierarchical […] in the sense that not all money claims are equally strong in their par on demand promise in all states of the world"(Pozsar 2014: 7). The reason for this is that par clearance cannot be taken for granted but needs to be actively established, either by political measures and guarantees or via market forces and private guarantees (cf. Mehrling 2015a).

Second, in addition to the domestic perspective, the hierarchy of money has an international dimension. The 'plumbing' of the international financial system can be imagined as a hierarchically structured entity with various overlapping jurisdictions that issue credit money in their respective national units of account. "Viewed globally", Mehrling (2000: 405) argues, "the collection of nation-states is a collection of overlapping payment communities that face the same problem of tracking clearing balances that state money solves for the overlapping domestic private pay communities". [32]

Typically, one country is situated in the apex of the hierarchical international financial system. For the international monetary system, viewed as an international payments system, this country plays an outstanding role: It defines the international unit of account, international payments flows are channelled through accounts located in the center, and its central bank also plays the role of the world's central bank. The apex is connected to different regional financial centers that are situated on a level deeper down in the international hierarchy and are connected both to peripheral financial systems (cf. Mehrling 2015c). For this reason, shocks and institutional changes that eventuate in the apex of the international monetary system affect the system as a whole. As Pistor (2013) argues in conjunction with her 'Legal Theory of Finance', law is 'more elastic' in the centre of the global financial system than in peripheral jurisdictions.

[32] Strange (1971: 217) presents a 'taxonomy' of different types of international currencies—Top Currencies, Master Currencies, Passive or Neutral Currencies, as well as Political or Negoatiated Currencies—that also implies a form of hierarchy.

Empirically, throughout the 19th century until the the First World War, the center of the world's financial system used to be the United Kingdom. The Gold Standard was in fact a Sterling standard run by the Bank of England: Gold as the money form at the top of the international monetary pyramid was defined in sterling, and all other national currencies had to establish a fixed exchange rate vis-à-vis the sterling. International payments had effectively to be channelled through the London money market (cf. Mehrling 2016). After the Second World War, the United States took on the role of the apex of the international financial system. During the Bretton Woods era, the U.S.-Dollar still used to be defined in terms of gold and other currencies were connected with fixed but adjustable exchange rates to it. The commodity standard was abrogated with the inception of generalized floating in the 1973. Today, the Federal Reserve is the central bank of the world, situated at the top of the international payments system.[33]

Figure 2.4—adopted from Mehrling (2015c: 314)—presents an account of the contemporary international hierarchy of money. At the top level, it comprises the domestic creation of dollar-denominated credit money ('onshore dollars'). Lower levels imply 'offshore dollars', i.e. dollar-denominated credit money forms created outside the U.S., e.g. in the form of currency swap lines. With U.S.-Dollar balances at the top of the hierarchy, Mehrling (2015c) attributes particular relevance to a network of unlimited swap lines among the six major central banks (C6). At the layer below, other bilateral swaps are located as well as regional pooling institutions and IMF facilities (ibid: 314), followed by various other domestically created forms of credit money.

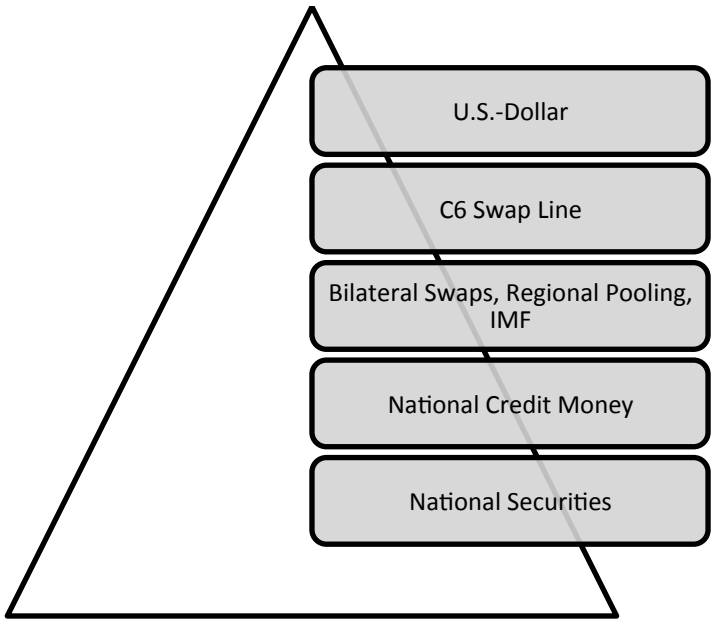

Figure 2.4—The contemporary international hierarchy of money

[33] Being the country at the apex of the international monetary system brings along a major power position. When Valérie Giscard d'Estaing described the U.S.'s position in the post-war international monetary system as being connected with an 'exorbitant privilege', this very well corresponds to its location in the international hierarchy.

To sum up, the notion of hierarchy within the monetary system conceived as a payment system made up of inside money forms is crucial for a Money View perspective, both domestically and internationally. The aspect of hierarchy is vital for analyses of the 'financial plumbing', but easy to overlook. This is especially true with regard to domestic monetary systems in which different money forms usually trade at par, which tends to conceal inherent differences between them. In the domestic hierarchy, it is key to understand that there are different overlapping money forms, which are not identical but trade at a one-to-one ratio: "central bank money is better money than private bank money, even though they trade at par" (Mehrling 2015a). The international hierarchy "is apparently hard to accept mainly because it offends our sense of justice as between states—the Westphalian notion of equal sovereignty" (ibid).

2.3.3 Hybridity of Public and Private Credit Money

The money forms that are created as a swap of IOUs and located within the Monetary Pyramid can be issued both by public and by private institutions. The money supply is thus a hybrid of public and private money forms. In normal times, public and private money forms trade at par with each other, which makes them appear similar and the differences between them seem negligible. The public-private hybridity is often hard to accept as it runs counter intuitions, which see the money supply either as fully public or private (Mehrling 2015a).

Figure 2.5—based on Pozsar (2014: 15)—shows the 'Money Matrix' as a heuristic tool to systematize the public-private hybridity of credit money forms:

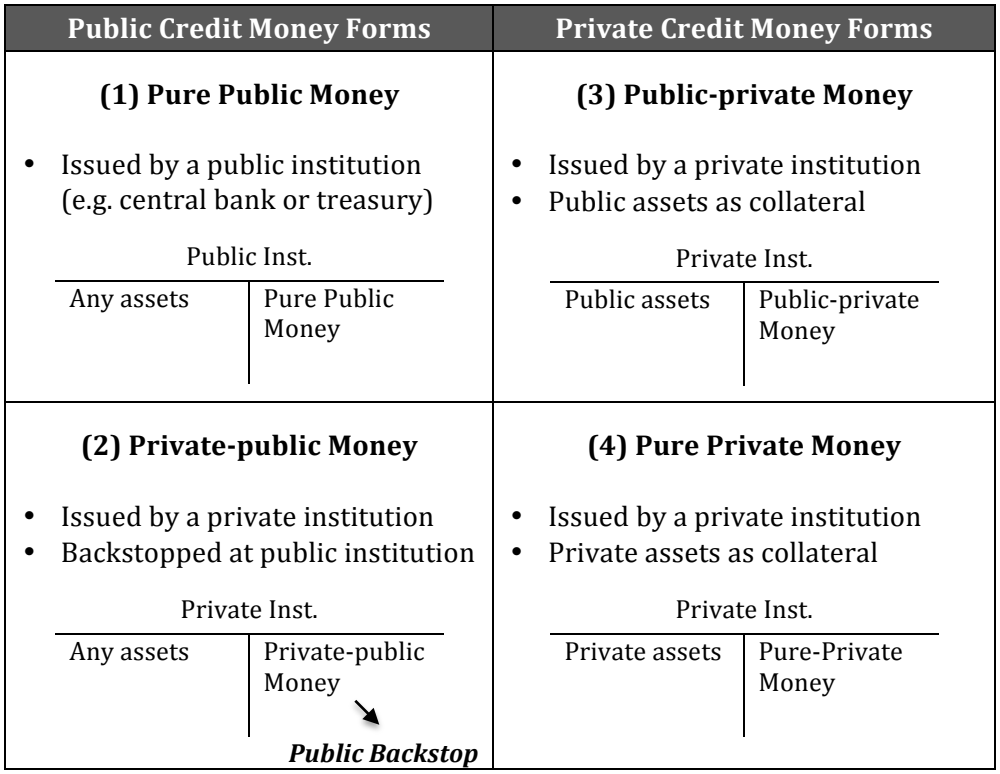

Figure 2.5—The Money Matrix (conceptually)

Following Pozsar (2014: 13-16), the Money Matrix is to be read as follows: The left column displays two different categories of 'public credit money'. The money-like liabilities of a public institution, typically a modern-type central bank or the Treasury, are *pure public money*.[34] The money-like liabilities of private institutions that have public backstops and can tap public institutions' balance sheets via the discount window or insurance schemes are *private-public money*. The right column displays two different categories of 'private credit money': The money-like liabilities of private institutions that do not have access to backstops on a public balance sheet are *public-private money* if issued against public assets, and *purely private money* if issued against private assets. For private credit money, par clearance is only sustained by market forces and private guarantors but not the state. Together, public and private credit money forms constitute the general money supply.[35] Within the Money Matrix, the criterion of instantaneous par clearance is crucial: Only those public or private IOUs are part of the Matrix which can be converted into higher-ranking money at a one-to-one rate. IOUs that do not fulfill this criterion do not fall under the Money View's definition of 'money'.

The Money Matrix is a useful tool to present a taxonomy of the hybridity of public and private credit money. Still, to make it properly applicable in an IPE context, a number of points that are left open in the depiction of Pozsar (2014) require discussion and clarification. Those refer to the issues of what it means for an institution to be public, the nature of the backstops, the general relationship between hybridity and hierarchy, as well as the role of commodity money.

First, Pozsar's Money Matrix brings about important implications for what is means that a given credit money form is 'public'—a definition that is of major relevance for the purpose of this study. By definition, the 'public money supply' is considered as the left column of the Money Matrix, i.e. *pure public money* and *private-public money*. Implicit in this is a very specific meaning of what it means that a given credit money form is 'under public control'. In contrast to a monetarist understanding, it does *not* mean that central banks have the policy tools to implement a targeted growth rate of a monetary aggregate. Instead, it suggests that public institutions find a way to assume responsibility to guarantee par clearance of a given credit money form vis-à-vis higher-ranking money forms or—in the case of the top credit money form—to the 'fictional' unit of account.

The way in which this guarantee for par clearance is upheld differs for the two types of public money: On the one hand, for *pure public money*, public

[34] Whether or not the Treasury IOUs should be viewed as money is debated. Pozsar (2014) suggests that short-term treasury notes fall under this definition; however, they do not normally trade at par on demand to central bank money. However, there are examples for Treasury IOUs that do indeed correspond to the notion of *pure public money*, e.g. the Greenback issued in the U.S. during the Civil War.

[35] In their empirical application, the credit money forms within the Money Matrix correspond to different monetary aggregates. The actual setup, however, is historically contingent and varies over time.

authorities are able to uphold par clearance directly because they issue it themselves. But under which condition can we say that the credit money issuing institution is 'public' by definition? While it seems to be easily acceptable that the treasury department as a branch of government is a public institution, the case is not so clear for a central bank. Mehrling (2015a) points out that the public-private hybridity also refers to the status of central banks: "[C]entral banks are part private bankers' bank and part public government bank, with the proportions shifting over time with financial development and with the exigencies of the state (such as war)." Goodhart (1988), in turn, speaks of a continuous evolutionary process that turned central banks historically from private into public institutions. Goodhart et al. (1994: 23) discuss this issue and describe the establishment of 100 per cent state ownership as nationalisation of central banks. Speaking with Kisch and Elkin (1932: 67), we may suggest that the central bank is a public institution because it is "an organ of public policy and not an instrument of private advantage". Conti-Brown (2016: 16, 31, 38), along those lines, introduces the notion of public governance and points to the relevance of the legal structure and staff, notably via a board that is independent of the financial industry. Based on such considerations, this study suggests that a central bank effectively *is* a public institution once it is committed to serve the public interest, which may involve public ownership, a legal mandate and a staff that is politically chosen.

On the other hand, as concerns *private-public money*, Pozsar defines that those money forms are issued by a private institution but backstopped on public balance sheet. In the first instance, it needs to be asked again under which condition an institution's balance sheet is a public balance sheet. A similar consideration as above applies: It must be the balance sheet of an institution that distinctively belongs to the government or to a central bank that satisfies the condition to be counted as 'public'. To flesh out the category of *private-public money*, this study suggests to view it as 'public' in the sense that a full-fledged public-private partnership for credit money creation has been established. This implies that public authorities grant private institutions permission to issue credit money, but at the same time adopt responsibilities to ensure that the credit money issuance functions smoothly and that par vis-à-vis higher-ranking money forms is maintained. In line with Bundesbank (2014), this public-private partnership for credit money issuance can be thought of as involving the following four aspects:

- Public liquidity backstops, i.e. a discount window which is run by a public institution that gives liquidity injections when the private issuing institution runs low on reserves;
- Public solvency backstops, i.e. a publicly organized scheme for holders of the credit money form which guarantees that their credit money balances will be redeemed in case of the private issuing institution's default.
- Regulation, i.e. a legal framework is established that provides legal guidelines for the activities conducted on the balance sheets of the private issuing institutions;
- Supervision, i.e. administrative bodies are established to permanently monitor if the private issuing institutions comply with the rules, and are empowered to impose sanctions for the case of non-compliance.

Second, with regard to the backstops for *private-public* money, Pozsar (2014: 14) argues that they have to be of "explicit and public nature". This definition may stand to reason as implicit backstops are hard, if not impossible, to measure as they are not formalized and depend on the expectations of the actors involved. However, it may be asked whether the public backstops really need to be made explicit in a public-private partnership for the creation of *private-public money*. As MacDonald (1996: 8) argues in the context of deposit insurance, implicit guarantee schemes are a solid complement to explicit ones. Though not comparable in legal terms, an implicit guarantee has the same economic and functional effects—i.e. consumer protection and the reduction of systemic risk. An *explicit* guarantee scheme would be "normally established by a law which specifies, *inter alia*, the circumstances in which compensation becomes payable (usually the involuntary closure of a bank), the maximum amount of compensation which can be paid to a single depositor, the types of deposit and/or depositors eligible for compensation, the arrangements for funding compensation payments and the administration of the scheme" (ibid: 10). An *implicit* guarantee scheme, in contrast, "involves the government in having to decide, on a case by case basis, both the form which protection is to take and the manner in which it is to be financed. Protection of this kind can involve the government in paying compensation directly to depositors" (ibid). Sustaining an implicit guarantee can actually be preferable from the regulators' perspective: "The principal advantages of implicit deposit protection are that it allows the government flexibility in the way in which it resolves individual cases of failure, and that it avoids the administrative costs involved in establishing and operating a formal scheme" (ibid: 11). Therefore, in contrast to Pozsar's view, this study assumes that also implicit public backstops may satisfy the criterion that a given credit money form is subject to a public-private partnership for money creation and thus *private-public money*.

Third, the relationship between the hierarchy of credit money and the hybridity of credit money needs to be clarified. It may seem natural to assume that public credit money is always hierarchically higher than private credit money. This would correspond to a Chartalist understanding of the monetary system, as e.g. represented by MMT (cf. Wray 2015): Those money forms that are explicitly state-sanctioned are necessarily at the top of the hierarchy. Pozsar (2014: 13-14) seems to suggest such an interpretation when he writes that "purely public, private-public, public-private, and purely private money [...have] a decreasing strength to their promise of par on demand and par at maturity, during all phases of an interest rate or credit cycle—this is the hierarchy of money". However, while this assumption may be true for the contemporary domestic U.S. monetary system which Pozsar (2014) refers to, there is a danger to overgeneralize the finding that the four categories represented in the Matrix automatically correspond to the hierarchy of money forms. In fact, a number of examples can be found for when this is not the case and private credit money is actually hierarchically higher: In pre-capitalist times e.g., private credit money was considered hierarchically higher than public credit money. As absolutist sovereigns were not bound to the rule of law, they were able to simply default on their debt, i.e. the credit money they had issued. Therefore, private credit money—as issued by respected private banks—were considered safer and more

preferable (cf. Boyer-Xambeu et al. 1986, Ingham 2004). Moreover, Mehrling and Tooze (2016) argue that in the contemporary global monetary system, it is actually private credit money—mainly in the form of dollar-denominated eurodollar deposits—that is situated at the top of the international hierarchy. As to Mehrling (2015c: 315), "[t]he central institution of the world liquidity system is the offshore Eurodollar market". For this reason, the hierarchy of credit money forms is historically contingent and not necessarily correlated to whether a given credit money form is issued by a public or a private institution.

Fourth, the original Money Matrix is specific to a modern inside money system in which all money forms are credit money, i.e. assets that are somebody else's liabilities. However, it does not allow to fully grasp the multiplicity of money forms in historical monetary systems that are based on the use of commodity money, which is outside money (i.e. merely an asset and nobody's liability). As has been argued in Chapter 1, this was the empirical setup of monetary systems until the collapse of Bretton Woods and effectively constituted an overlap of precapitalist commodity money and capitalist credit money (cf. Desan 2014). Thus, a taxonomy of a monetary and banking system before the breakdown of the commodity money system in the 1970s requires a conceptual expansion of Pozsar's original matrix. Figure 2.6 therefore proposes an expanded version of the Money Matrix that also integrates commodity money. The modification follows the view of Ingham (2004: 122-124) on the "hybridization" of capitalist money into "coinage" and "credit".

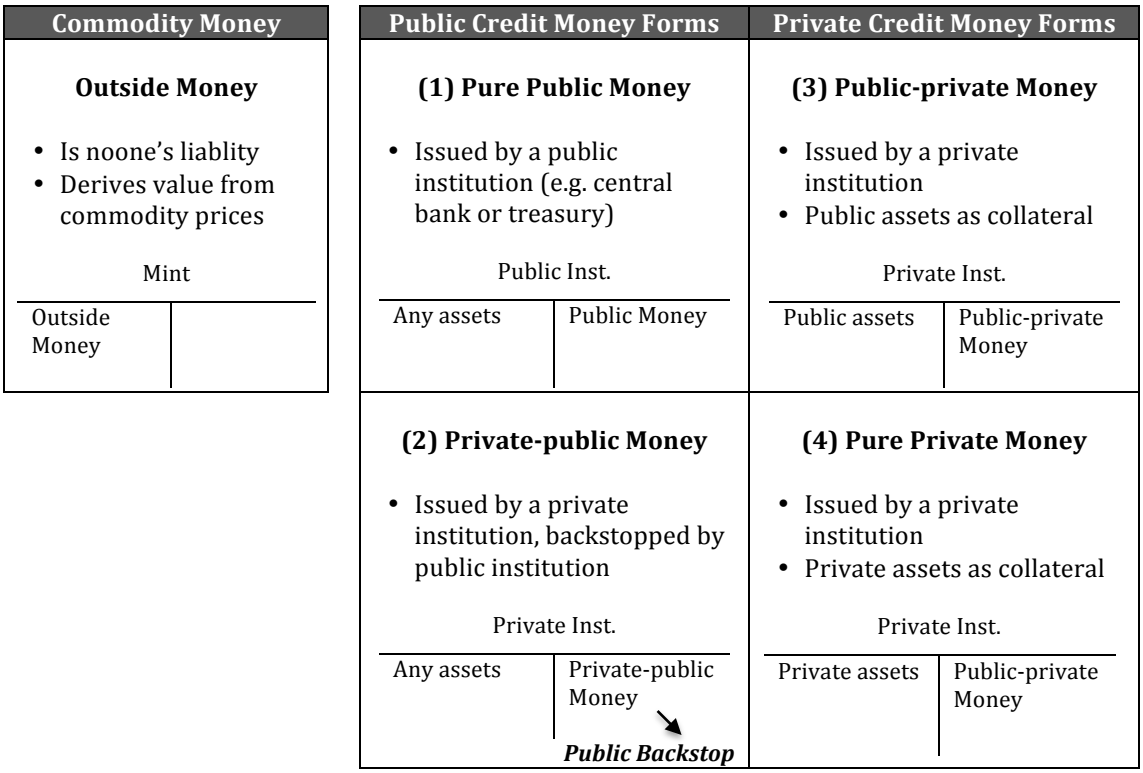

Figure 2.6—Expanded Money Matrix including commodity money (conceptually)

2.3.4 Inherent instability of credit money

The issuance of credit money as a swap of IOUs within the hierarchical and hybrid fabric of the monetary system is inherently prone to crises. Credit money creation implies issuance of an IOU in the present that derives its 'value' and acceptability from an expected payment in the future. In line with Commons (1924), this way of valorizing assets may be called 'futurity'. It stands in contrast to 'classical' monetary theories, which ultimately see the value of money as labour time embodied in the money-commodity (Ricardo 1810, 1817; Marx 1867) or 'neo-classical' monetary theories, which derive the value of money from the current market price of the money-commodity vis-à-vis other commodities (e.g Walras 1886). In a futurity-based credit money system, the functionality of money today requires the continuation of debt issuance tomorrow. This process is self-reinforcing until at a point of time that cannot be predicted *ex ante*, it reverses itself and produces a crisis. Within such crisis, investors lose the confidence in the credit money form they hold and flee to higher-ranking forms in the hierarchy of money. This produces severe strains on the balance sheets of the credit money issuers. The panic manifests itself as a run of the respective credit money form and, in absence of effective exogenous counter-measures, creates a self-fulfilling prophecy including the default of the credit money issuers and the annihilation of the credit money balances.

This idea of expansion and collapse in the financial system has been referred to by Hawtrey (1919) as the "inherent instabilty of credit" or by Minsky (1986 and 1992) as "Financial Instability Hypothesis". Figure 2.7—based on McCulley (2009)—describes this process:

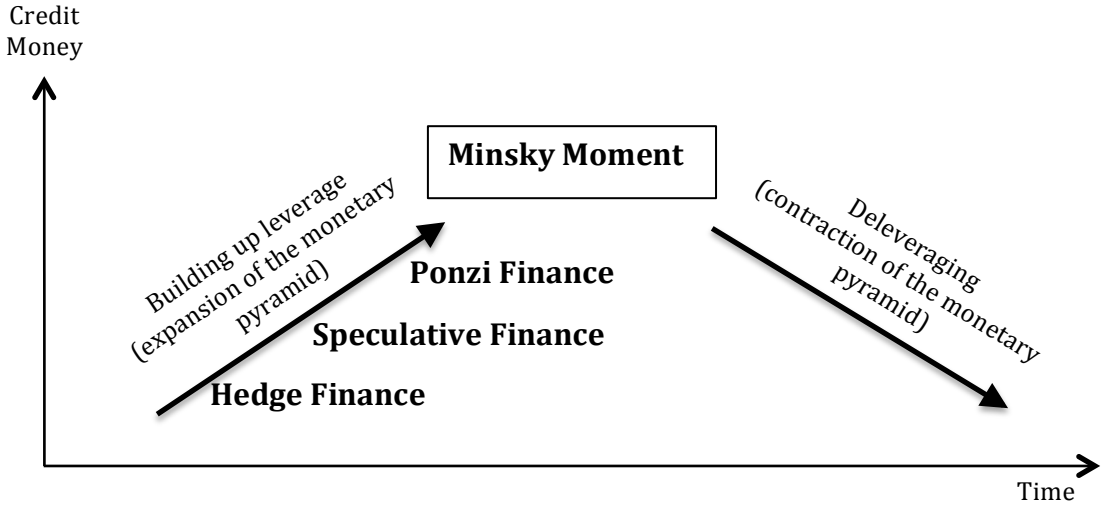

Figure 2.7—Minsky cycle and the inherent instability of credit money

The financial system first builds up leverage by creating more debt, and hence credit money; the monetary pyramid expands and becomes flatter. In the process of expanding the debt network, the credit money-issuing financial institutions, concerning their income-debt relations, pass the stages of a dominance of hedge finance to a dominance of speculative and Ponzi finance (Minsky 1992: 8): In a

system dominated by Hedge finance, outstanding promises to pay—i.e. credit money claims—are predominantly serviced by income cash flows resulting from production. When Speculative finance dominates, outstanding debts have to be met by rolling them over at maturity. At the stage of Ponzi finance domination, outstanding debts can only be met by creating new debt (1986: 200-208).[36] Such a Ponzi-dominated system is highly unstable and prone to runs on credit money issuing financial institutions. At the peak of systemic indebtedness, termed 'Minsky moment' by McCulley (2009), a crisis breaks out and the process begins reversing itself. The financial system then enters a deleveraging process with the monetary pyramid contracting and becoming steeper (Mehrling 2012a).

From the perspective of the Money View, the instability of credit money is not necessarily the result of any form of monetary mismanagement but instead a natural feature of such systems. On a daily basis, within a vast web of promises to pay, cash flows and cash commitments have to be met, which can always be prone to interruptions and panics (Mehrling 2011: 8, 12-17). With a future that is inevitably uncertain, it can hardly be avoided that some payment commitments made today cannot be met tomorrow. Moreover, as Mehrling (2015a) emphasizes, "all credit (non-bank as well as bank credit) seems to be subject to a kind of positive feedback loop since, as more and more people come to have a common view of the possible future, promises to pay in that possible future get bid up in value and that makes it easy, indeed inevitable, to overpromise". The crises thus emerging can be 'marginal' if they only affect relatively insulated parts of the financial system, but become 'systemic' when they threaten the stability of banks or shadow banks, which have issued the credit money forms held as assets by households, companies and public bodies, and create the danger that the entire net of credit money creation might implode.

Operating within a credit money system involves being aware of the fact that crises may emerge, but yet abstracting from the risk in actual behaviour:

> "This fact of inherent instability is something we have an especially hard time confronting, since it goes to the heart of our existential dilemma. We don't know the future but we are nevertheless required to behave as though we do. Indeed, the commitments we make to one another to perform in various ways in the future form the very fabric of the society in which we live. Marriage is like that, and so is credit. The fact of financial instability threatens that fabric, indeed constitutes a kind of unraveling of that fabric, as default on one set of promises undermines another set as well" (Mehrling 2015a).

Hence, viewing crises as an endogenous phenomenon of financial capitalism—essentially following Minsky's verdict that stability is destabilizing—is a major aspect that sets the Money View apart from mainstream economics and allows it to abstract from simplifying assumptions of equilibrium and to focus instead on the actual 'financial plumbing'.

[36] Section 3.2 will go or more into depth with regard to this process.

2.4 Conclusion

This chapter has set out to define the Money View as a conceptual lens on the capitalist monetary system that allows overcoming the Essentialist and the Chartalist biases in IPE scholarship on the transformation of the monetary system. As a credit theory of money, the Money View takes the credit character of modern money seriously. As market-based theory of money, it acknowledges the systematic relevance of private money creation beyond the control of the state.

This discussion yields insights about various ways of framing the relationship between the economic categories of 'money' and 'credit' (cf. Figure 2.8, which refers back to the scheme of Table 2.3). As this study contends, the discrepancies between the different monetary theories cannot ultimately be solved on an empirical basis. Instead, as they refer to the categories that we use to structure reality *for* us, these are conceptual decisions taken *a priori.* Accordingly, for MTCs, money is the superior concept to credit. Hence, it is possible to establish a dichotomous distinction between the two. Metallists assume that it is a commodity singled out by market processes, Chartalists suggests that it is a token declared to be money through legal constructs. For CTMs, in contrast, credit and money cannot be neatly divided. In the MMT logic, the 'true' money comes into being through government fiat and is decisively *not* a credit instrument. It is only 'outside money', to which credit money as 'inside money' claims correspond. Longer-term IOUs drop out of the categorization of money, but would be rather termed 'liquid assets'. It is a widespread position among adherents to MMT to be cautious about calling credit money 'money; instead, they would prefer to just refer to inside money claims as 'deposits', 'MMF shares', and the like (cf. e.g. Douglas 2015; Michell 2016; Wray 2015).

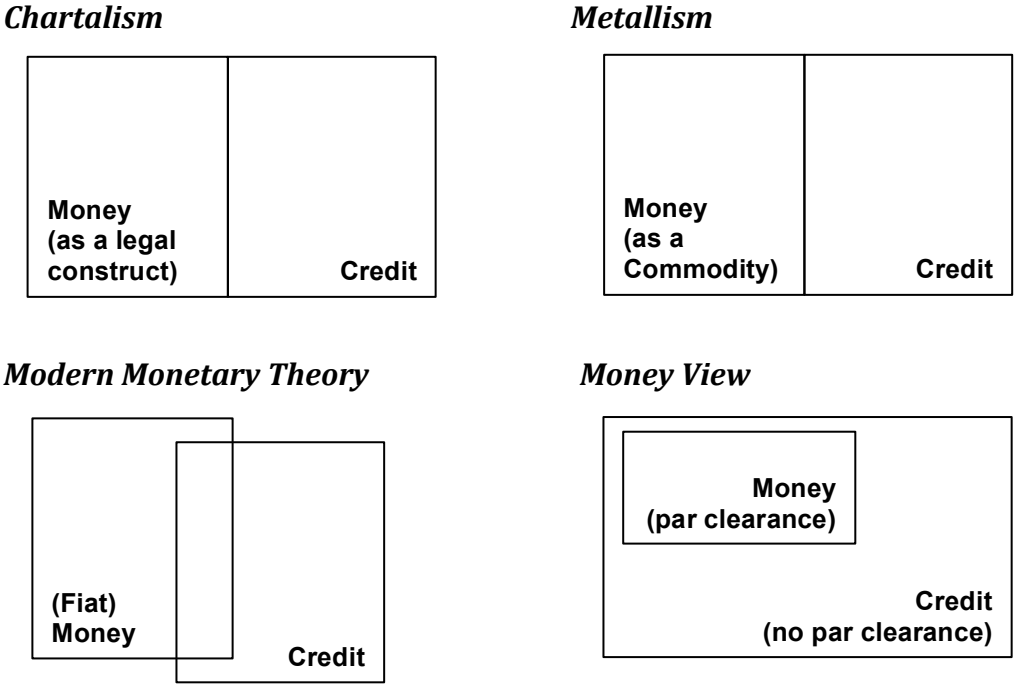

Figure 2.8—The conceptual relationship between money and credit

Finally, the Money View repudiates the notion of fiat money and assumes that also public money is a debt instrument as public inside money. In absence of premodern commodity money, all money is credit. What distinguishes a 'credit money' from other forms of 'credit' is the promise to trade at par on demand to higher ranking money forms, which ultimately correspond at par value to the fictional unit of account.

From this assessment follows that in the Money View logic, the monetary system—once it has stripped off the premodern relicts of commodity money (Desan 2014, Mehrling 2016a)—is represented entirely as a **self-referential network of expanding, yet instable, debt claims**: Public and private institutions are able to create money today by issuing ever more promises to pay in the future. Despite rules and regulations to restrict and control money creation, the system is by and large able to inflate the volumes of credit money issued without strictly binding limits. In line with Haldane (2009), this corresponds to a complex network structure. The credit money network, unless it is halted by a crisis, is set on a course of continuous expansion. If we buy into this perspective, the capitalist monetary system appears as an extensive, all-encompassing Ponzi scheme. With all money created as a swap of IOUs denominated in a fictional unit of account, the credit money claims issued at the top level of the hierarchy ultimately are promises to pay nothing else but themselves. Conceiving money creation as a swap of IOUs is the microscopic structure that, on a macroscopic level, induces the credit money system's self-referentiality. As the creation of credit money today entails the creation of more credit money in the future, the system continuously sustains and reproduces itself.

Conceptualising the monetary system as a self-referential network of ever-expanding debt claims—following a market-based credit theory of money—allows for a much better alignment with the way in which the contemporary money supply is set up empirically. It is defined via different monetary aggregates that contain different publicly and privately issued IOUs (cf. Section 1.3). As a conceptual lens, the Money View differs from the other approaches discussed in this chapter, i.e. Metallism, Chartalism and MMT, in that it acknowledges—if not: intellectually 'accepts'—that there is no such thing as underlying 'real' money which derives its 'moneyness' either from inherent commodity value or legal enforcement, as suggested by the Essentialist bias. Still, the view that the initial act of money creation relies on a swap of IOUs implies that, while credit money can be created *out of nothing*, it cannot be created *against nothing*. Any credit money instrument is an IOU on some institution's balance sheet, which has to correspond to some other, longer-term IOU held as an asset. Taken together, the credit money system may be thought of as a large, all-embracing Ponzi scheme.

Further, the Money View overcomes IPE's Chartalist bias in two respects: On the one hand, the state is not perceived as paramount for calling a given money form into being. It is very well possible that private entities come up with new forms of credit money. The state may play a role in it, notably by providing the legal and institutional background and later by eventually guaranteeing par

clearance, but it is not necessarily an indispensable component. The Money View's swap of IOU logic is *the* argument for why public credit money is decisively *not* fiat money, i.e. an instrument that derives its quality as money from government power and the initial volitional act of a public entity to declare a token or IOU to be money. Instead, it is an IOU like any other private credit money or inside money form. On the other hand, the Money View perspective is not restricted to the nation-state focus and the logic of the Westphalian monetary system, according to which money is a predominantly national construct that from the domestic sphere stretches to the international. Instead, the monetary system is viewed as a hierarchy of credit instruments as well as 'monetary jurisdictions', which do not necessarily have to correspond to nation-states and whose limits are not nation-state limits. Thus, the Money View transcends the 'naturalized' pre-conceptions of the nation-state and approaches the (contemporary) monetary system in a more unbiased way.

This study argues that if we want to set out to analyze and explain the transformation of the capitalist monetary system in a way that allows us to make sense of the empirical set up of today's money supply, it is necessary to embrace the properties of self-referentiality and continuous credit expansion and to adopt a market-based credit theory of money as conceptual lens. Given the system's inherent instability, it stands to reason that institutional change is driven by monetary crises. The system's transformation then implies that there are inherent changes in the way in which the different credit money claims in the system are structured and how par clearance is guaranteed within the hybridity of public and private money. Crisis-driven changes in the setup of public and private credit money are what this study calls private credit money accommodation. The next chapter will establish a political economic theory of this phenomenon.

Chapter 3
Theory: A Model of Private Credit Money Accommodation

> *"During economic booms the amount of money defined as means of payment has been continuously expanded […]. The process is Sisyphean, a* perpetuum mobile*; the history of money is a story of continuing innovations so that the existing supply of money can be used more efficiently and the development of close substitutes for traditional money that circumvent the formal requirements applied to money" (Kindleberger 1978 [2005]: 67).*

3.1 Introduction and plan of the chapter

This chapter develops a theory on the political economy of private credit money accommodation. Such theory establishes a description as well as an explanation of the transformation of the monetary system that is specific to a modern credit money system and goes beyond the existing approaches in IPE scholarship, which—as Chapter 1 has argued—are based on the Essentialist and the Chartalist biases and largely neglect the role of private credit money. Private credit money accommodation is a process that takes place repeatedly and provides an explanation of the setup of today's monetary system, which cannot be neatly defined as it is made up of an opaque amalgam of both public and private credit instruments.

The accommodation theory is based on the Money View as a conceptual lens on modern credit money systems (cf. Chapter 2). As a market-based credit theory of money, the Money View regards the monetary system as a self-referential network of expanding, yet instable debt claims. Within this debt network, new forms of privately created IOUs emerge de-centrally in phases of financial upswings and adopt the role of private credit money that can become systemically relevant. Once the financial expansion is about to revert itself and the credit money claims are about to default, an 'accommodation' of that private credit money form may occur when public authorities step in and, by establishing public backstops, assume responsibility for keeping up that money form's par clearance, i.e. its 'moneyness'. The formerly private credit money form then becomes public money under the control of the state.

In this, the accommodation theory builds upon the four key concepts of the Money View: It is a necessary assumption for the accommodation theory that, in the first place, private money creation is possible beyond the control of the state. This idea of 'endogenous' money creation is reflected in the Money View's notion of money creation as a swap of IOUs as well as in the concept of hybridity. The accommodation itself refers to a shift within this hybridity of public and private money. Private credit money forms are dragged from the private to the public credit money realm. The process structurally relies on the idea of an inherent instability of credit money. The accommodation eventuates

when, in a systemic crisis, public authorities step in to assume responsibility for sustaining par clearance of that credit money form. In this process, the hierarchy of money is both a crucial element with regard to the rise of new private credit money forms as they are established as innovative promises to pay higher ranking money, as well as in the moment of the financial crisis since the defaults of payment commitments start in the lower layers of the monetary pyramid and then spill over to higher ranking credit money forms.

In its general form, using the conceptual language of the Money View, the accommodation of private credit money may be represented with the help of Pozsar's original Money Matrix (cf. Figure 3.1). A private credit money form is accommodated in the public money supply when it shifts from the private credit money realm—either as *public-private money* or as *pure private money*—into the public credit money realm and becomes *private-public money* as public authorities establish backstops to guarantee its par clearance.

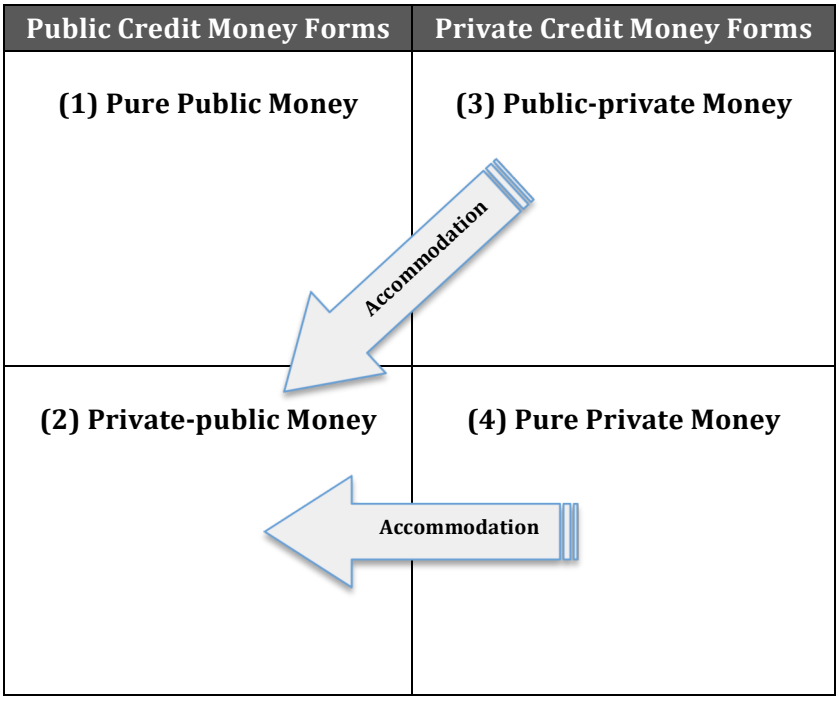

Figure 3.1—Accommodation as political-economic phenomenon

As a caveat, it should be pointed out that the term 'accommodation' is sometimes used in the literature with a different meaning. 'Monetary accommodation' or 'accommodative monetary policy' is employed as a synonym for expansionary monetary policy or monetary easing, typically meaning that the central bank lowers its discount rate (cf. e.g. BBC 2015; Kaufman 2009: 59, 110). Leeper (1991: 137) uses the term 'monetary accommodation' to depict how the central bank prevents deficit shocks from increasing the interest rate. This study diverges from such understandings and coins a meaning of the term in the context of scholarship on money that is more akin to the use of 'accommodation' by Hocket and Omarova (2016). It describes the decision of public authorities to assume responsibility for guaranteeing par clearance of a formerly private credit money form and integrating it in the publicly controlled money supply.

The theory of private credit money accommodation responds to the general problématique of this study, namely that the existing scholarship on money in IPE is not well capable of explaining the empirical setup of the contemporary monetary system. More specifically, this chapter provides answers to the two research questions of this study: How (RQ1) and why (RQ2) is private credit money accommodated in the public money supply? In this, it will fill the gap in our understanding regarding the transformation of the monetary system beyond the Essentialist and the Chartalist bias, as described in Chapter 1.

In terms of describing the transformation of the monetary system via accommodation theory, the chapter brings forth an ideal-typical, process-oriented model of private credit money accommodation in the context of a Minskian leverage cycle. As Figure 3.2—based on McCulley (2009)—indicates, the process is made up of two distinct phases: In Phase I ('pre-accommodation'), the private debt network expands as new leverage is built up. Existing credit money forms increase in volume and new forms of private credit money come into being due to financial innovation. Over time, the financial system shifts from a dominance of Hedge finance to a dominance of speculative and Ponzi finance. In Phase II ('accommodation'), the debt expansion stops and threatens to revert itself. McCulley (2009) has termed this situation a 'Minsky Moment'. Runs on the private credit money forms emerge. At this point, the political takes on the dominant role. Policy-makers may choose to intervene and establish public backstops for the private credit money form. If they do so, they create an *ad hoc* public-private partnership to guarantee that par exchange is sustained for the formerly private credit money form. The accommodation occurs.

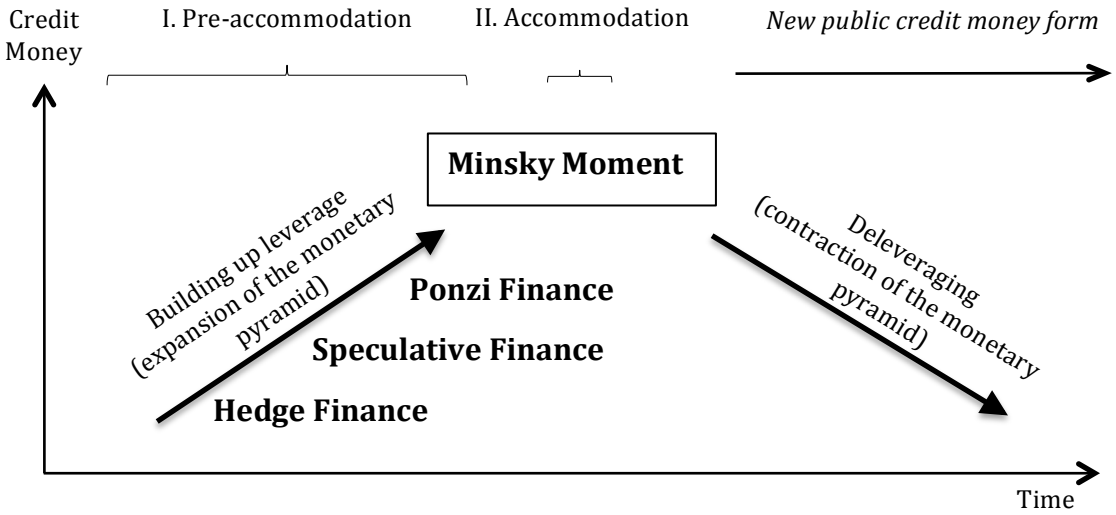

Figure 3.2—Private credit money accommodation and Minsky's credit cycle

The act of accommodating the credit money form alters the setup of the hybrid monetary system on the spot. It implements a type of institutional change that can be hardly imagined to be politically feasible in absence of a Minsky moment. However, if the new setup of the monetary hybridity is permanent depends on factors that only come into play after the accommodation (cf. Chapter 7). In that sense, the accommodation in phase II can be interpreted as a necessary but not a sufficient condition for a lasting transformation of the monetary system.

Generally speaking, this process of the rise and accommodation of a private credit money form can occur in any sovereign monetary jurisdiction. However, to the extent that it is likely to have a lasting impact and also affects the way in which the money supply is set up internationally, i.e. in multiple monetary jurisdictions, incidents of accommodation in peripheral countries will only have negligible international effects. Thus, on the basis of the Money View's notion of hierarchy in the international monetary system, this study suggests to treat the rise and accommodation of an initially private credit money form as a phenomenon that occurs in the apex of the international monetary system. Since the Money View conceives of the international monetary system as a web of overlapping payment communities with one dominant jurisdiction connecting the others (also see Kindleberger 1970: 209), the institutional dynamics of global finance culminate in the apex. Institutional changes such as the accommodation of a private credit money form will occur in the apex of the system. When runs on a private credit money form materialize in a peripheral jurisdiction, investors will always have the chance to flee to security to the centre country. Only in the centre country, the financial system can be pushed to such an extent at the brink of collapse that substantial changes of the monetary system can be implemented. Moreover, jurisdictions further down in the hierarchy, if they do not want to be cut off from the international payments system, need to comply with the rules in the centre (cf. Pistor 2013). An institutional change as is the accommodation of private credit money can hardly be maintained in a peripheral country against the regulations in the apex.

As concerns explaining the transformation of the monetary system, the model of private credit money accommodation *prima facie* determines a dominance of private agency in the first and of public agency in the second phase. Phase I corresponds to the monetary system's expansion. Profit-driven private actors behave in accordance with the incentives that are provided to them by the system and bring up new systemically relevant private credit money forms via financial innovation (Kindleberger 1978; Minsky 1986; Knafo 2006, 2009; Gabor and Vestergaard 2016). Phase II corresponds to the system's imminent contraction. Market participants lack the ability to sustain their moneyness in a financial crisis. Accordingly, in times of economic instability, the holders of private credit money fear that they could lose their wealth held as private credit money balances as its issuers face bankruptcy. They start a run on the private issuing institutions—which eventually reaches the apex of the hierarchy of money—and create a self-fulfilling prophecy. By converting their private credit money balances into higher-ranking money forms, they produce the situation they were initially afraid of and bring the institutions to the brink of collapse. Public actors then may decide in moments of extreme pressure and fear of systemic collapse to bail out the defaulting private institution(s) (cf. e.g. Culpepper and Reinke 2014; Woll 2014). They use the public balance sheets under their control to guarantee that the private credit money form sustains par value vis-à-vis higher ranking money forms. With this political decision, the public actors establish *ad hoc* liquidity and solvency backstops for the issuing institutions and effectively integrate the formerly private credit money form into the public money supply.

While we can determine the respective roles for private and public agency in the model, the political economic theory of private credit money accommodation seeks to coin a strand of functionalist scholarship on money in IPE that explains the monetary system's transformation neither with reference to the behaviour of private nor of public actors alone. What is the overall cause for the accommodation of the private credit money form? Realist scholarship might attribute the political intervention to the state's power interests, liberals to financial sector lobbying, constructivists to ideas and structuralists e.g. to class relations. This study, however, traces back the root cause of the monetary system's transformation to the system's very own properties themselves—to the self-referential network of expanding, yet instable debt claims that has been called into being with the English financial revolution of the 16th century and has subjugated virtually the entire world today with its both creative and destructive forces. Thus, it is a necessity deeply engrained in the logic of the credit money system that the expansion of the debt network comes to a halt at some point and starts reverting itself. In this case, the monetary system's implosion can only be avoided by an 'external' intervention that preserves the system. The only institution that has the capacity to act as a *deus ex machina* and can keep the system on track is the state. It has to find a way to make sure that the existing, and defaulting, credit money claims do not have to be repaid. This may happen either by making the issuing institution bankruptcy remote or connecting them to an existing institution that is already de facto bankruptcy remote—in a nutshell, by guaranteeing par clearance and unintentionally accommodating the credit money form in the public credit money supply.

The remainder of the chapter is organized as follows:

Section 3.2 addresses the stage preceding the act of private credit money accommodation, i.e. the rise of an IOU to a private credit money form that becomes systemically relevant. It divides the rise of a systemically relevant private credit money form into three distinct analytical steps: the development of a new short-term IOU; the establishment of par clearance for this IOU vis-à-vis established money forms; and the adoption of systemic relevance by this IOU.

Section 3.3 addresses the act of private credit money accommodation itself, which implies that public authorities establish *ad hoc* backstops for the credit money form and thus, by setting up a public-private partnership for credit money creation, turn the IOU from a 'private credit money form'—i.e. *public-private money* or *pure private money*—into a 'public credit money form', namely *private-public money.* The accommodation will by analytically divided into a crisis and run on the private credit money system; the policy-maker's decision-making in favour of an emergency intervention; as well as the changes in balance sheet structures for public and private credit money issuance.

The concluding section 3.4 summarizes the key theses about the theory of private credit money accommodation as a political-economic phenomenon. It provides direct responses to the two research questions of this study and outlines the application of the theory on the three eminent cases which will be scrutinized in the empirical chapters of this study.

3.2 Phase I: The rise of a systemically relevant private credit money form

This section describes and explains the first phase of the process of private credit money accommodation, which is marked by a privately issued IOU taking on the role of systemically relevant private credit money. The duration of this pre-accommodation phase cannot be determined with certainty, but it makes sense to think of it as an institutional evolution that stretches well over decades.

Descriptively, as Figure 3.3 highlights, the rise of a new private credit money form implies that a new IOU 'enters' the Money Matrix: It becomes *pure private money* if issued against private assets (i.e. is swapped against the long-term IOU of a private institution), and *public-private money* if issued against public assets (i.e. swapped against the long-term IOU of a public institution).

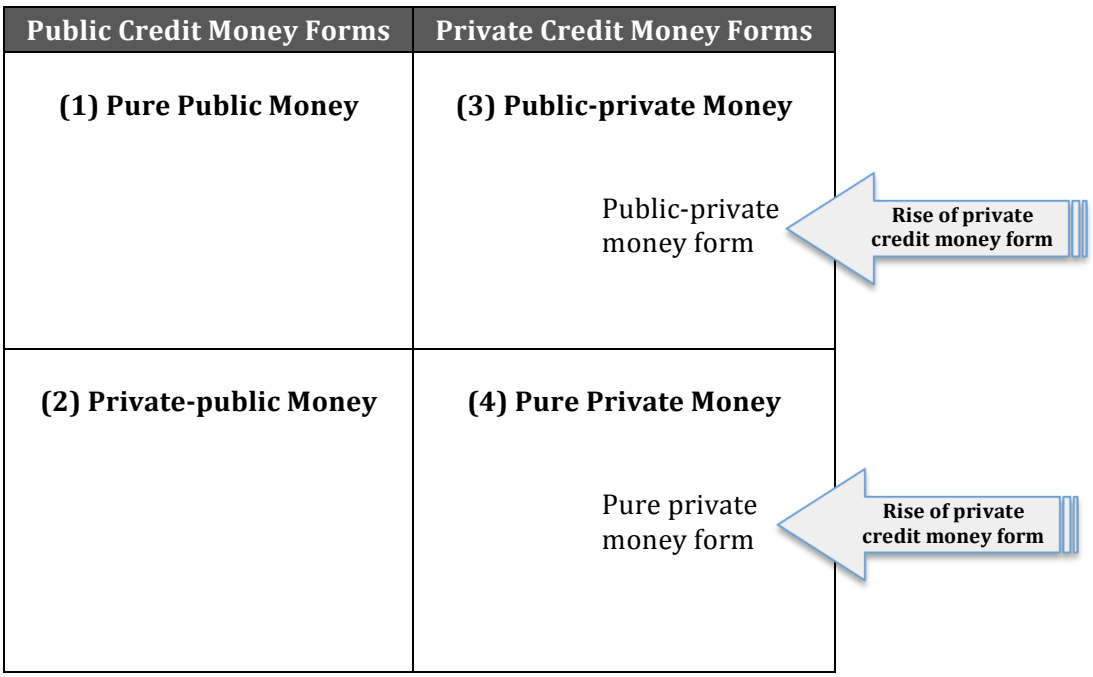

Figure 3.3—Rise of an IOU to a private credit money form

As implication of the Money View lens, a given credit instrument has to satisfy four criteria to be considered a systemically relevant private credit money form: First, from a supply side perspective, it must be a short-term IOU that is held by the issuing institution as its liability and that has been created on the basis of a swap of IOUs of different maturities (Mehrling 2015a). Second, from a demand side perspective, this short-term IOU is held as an asset by agents who consider it 'cash', i.e. the most liquid form of an asset capable of doing immediate purchases of commodities or other financial assets (Pozsar 2014). Third, the IOU constitutes a promise to pay higher-ranking money to which it trades at par or quasi-par and in which it is instantaneously or almost instantaneously convertible. The aspect of par clearance vis-à-vis higher-ranking money forms is what ultimately makes the IOU 'money' in the sense of being part of the Money Matrix (cf. Mehrling 2011, Pozsar 2014). Fourth, from a systemic perspective, it is systemically relevant if its default would lead to a systemic crisis and would revert the debt expansion of the self-referential monetary system.

A number of authors provide pieces of a theory that addresses the rise of new private substitutes for existing forms of money. Charles Kindleberger, in his *Manias, Panics, and Crashes*, points in abstract terms to the phenomenon and even frames it as a recurrent 'Sisyphean' process, yet without going more into depth and without integrating it into a broader analysis of the monetary system's transformation:

> "In many cases the expansion of credit resulted from the development of substitutes for what previously had been the traditional monies" (Kindleberger 1978 [2005]: 64).

> "The development of new substitutes for the existing monies seems to occur periodically in response to different changes in institutional arrangements but the process is a continuing one. Monetary expansion is systematic and endogenous rather than random an exogenous. […] The process is Sisyphean, a *perpetuum mobile*; the history of money is a story of continuing innovations so that the existing supply of money can be used more efficiently and the development of close substitutes for traditional money that circumvent the formal requirements applied to money" (ibid: 67).

Further entry points for describing the rise of new private credit money forms are historically specific analyses such as Knafo (2006, 2009) on the credit money revolution during early British gold standard times as well as Gabor and Vestergaard (2016) who analyze the rise of contemporary shadow money, yet without putting it into comparative historical perspective.

An explanation of the rise of systemically relevant private credit money forms can be found in the work of Hyman Minsky. As a component of his Financial Instability Theory, Minsky traces the emergence of new money forms back to the individual motives of profit-seeking financial institutions, facilitated by a favourable macroeconomic environment:

> "During periods of tranquil expansion, profit-seeking financial institutions invent and reinvent 'new' forms of money, substitutes for money in portfolios, and financing techniques for various types of activity; financial innovation is a characteristic of our economy in good times" (Minsky 1986: 178).

It is thus a characterizing feature of phases of enduring economic expansion—e.g. as market economies systematically exploit new profit opportunities and the credit machinery is at a high capacity—that the private money supply evolves further. This idea is well consistent to the considerations of Joseph Schumpeter, expressed in his *Theory of Economic Development* (1912 [1934]). Under those circumstances, new types of private IOUs are incorporated into the monetary system as a self-referential network of expanding, yet instable debt claims. Still, as implied in Minsky's work and explicitly emphasized e.g. in McCulley and Pozsar (2013), an actual 'real economic' expansion is not in fact necessary to drive the financial leverage cycle, but only the belief in it. This account of the rise of new private credit money therefore abstracts from the economy's productive side and focuses just on the monetary and financial side.

Analytically, this section sub-divides the rise of a new systemically relevant private credit money form—as the prerequisite of an accommodation—into three distinct steps that occur over a long period of time: First, speculative and Ponzi units conduct financial innovation and create new forms of short-term IOUs (3.2.1). Second, those new short-term IOUs establish par clearance vis-à-vis higher-ranking money forms and eventually take on the role of private credit money (3.2.2). Third, those private credit money forms become systemically relevant for the financial system (3.2.3).

3.2.1 Financial innovation and the development of new short-term IOUs

In the first analytical step towards the rise of a new systemically relevant private credit money form, financial innovation takes place and new short-term IOUs are created. This satisfies the first (supply-side) criterion of a private credit money form according to the Money View. To explain this rise of new short-term IOUs, it is fruitful to dig a little deeper into Minsky's analytical apparatus: on the one hand how he views different types of cash flows and, on the other hand, how he distinguishes between hedge, speculative and Ponzi units.

Minsky (1986: 200-203) introduces three types of cash flows that affect financial institutions' balance sheets, namely income, balance sheet and portfolio cash flows: Income cash flows result from production. They are "wages and salaries, both public and private, the payments from one stage of production and trade to another, and gross profits after taxes of business" (ibid: 200). Balance sheet cash flows result from holding financial assets. They are "mandated by existing, inherited liabilities", i.e. they "can be determined by reading the contracts that are the debt instruments" (ibid: 200). Minsky further sub-divides them into "dated balance sheet cash flows" (e.g. an automobile finance contract or mortgage), "demand balance sheet cash flows" (typically bank deposits) as well as "contingent balance sheet cash flows" (e.g. life insurance or credit default insurance) (ibid: 201-3). Portfolio cash flows result from selling financial assets. They are "the result of transactions in which capital and financial assets change hands", i.e. they are "the outcome of decisions to acquire or to sell assets or to put new liabilities into circulation" (ibid: 200). Some portfolio cash flows "are the result of previous commitments; this is especially true of the cash flows at the completion of the production of investment output and the metamorphosis of investment output into capital assets" (ibid: 200-1).

Based on those three forms of cash flows, Minsky (1986) distinguishes three ways in which financial institutions (broadly conceived) are operated—namely as hedge units, speculative units and Ponzi units. Those units differ with regard to the way in which they intend to service their outstanding liabilities. They are "characterized by different relations between cash payment commitments on debts and expected cash receipts due to the quasi-rents earned by capital assets or the debtor contractual commitments on owned financial instruments" (ibid: 206). In this, hedge units intend to service their outstanding debts with income cash flows. They expect that "realized and expected income cash flows are sufficient to meet all the payment commitments on the

outstanding liabilities" (ibid: 203). By definition, units engaged in hedge financing do not have a maturity mismatch. Thus, "[a] commercial bank cannot be a hedge-financing unit" (ibid: 207).

Of key relevance for financial innovation are thus speculative and Ponzi units as they are creators of new short-term IOUs: Speculative units have higher outstanding debts than they could service with income cash flows. To meet their outstanding liabilities, they have to roll over their maturing debts. Such a structure arises as "the balance-sheet cash flows from a unit can be larger than the expected income receipts" (ibid: 203). A speculative unit has a maturity mismatch as it "expects the cash receipts in later periods to exceed the cash payment commitments in those periods due to debts now on the books" (ibid: 207). For this reason, banking corresponds to speculative finance: It "involves the short financing of long positions. Commercial banks are the prototypical speculative financial organization" (ibid: 207). Ponzi units, similarly to speculative units, have higher outstanding debts than they could service with income cash flows. However, to meet their outstanding liabilities, it is not sufficient to merely roll over existing debt; Ponzi units even have to "increase debt to pay debt" (ibid: 203). The reason for this is that "for Ponzi finance units financing costs are greater than income, so that the face amount of outstanding debt increases: Ponzi units capitalize interest into their liability structure" (ibid: 207). Minsky emphasizes that although "Ponzi financing is quite often associated with fringe or fraudulent financial practices, […] the intent is not necessarily to cheat. Interest- and dividend-paying units that borrow to pay for investments and that accrue income engage in a variety of Ponzi financing" (ibid: 208). Moreover, a speculative unit "can be transformed into a Ponzi finance scheme by a rise in interest or other costs or a shortfall in income" (ibid: 208).

From a Money View perspective, speculative and Ponzi units, in contrast to hedge units, purposefully accept maturity mismatches, i.e. they swap IOUs of different maturities (cf. Figure 3.4). This is, of course, the key ingredient for credit money creation from a supply side perspective:

Borrower		Speculative or Ponzi unit	
+ short-term IOU	+ long-term IOU	+ long-term IOU	+ short-term IOU

Figure 3.4—Financial innovation establishing new forms of short-term IOUs

Minsky (1986) emphasizes that capitalist financial systems are always made up of hedge, speculative and Ponzi units. However, the dominance of hedge, speculative and Ponzi units varies over time (ibid: 219-220). Times of economic prosperity and financial stability are characterized by a prevalence of hedge units, which—by definition—are able to service their debts with income cash flows. Under those conditions, it is profitable for some units to engage in the activities of speculative-financing and Ponzi-financing:

> "In a system dominated by hedge finance, the pattern of interest rates (short-term rates being significantly lower than long-term rates) are such that profits can be made by intruding speculative arrangements. The

> intrusion of speculative relations into a system of mainly hedge financing of positions increases the demand for assets and therefore raises asset values—that is, it leads to capital gains. A regime in which capital gains are being earned and are expected is a favorable environment for engaging in speculative and Ponzi finance. Profit opportunities within a robust financial structure make the shift from robustness to fragility an endogenous phenomenon" (ibid: 210).

Thus, it is the main institutional development leading towards the rise of new private credit money forms when speculative and Ponzi units expand in a system dominated by hedge finance and come up with innovative short-term IOUs.

Such institutional development is consistent to what Kindleberger (1978 [2005]: Ch. 2, 4) develops in his *Manias, panics and crashes.* Moreover, there is a literature studying financial innovation, yet without connecting it to the theme of the monetary system's transformation, that provides a link to the origination of private credit money via financial innovation (cf. Brunnermeier 2009; Nesvetailova 2010; Mian and Sufi 2014). Such literature holds connections to structuralist scholarship (cf. Chapter 1), which e.g. addresses financialization and wider recurring patterns of capitalism such as extensive credit cycles.

3.2.2 Establishing par clearance for the short-term IOU

The innovative short-term IOUs brought forth by speculative and Ponzi units do not yet satisfy the criteria for a private credit money form. From a demand-side perspective, they must also be considered a functional substitute for established money forms. This requires that they are sufficiently stable in value and trade at par or quasi par with higher ranking money forms. This makes them part of the 'monetary pyramid' at a bottom layer as a hierarchically-lower credit money form (cf. Figure 3.5).

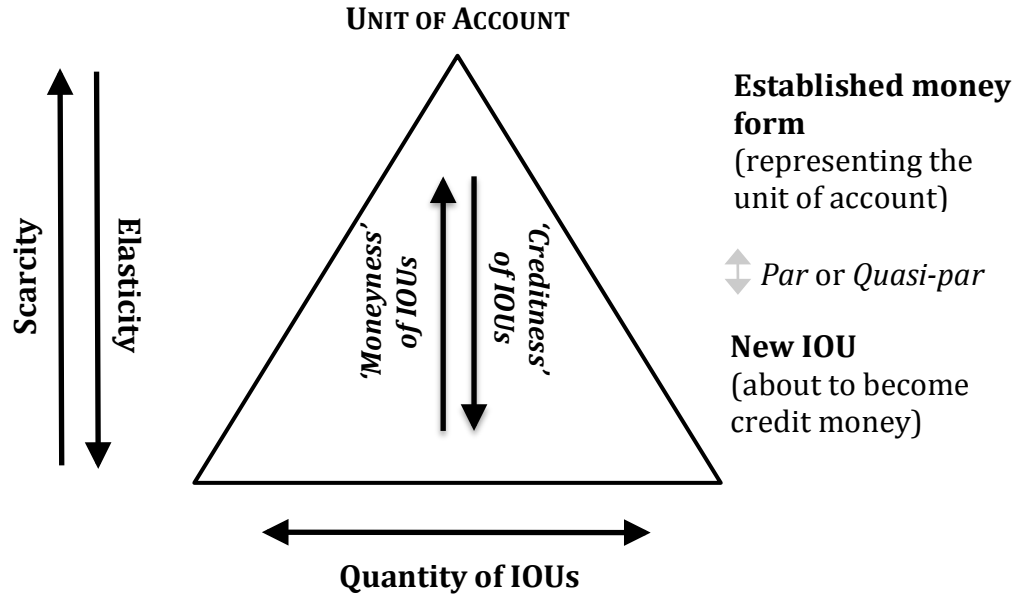

Figure 3.5—Establishing par clearance within the monetary pyramid

'Par' in this context means that the new IOU has a fixed one-to-one exchange rate with the established money form. 'Quasi par', in contrast, implies that the exchange rate is not firmly one-to-one but continues to fluctuate, yet only within a small margin. Provided that establishing par clearance with higher-ranking money forms has been successful, the speculative and Ponzi units can be seen as issuers of a new private credit money form (cf. Figure 3.6):

Borrower		Speculative or Ponzi unit	
+ New private credit money (short-term IOU)	+ Loan or Bond (long-term IOU)	+ Loan or Bond (long-term IOU)	+ New private credit money (short-term IOU)

Figure 3.6—Creation of a new private credit money form

For the issuing institutions, it may be part of their business model to tailor their products in such a way that they directly compete with more established forms of money. This involves finding ways to minimize the price volatility of the short-term IOU they issues. In this, they meet the demand that has emerged in the monetary system throughout the expansionary phases to hold wealth in the form of money-like short-term assets instead of less liquid long-term financial or real assets.[37] This trend can be seen in a general context of financialization (cf. e.g. Krippner 2005, 2011), which often occurs towards the end of extended phases of economic and financial expansion (Arrighi 1994).

In which ways can speculative and Ponzi units achieve that their IOUs become private credit money?

On the one hand, clearance at quasi par can be achieved while solely relying on market forces. This strategy implies that supply and demand for the private IOU need to be balanced in a de-centralised fashion such that a stable price relationship between the private IOU and higher-ranking money forms is maintained. With this approach, par clearance cannot be established in nominal or legal terms but only *de facto* while the exchange rate still fluctuates. The promise of par clearance is comparatively weak and the susceptibility to a financial panic and runs relatively high.[38] In theory, it could also occur by chance, without purposeful action by the issuing institution, that quasi par is established.

On the other hand, the issuing institutions can actively seek for a mechanism that induces par. This may imply setting up a specific private institution that provides the necessary elasticity and discipline in the supply of the private IOU and minimise the price volatility of the private IOU vis-à-vis higher-ranking money forms. Typically, those institutions will take on the form of clearing banks or bankers' banks (i.e. non-public central banks). As they provide private mechanisms to reduce the susceptibility to panics and runs, their promise of par clearance is substantially higher.[39] Legal constructs to guarantee

[37] In the case of the contemporary shadow banking system, Pozsar et al. (2012) attribute this demand to the emergence of large cash pools.

[38] Such a strategy was used e.g. by English country banks (cf. Pressnell 1956).

[39] As a historical example for this, Kindleberger (1978 [2005]: 65) refers to Clearing Houses.

par clearance are an alternative. This strategy implies that lawmakers—typically achieved through lobbying strategies—grant legal privileges to private IOUs that make them particularly stable in value (cf. Pistor 2013). For example, this may involve special accounting rules that effectively abandon price volatility vis-à-vis higher-ranking money forms. This strategy goes along with a very strong promise of par clearance and a low susceptibility to panics and runs.[40]

3.2.3 Adopting systemic relevance by the private credit money form

The final aspect of the pre-accommodation phase is that the new private credit money form becomes an integral part of the monetary system as a self-referential network of expanding, yet instable debt claims and thus adopts systemic relevance.

Prima facie, it is not obvious what systemic relevance refers to in the context of private credit money, given that the concept usually is not associated with specific financial instruments but with financial institutions that issue them, typically banks. As to CEP (2010), the label 'systemically relevant' is typically used interchangeably with the label 'too big to fail' and implies that an institution plays such an important role for the financial and real economy in general that it is not possible to accept its insolvency. This is the case when "the impact of the failure or impairment of large, interconnected global financial institutions [...] can send shocks through the financial system which, in turn, can harm the real economy" (BCBS 2012: 1). While no clear, uncontested definition for systemic relevance exists (CEP 2010), the guidelines presented by the Basel Committee on Banking Supervision, which have been endorsed by the Financial Stability Board, suggest that the extent to which a bank is systemically relevant depends on the four criteria: size, interconnectedness, substitutability of the products and services it offers—i.e. the degree to which it holds a (natural) monopoly—as well as its complexity (BCBS 2012: 3).

Based on those considerations, this study translates those criteria from financial *institutions* to financial *instruments*. Accordingly, it regards a private credit money form as systemically relevant if its failure—i.e. the annihilation of substantial volumes of private credit money balances due to the shut-down of the issuing speculative or Ponzi units—would lead to a *systemic* financial crisis (as opposed to a *marginal* financial crisis, as defined in 2.3.4), during which the functionality of the credit money system in general is put at risk. In particular, runs on a systemically relevant private credit money form would spill over to higher-ranking credit money forms and put the survival of their issuing institutions at risk as well. Following the Money View logic, this implies that the private credit money form has become to such an extent enmeshed in the monetary system—understood as a self-referential debt network—that its annihilation would make the network's expansion come to a halt and induce its reversion.

[40] This is the strategy that had been e.g. adopted by money market funds (cf. Baklanova 2012).

This definition regarding the systemic relevance of a private credit money form refers both to the supply side, i.e. the balance sheets of the institutions that issue the private credit money form as their liabilities, and to the way in which the private credit money form is used on the demand side, i.e. those institutions and individuals within the respective 'payment community' that hold the private credit money form as an asset on their balance sheets. In line with BCBS (2012), this study distinguishes four criteria that contribute to the systemic relevance of a private credit money form and suggests to interpret them as follows:

The first criterion for systemic relevance of a private credit money form is its size. The greater the volume of private credit money balances issued, the more likely it is systemically relevant. From the supply side, this implies the aggregate level of private credit money balances held as the issuing institutions' liabilities. From the demand side, this means the aggregate level of credit money assets held by investors, which necessarily has to sum up to the same amount.[41]

The second criterion, interconnectedness, refers to the number of institutions issuing the private credit money form on the supply side and the number of institutions holding private credit money balances as their assets on the demand side. The more interconnected the payment community, the higher the relevance of the private credit money form for the wider monetary system.[42]

Substitutability is the third criterion. The more difficult it is for investors in the private credit money form to shift their balances into other money forms, the more systemically relevant is the credit money form. This implies aspects such as time lag of conversion, possible volume of conversion, loss in asset value due to the conversion, as well as reduction of the asset's usefulness and liquidity due to the conversion. In an extreme case, a monopoly has emerged for one private credit money form if it is not possible to switch to the IOUs of a different payment community at acceptable costs.[43]

The final criterion is complexity. The more complex the issuance of private credit money, the more likely it is systemically relevant. This study suggests to think of complexity as involving the suppliers' and the demanders' geographical distribution within one national payments system as well as the international payments system, i.e. the extension of the private payment

[41] Typically, the actual volumes of a private credit money form are very difficult to measure. They emerge in grey areas of the monetary system and are subject to considerable fluctuations. Especially in the historical cases of bank notes and bank deposits, the availability of data is very sketchy. For the case study on shadow money, more data is available but it is often also described as incomplete. Still, the relative expansion in size throughout a given period can be a valuable point of reference for this criterion.

[42] The case studies on bank notes, bank deposits and shadow money suggest that the number of holders is more important than the number of issuers of that private credit money form.

[43] The aspect of substitutability also corresponds to the position of the respective credit money form in the hierarchy of money. The further up in the hierarchy it is, the less likely it is substitutable. All the three credit money forms accommodated (Bank of England notes, bank deposits as well as MMF shares and overnight repos) were higher up in the hierarchy than the other shadow money forms in which the run started, notably country bank notes, trust deposits as well as ABCPs.

community.[44] Moreover, it may refer to the functional distribution across the monetary and financial system. E.g., it would play a role to which extent other segments of the financial system are involved into the mechanics of credit money creation.[45]

While these four criteria of size, interconnectedness, substitutability and complexity of a private credit money form may be a good auxiliary for an *ex ante* assessment, they do not offer certainty as to whether the failure of the private credit money form will really lead to a systemic crisis or not. It is in the nature of the inherent instability of credit money that we cannot know for sure. In fact, it is only *after* a systemic financial crisis that we can know for sure that the private credit money form *was* systemically relevant. Hence, systemic relevance is most useful as an *ex post* category. *Ex ante*, determining the systemic relevance is much harder and always retains an element of speculation and uncertainty, which may well be grasped by the concept of 'systemic risk'.

Still, for the theory of private credit money accommodation as a political-economic phenomenon, it does not so much depend on the *actual* systemic relevance of a credit money form. Instead, what counts to drive the process of private credit money accommodation are the ***ex ante perceptions*** regarding the systemic relevance of the private credit money form's **issuing institutions** that are **held among the decision-makers** on the highest level of political authority.

[44] We can establish here that the degree of complexity has been much higher in the case of shadow money with the inherently international entanglement of the shadow banking system in times of financial globalization compared to the case of British bank notes that still remained fairly local in the 18th century.

[45] For example, the creation of overnight repos as shadow money involves the use of collateral, which is made up of both public and structured private debt certificates. This substantially increases the complexity of the private credit money form. On the other hand, English country bank notes were issued against a wide variety of non-homogenous assets, which also contributed to their complexity.

3.3 Phase II: The accommodation of the private credit money form

This section describes and explains the second phase of the accommodation process in which the systemically relevant private credit money form is put under public control as public authorities assume responsibility to guarantee par clearance vis-à-vis higher-ranking forms of money. In contrast to phase I, the accommodation happens within a very short period of time, in a Minsky moment, when a run on the credit money system takes place.

Descriptively, as Figure 3.7 demonstrates, the accommodation of the systemically relevant private credit money form can be depicted as a shift within the Money Matrix from the private to the public credit money realm. With public authorities guaranteeing par clearance, an *ad hoc* public-private framework is established to guarantee the moneyness of the credit money form, which makes it become *private-public public money.*

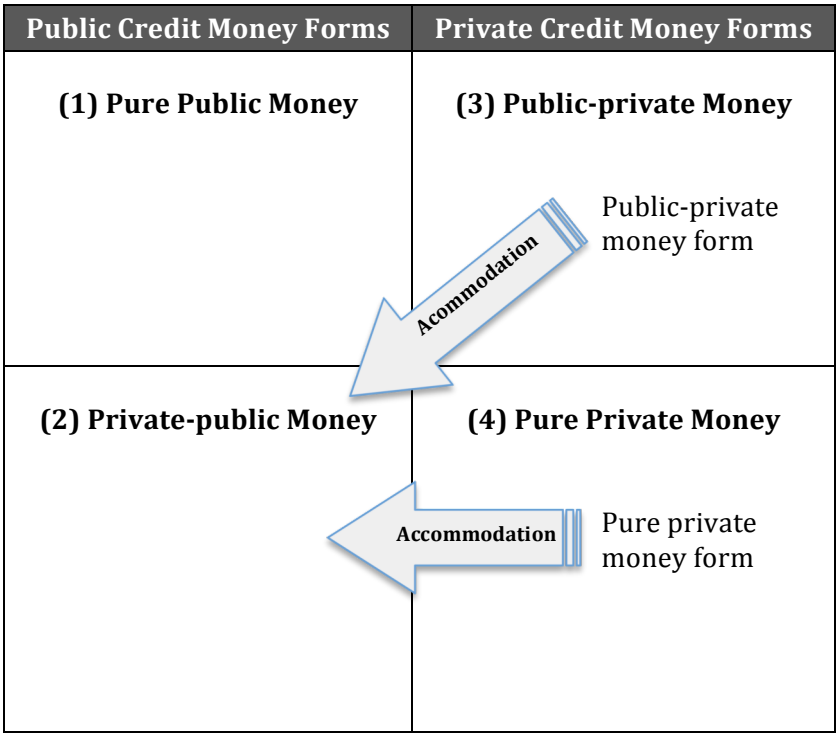

Figure 3.7—Accommodation via government intervention to a crisis

The accommodation phase begins when a crisis emerges in the financial system. For any reason that cannot be known *ex ante*, the expansion of the monetary system as a self-referential network of expanding, yet instable debt claims comes to a halt. Minsky's Financial Instability Hypothesis can well explain the collapse of the private credit money form in the first place (Minsky 1986, 1992). The imminent threat sets in that the debt network might implode, expressed via a run on the speculative and Ponzi units issuing private credit money, and the real chance of their default. The credit money system relies on the (implicit or explicit) promise that the credit money forms can be converted into a hierarchically higher form of money. If this promise is no longer perceived as credible among holders of private credit money, a panic materializes within

the private credit money realm. The dynamics of such a run have been frequently studied in the economics literature (cf. e.g. Fisher 1911, Diamond and Dybvig 1983, Reinhart and Rogoff 2009, Ricks 2016). The run will start with a less safe private credit money form and lead to a flight to money forms higher up in the hierarchy. Yet, by definition, there will not be a sufficient amount of hierarchically higher and thus safer money available. Eventually, the run will affect the institutions that issue systemically relevant private credit money. This brings the monetary system, and with it the monetary economy as a whole, to the brink of collapse. If noone wants to accept private credit money any more, the 'real economy' is in danger of disintegrating because there would be no more money available to facilitate transactions and in the 'financial sphere', masses of wealth—held in the form of financial assets—would be destroyed.

Confronted with such a situation, policy-makers may decide to bail out the defaulting institutions, which issues the private credit money balances and on which the run takes place. This phenomenon has well been described in the IPE literature on bailouts (see e.g. Culpepper 2015, Culpepper and Reinke 2014, Woll 2014). Responsibility for the emergency response to the systemic crisis sooner or later ends up at the highest levels of government where the people in charge have to decide under extreme time pressure and uncertainty how to respond. In their decision-making about a bailout, they focus on the actual institution(s) facing the run and the possible consequences of their collapse. The high-level politicians are confronted with a doomsday scenario: The default of those institutions would imply that masses of wealth created prior to the crisis and now held as credit money balances would annihilate. To avoid these consequences, policy-makers may be willing to break the rule of law and use their 'infrastructural power' (cf. Mann 1984) to keep the institutions alive. They establish mechanisms to provide liquidity and solvency support to the defaulting institutions. This calms down the panic in the monetary system and rescues the speculative and Ponzi units issuing the systemically relevant credit money form.

As an unintended side effect of the bailout, policy-makers acknowledge that the private credit money form has taken on a systemic role and that the monetary economy is no longer able to function smoothly without it. By granting emergency support to its issuer(s), they let the issuing institution(s) tap public balance sheets. This establishes an *ad hoc* public framework to ensure that the systemically relevant private credit money balances do not annihilate via a default of their issuers. As long as this public framework is in place, it guarantees the survival of the speculative and Ponzi units, in the sense that they can meet their payment commitments, and makes sure that the credit money they issue sustains par. Speaking with Keynes (1930a: 6), by establishing this framework, the state uses its "Chartalist prerogative" to make the credit money-issuing institutions bankruptcy remote as it rules that the credit money form becomes an ultimate means of payment or at least a publicly guaranteed equivalent to the ultimate means of payment. Via this framework, the public authorities unintentionally accommodate the formerly private credit money form in the public money supply. This induces a transformation of the monetary system and provides for a new setup of the money supply with now a new combination of public and private credit money forms co-existing next to each other.

What explains the events in the second phase of accommodation process? A dominating view in the IPE literature is that the bailout—and, from the standpoint of this study, also the concomitant accommodation—takes place due to the influence of vested financial interests on the political decision-makers. In this context, Woll (2014: 4) distinguishes between three strands of explanations that focus on direct lobbying influences, indirect institutional factors and ideational meaning structures, respectively. Against this dominant view, this study contends that—while such analyses certainly generate valuable insights in the factual processes that have taken place empirically—the fundamental reason for the bailouts and the concomitant accommodation of the private credit money form is to be found on a higher level of abstraction. This reason lies in the very own logic of the modern credit money system itself—the financial technology that has been developed in the English financial revolution and since then has become all-encompassing for the entire world.

As the Money View lens makes explicit, credit money is inherently instable and the expansion of the self-referential debt network cannot go on forever. The process of credit money expansion must come to a halt at some point. To keep the system on track and sustain its drive towards self-preservation, it requires an external intervention that supports the system and ensures that not all of the self-referential promises to pay have to be redeemed by the issuing institution. The state as the *deus ex machina* may transform the credit money form, which in the first place was a promise to pay, into a 'non-debt' that still looks like a promise to pay but does not actually require redemption. This systemic need is the root cause for private credit money accommodation and the associated transformation of the monetary system. The key point of the *functionalist* political economic theory of private credit money accommodation is that both private and public agents behave in a way that is in accordance with the incentives and necessities predetermined by the system. On the one hand, the system's expansion and contraction are advanced by private agency. However, the profit motives during the expansion and the self-help logic in the contraction are perfectly rational behaviours of individual units that are provided by the properties of the system itself. On the other hand, the bailouts and the connected accommodation are driven by public actors. They materialize due to functional necessities ('form follows function') and policy-makers' decisions that promise to provide solutions to problems perceived as pressing (cf. Mitrany 1948, Porter 2003).

The remainder of this section describes the process of private credit money accommodation, as it happens in phase II, in its three analytical steps. First, the run emerges on the speculative and Ponzi units that issue private credit money (3.3.1). Second, policy-makers decide to intervene and take emergency measures to bail-out the defaulting financial institutions (3.3.2). Third, by granting the defaulting credit money issuers access to public balance sheets, the public authorities assume responsibility to guarantee par clearance for the credit money forms they issue. They can make the credit money form non-redeemable and thus accommodate it in the public money supply (3.3.3).

3.3.1 Financial instability and a run within the private credit money realm

During phase I, ever more issuers of private credit money emerge. This coincides with a greater number of private credit money forms and higher volumes of private credit money. The monetary pyramid expands over the leverage cycle and receives more 'layers' as more IOUs attain the status of private credit money. At the outset of phase II, the monetary system's expansion comes to a halt and a run emerges on the private credit money form. To the holders of private credit money, the self-referentiality of the system becomes obvious. They become painfully aware that the only equivalent value to the credit money balances they hold are promises to pay money in the future. As these promises are contingent on the liquidity and solvency of their issuers, they are void if the issuer defaults.

The crisis and the threatening collapse of a private credit money form may well be explained on the basis of Minsky's Financial Instability Hypothesis, which sees financial instability as endogenous to the financial system and crises as the consequence of financial innovation during longer periods of stability and tranquility. Financial instability—according to Minsky (1986)—emerges when due to the profit opportunities for units working on the basis of maturity transformation, the system shifts from a dominance of hedge units to a dominance of speculative and Ponzi units. Moving away from the hedge dominated system increases the inherent instability of the system:

> "The mixture of hedge, speculative, and Ponzi finance in an economy is a major determinant of its stability. The existence of a large component of positions financed in a speculative or an Ponzi manner is necessary for financial instability" (Minsky 1986: 209).

The key aspect for financial instability, in Minsky's view, is whether units use predominantly income, balance sheet or portfolio cash flows for refinancing:

> "An economy in which income cash flows are dominant in meeting balance-sheet commitments is relatively immune to financial crises: it is financially robust. An economy in which portfolio transactions are widely used to obtain the means for making balance-sheet payments can be crisis-prone: it is at least potentially financially fragile" (ibid: 204).

Hedge units are "vulnerable to difficulties in fulfilling outstanding financial commitments only if receipts fall short of expectation" (i.e. due to distortions in the productive sector). Speculative and Ponzi units, in turn, are "vulnerable to developments in financial markets" (ibid: 208), i.e. vulnerable to runs:

> "[S]peculative- and Ponzi-finance units are vulnerable to changes in interest rates—that is, to financial-market developments as well as to product and factor market events: increases in interest rates will raise cash-flow commitments without increasing prospective receipts. Furthermore, as they must continuously refinance their position, they are vulnerable to financial-market disruptions. The greater the weight of speculative and Ponzi finance, the smaller the overall margins of safety in the economy and the greater the fragility of financial structure" (ibid: 209-210).

Minsky views it as an inherent feature of financial capitalism that stability is destabilizing (Minsky 1992: 8):

> "If a particular mix of hedge and speculative financing of positions and of internal and external financing of investment rules for a while, then there are, internal to the economy, incentives to change the mix. Any transitory tranquility is transformed into an expansion in which the speculative financing of positions and the external financing of investment increase" (Minsky 1986: 219-220).

The changing structure of the financial system has a direct implication for the private credit money supply. With more and more speculative and Ponzi units that operate as banks or near-banks (cf. Minsky 1992: 6) entering the system, the volume of private credit money issued as those institutions' liabilities will increase as well:

> "[T]he money supply increases when bankers and their business customers are willing to increase current indebtedness. This will occur only because they both believe that future business revenues will finance the payments due on debts" (Minsky 1986: 117).

More promises to pay higher-ranking money forms are issued on the basis of maturity mismatches, thus more short-term IOUs that have to be rolled over at maturity are created. To service their payment commitments, hedge units may turn into speculative units, and speculative units into Ponzi units (cf. ibid: 207-208). In this, the private credit money supply increases substantially compared to the system dominated by hedge finance. The Money Pyramid expands. It may even be argued that the status of systemic relevance of the private credit money form gives incentives to 'over-issue' that financial product (cf. BCBS 2012).

At the same time, the inherent vulnerabilities of a system dominated by speculative and Ponzi finance make it even more likely that at some point the promises to pay credit money can no longer be redeemed. In a 'Minsky Moment' (McCulley 2009), the expansion of the debt network comes to a halt and starts to revert itself. Existing debts cannot be rolled over anymore, and new debts cannot be issued anymore to fund existing payment commitments. After a phase during which the private debt network was continuously expanding, the financial system reaches the quantitative peak of its credit money supply and begins to implode. Holders of private credit money fear that the issuing institution may face illiquidity and insolvency. In this case, the private credit money forms held as their assets would annihilate. Therefore, the investors flee to higher-ranking money forms within the Monetary Pyramid that appear to be more secure. A run on private credit money emerges:

> "[T]he money supply decreases as bank loans are reduced. A net decrease occurs when a significant portion of bankers and of (potential) borrowing businesses believe that future profits would not validate the commitments that would be embodied in new debts. Banks fail because cash due to them on their assets is not forthcoming, because assets they offer to sell to yield cash have fallen in price, or because they cannot place (sell) their liabilities" (Minsky 1986: 118).

The dynamics of such a run have been extensively described in the literature.[46] The actual panic that leads to a flight to safety is connected to a change in the expectations about the ongoing expansion of the monetary system. This change can but does not have to be due to an actual external event. Moreover, the Minsky moment can set in because there are actual deteriorations within the balance sheet structure of the issuing institutions of the private credit money form, but this is not a necessary condition either. 'Sound' financial institutions can face a run. Due to the self-referentiality of the system, runs on the basis of endogenously changed expectations can be self-fulfilling prophecies.[47]

As Figure 3.8 depicts, the panic begins with a run on private credit money forms further down in the hierarchy where the promises to pay are less safe and a higher quantity of credit money is prevalent. The contagion will then spread upwards in the monetary pyramid until the run affects the systemically relevant private credit money form. Holders of those systemically relevant private credit money balances seek to convert their assets into safer money forms—either public credit money or commodity money, depending on the historical context. Since it will not be possible to convert all systemically relevant private credit money balances into safer money, which is scarcer, the crisis reaches a systemic dimension.

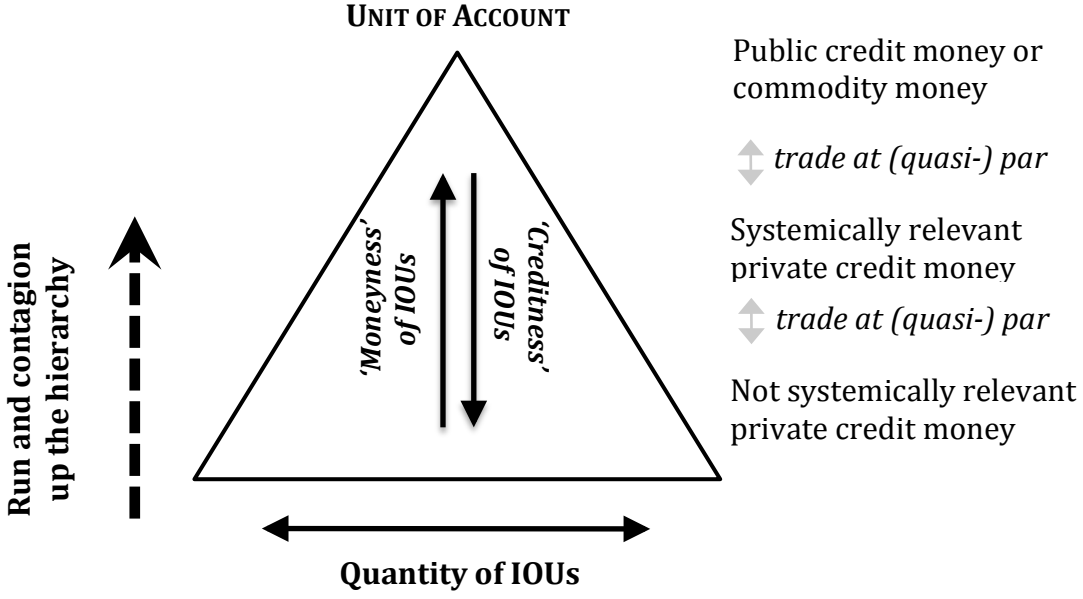

Figure 3.8—Run on the monetary system with upward contagion in the hierarchy

[46] The most frequently studied type of a run is one on deposits when holders sought to convert them into bank notes. Among the most referenced publications is the model by Diamond and Dybvig (1983), which offers a good description of runs but operates rather on the basis of a state-based monetary theory of credit. Similarly, Fisher (1911) presents a classical account of a run on deposits. Runs on bank notes to convert them into gold occurred frequently in the 18th and 19th century (see e.g. Thornton 1802). The run on shadow money as the 21st century version of this phenomenon has been described e.g. by Gorton (2010), Mehrling (2011) and Ricks (2016).

[47] For example, Obstfeld (1996) presents a model for self-fulfilling currency crises.

3.3.2 Public bailout as political reaction to the run

At the peak of the run on a systemically relevant private credit money form, during a systemic financial crisis, political actors start to play the dominant role in the model of private credit money accommodation. In the panic, the financial institutions are no longer able to support themselves. They require an outside intervention to prevent the masses of credit money balances from annihilating. Thus, public actors may decide to step in and bail out the struggling speculative and Ponzi units. The run, which has been ultimately caused by an overissuance of private credit money, appears on the surface as a problem of the struggling institutions.

As the decision to step in and prevent the run by bailing out the struggling financial institutions effectively is a violation of the rule of law, it requires such a high degree of political power that it can merely be taken by the highest political authorities in the monetary jurisdiction. In line with Carl Schmitt (1922), the bailout may be viewed as overstepping the rule of law in a conservative function, to preserve what has been, while hazarding the political and economic consequences.[48] Driven by the executive branch of government, it typically involves the president or prime minister as well as the heads of the financial and monetary authorities. The legislative branch or lower-ranking administrative bodies and interest groups will not be involved on a formal level. One of the main reasons for this is the extreme time pressure: The bailout decision has to be done within a few hours or over a weekend.[49]

The key rationale that the political actors have for the bailout decision is a doomsday scenario about what happens if the state does not step in and help out the struggling institutions. This scenario is presented to the decision-makers during emergency meetings at the peak of the run.[50] Due to the systemic relevance attributed to the private credit money issuing institutions, non-action is perceived as so catastrophic that the entire financial system might collapse. Therefore, all the foreseeable and unforeseeable side-effects are regarded as acceptable and a necessary evil. The protection of financial and political stability becomes the primary goal—to achieve it, the end justifies the means. This is particularly relevant as the bailout has substantial distributional effects: By bailing out the issuers of private credit money, they will grant them a huge benefit amounting to a massive social redistribution towards those that already own.

These distributional effects to the benefit of the financial industry have triggered widespread debates in the IPE literature about the collusion between

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48 cf. Van 't Klooster (2017).

49 This finding applies to all the three cases under scrutiny: the meeting of the Privy Council in 1797, the Emergency Banking Act in 1933 as well as the bailout decision during the 2007-9 Financial Crisis.

50 The presence of a doomsday scenario is true for all the three cases under scrutiny. Still, this study does not seek to establish necessary and sufficient criteria capable of determining the decision for or against a bailout in all possible financial crises. This has been done in other studies. It is a different question that would require a different research design (cf. Chapter 7).

finance and politics. This is typically attributed to the financial industry's lobbying capacity as its instrumental power (cf. e.g. Pagliari and Young 2014, 2016) or its ability to provoke an urgent necessity that makes bailout unavoidable as structural power (cf. e.g. Culpepper and Reinke 2014). Braun (2016c), in turn, introduces the notion of infrastructural power. Given the public-private hybridity of the monetary system, the states govern *through* financial markets and create infrastructural environments that are a source for the power of finance. Against this interpretation, this study insists that it is ultimately the very ability of the monetary system itself to create money out of thin air that ultimately provokes the bailout.

Following Grossman and Woll (2014: 579), a bailout may consist of the following four policies: issuing state guarantees for the solvency of the struggling institutions to reassure investors; providing liquidity support to the struggling institutions; recapitalizing the struggling institutions; and taking over impaired or 'toxic' assets from the struggling institutions.[51] The latter two options imply a one-time shift of balance sheet items in between public institutions and the struggling private speculative and Ponzi units. Recapitalization refers to a transfer of assets, most likely credit money balances, from the public to the private institutions. Taking over impaired assets goes in the other direction; to improve the balance sheet situation of the struggling institutions, public authorities allow them to get rid of some balance sheet items. In this, both options merely amount to a change *within* the system and are therefore not of major relevance for the model of private credit money accommodation. The establishment of liquidity and solvency backstops, in contrast, can potentially amount to a change *of* the system. Hence, they are the reactions to the run which this model places its emphasis on.

On the one hand, the struggling issuing institution of private credit money is *illiquid* if it lacks sufficient reserves in the form of higher-ranking money to convert the private credit money form upon its customers' request into higher-ranking money. The run implies that more private credit money is asked to be redeemed at once than possible for the institution. The speculative and Ponzi units are not able to meet their payment commitments *immediately*. With public liquidity backstops, public authorities can ensure that the struggling issuing institution always has a sufficient amount of higher-ranking money to satisfy their customers' wish to convert their private credit money balances. On the other hand, the struggling institution is insolvent if the equity of the issuing institution is negative, i.e. the volume of its liabilities exceeds that of its assets. This is not visible immediately but implies that the speculative and Ponzi units may not able to meet their payment commitments *at all*. The fear of insolvency provides an incentive for holders of private credit money to start the run. With public solvency backstops, public authorities ensure that the private credit money balances of the issuing institutions will be redeemed even in case of their insolvency (cf. e.g. Minsky 1986; Mishkin 2009).

[51] While Grossman and Woll (2014) discuss bailouts in the context of the 2007-9 Financial Crisis with regard to banks and deposits, their general depiction can be put into a broader historical context and may refer also to other speculative and Ponzi units than banks and other credit money forms than deposits.

At the peak of a crisis, with market prices for assets being severely distorted, illiquidity and insolvency cannot always be neatly distinguished (cf. Awrey et al 2015). Overall, there are three main forms to backstop the struggling speculative and Ponzi units in a crisis, which both help against their immediate liquidity and insolvency as they allow them to meet their payment commitments: legal proclamations, public guarantees and emergency facilities.

First, as a legal proclamation, public authorities may decide that the credit money form is no longer a promise to pay higher-ranking money but becomes an ultimate means of payment at the top of the monetary pyramid. In this case, the IOU is converted into a promise to pay nothing else but itself. It will be core representation of what Mitchell-Inness describes as the fictional unit of account of the respective monetary jurisdiction. In the words of Keynes (1930: 6), the state then declares that the "debt itself is an acceptable discharge of a liability". Due to such legal proclamation, the struggling issuing institution is put in the position to create the necessary emergency liquidity on its own. It cannot become illiquid anymore as its customers have lost their entitlement to exchange their credit money balances into something else. At the same time, as the quality of their liabilities have changed, it also become remote against insolvency.[52]

Second, public authorities may announce the guarantee that the state will use public funds to redeem the private credit money claims if the issuing institution defaults. This corresponds to an explicit or implicit insurance scheme. The redemption may occur via higher- or equal-ranking money forms. The announcement of such a guarantee mitigates the risk of a run on the private issuing institution. Even if the institution becomes insolvent, its customers will not lose their credit money balances as the state stands ready to redeem them with its own funds. If such a guarantee is announced, incentives for a run are inhibited and the danger of imminent illiquidity is reduced as holders of privately created credit money no longer have to fear the loss of individual purchasing power due to the private issuing institution's insolvency.[53]

Third, by establishing emergency facilities, public authorities can decide that they stand ready to endow the private issuing institutions with an amount of higher-ranking money to meet their payment obligations during a run. Typically, the emergency liquidity facilities supply higher-ranking money to a very high or even unlimited amount, and public authorities are able to create those funds at their own discretion on public balance sheets. If such emergency liquidity facilities are in place, the private issuing institution cannot become illiquid anymore because the public authorities will always supply the volume of funds necessary for the institution to meet its payment commitments during a run. Thus, a higher-ranking public institution supplies the necessary emergency liquidity to the struggling institution, which also saves their solvency situation in the crisis.[54]

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52 This form of bailout has been most pivotally used in the 1797 Bank Restriction to create backstops for Bank of England notes. See e.g. Smith 1936 for this interpretation.

53 This form of bailout occurred in 1933 to end the Great Depression with an implicit guarantee for bank deposits as well as in 2009 with an explicit guarantee for MMF shares.

54 These emergency facilities had been established for overnight repos in 2008 and 2009.

3.3.3 The transformation of the monetary system via public backstopping

The conventional account of the public bailouts focuses on the *institutions* that were struggling. The theory of private credit money accommodation, in turn, stresses the impact of the public intervention on the *credit money forms* that those institutions issue as well as the implications for the monetary system in general. Notably, the theory highlights that the intervention induces a new setup of the public-private hybridity in the money supply on the spot and hence leads to a—potentially permanent (cf. Chapter 7)—transformation of the monetary system.

The policy-makers' decision to create public backstops against illiquidity and insolvency accommodates the systemically relevant credit money form in the public money supply. Effectively, the backstops shift the systemically relevant credit money from the private credit money realm—either as *public-private money* or as *pure private money*—into the public credit money realm where it becomes *private-public money*. With the public backstops in place, an *ad hoc* public framework is established to guarantee the 'moneyness' of the formerly private credit money form. Public authorities assume the responsibility to guarantee par clearance of the credit money form vis-à-vis higher-ranking credit money forms or the 'ideational' unit of account itself (cf. Figure 3.9).

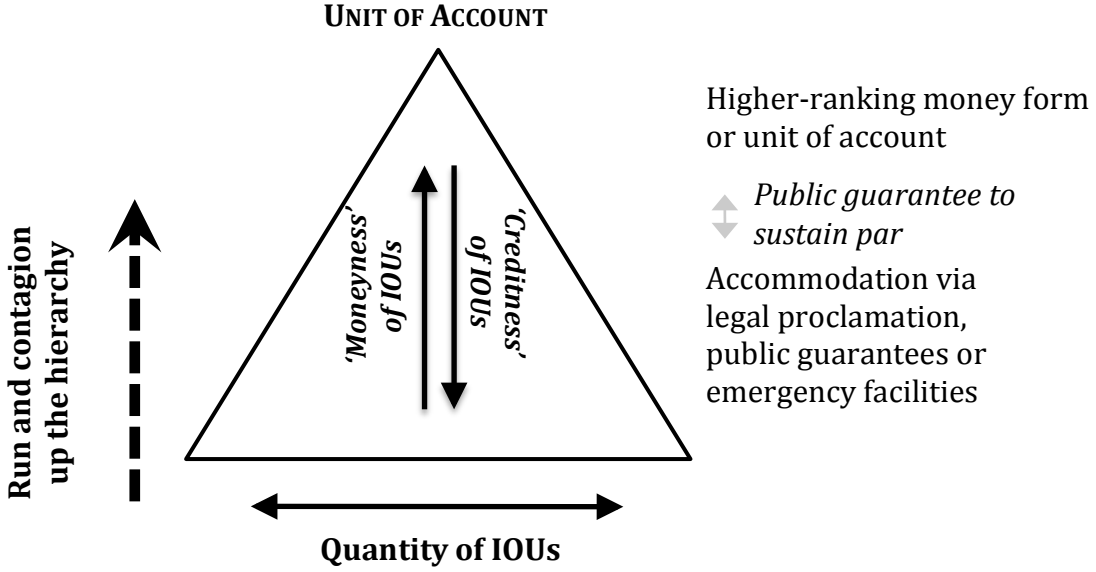

Figure 3.9—Accommodation as public guarantee to sustain par clearance

In this, accommodating the private credit money form is an unintended side-effect of the crisis intervention. From the policy-makers' perspective, the decision to establish the backstops is unrelated to the setup of the monetary system. They justify their action with the need for a public bail-out of the defaulting financial institutions. Without public intervention, the financial crisis would become worse and contagion effects would spread further through the system. As the private credit money form is not typically considered part of the money supply in a narrower sense, the monetary effects are left aside in the

policy-makers' consideration. Still, the role of public authorities can be described as the exercise of 'infrastructural power'—not by private actors held over the state (as in Braun 2016c), but held by the state over the privately dominated monetary system (cf. Mann 1984). Due to the embeddedness of the state in the hybrid structure of the monetary system, it constitutes an outside force that is capable of preventing the autodestructive forces of the monetary system from unfolding.

Establishing the public framework to guarantee par clearance changes the character of the systemically relevant credit money form. Within the logic of the monetary system as a self-referential system of expanding, yet instable debt claims, the private credit money form had initially been a promise made by the private issuing institution to pay a higher-ranking money form on demand. The public framework effectively supports the issuing speculative and Ponzi units in meeting their payment obligation in a crisis. Via a legal proclamation, the state allows the issuing institution to decline the promise to pay higher-ranking money and thus secures that par can be maintained. Via public guarantees or emergency facilities, public authorities assume responsibility for the redemption. They stand ready to use their own *de facto* bankruptcy remote balance sheets to fulfil the payment commitments made by the private issuing institutions and redeem the holders of the credit money form (cf. Figure 3.10).

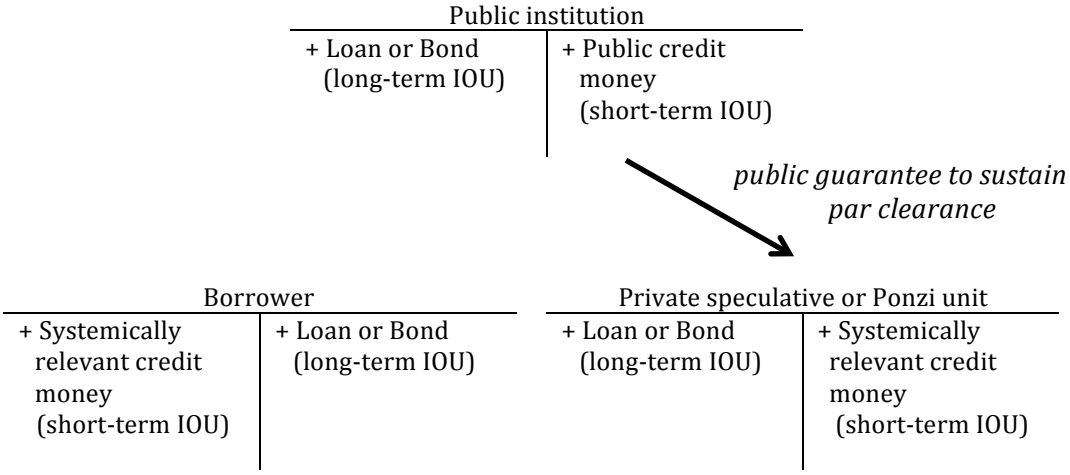

Figure 3.10—Accommodation via backstops on a public institution's balance sheet

Referring back to the discussion in Chapter 1, the accommodated credit money form may *appear* as 'fiat money' after the accommodation. It may be referred to as 'fiat money' because it does not have to be repaid or, alternatively, there is a bankruptcy remote public balance sheet standing ready to repay it if necessary. However, from the perspective of the accommodation theory, it would be a wrong conclusion to assume that this instrument had emerged as fiat money in the first place and has always been fiat money. To assume that public authorities have decided at some point that a given 'token' should now be 'money' via their government 'fiat' is an inaccurate notion. Rather, following the conceptual approach of this study, the private credit money form can become a fiat money-like public credit money form due to the state's unintentional exercise of its infrastructural power.

The accommodation of the private credit money form amounts to a substantial transformation of the monetary system that is likely to put the monetary system on a new path dependent trajectory.[55] On the one hand, a new credit money form is now part of the public credit money system. What was initially only an opaque 'near money' form, co-existing next to 'money proper' (Keynes 1930a: 6), now becomes 'money proper' itself. The public guarantee to sustain par clearance implicitly acknowledges that the credit money form has taken on a systemic role and that the monetary economy is no longer able to function smoothly without it. Public authorities can now start experimenting with new tools of monetary governance using the new credit money form that they control. On the other hand, in the aftermath of the accommodation, new private IOUs will develop as substitutes for the existing forms of 'money proper', i.e. also the newly accommodated credit money form. Kindleberger's *perpetuum mobile* is about to set in again. Thus, with the rise and accommodation of credit money forms, the accommodation model demonstrates why the capitalist money supply has a varying shape but is always made up of some public and some private money-like IOUs.

The transformation of the monetary system via private credit money accommodation follows along a dynamic that comes out of its very own properties as a self-referential network of expanding, yet instable debt claims. The monetary system's ability to create private credit money out of nothing by swapping IOUs brings along the built-in necessity that, to avoid the collapse of the debt house of cards, public authorities are confronted with the problem that issuers of private credit money are about to collapse and have to find a technical solution to avoid systemic meltdown. This is a functionalist explanation which assumes that the transformation of the monetary system is driven by functional necessities of the system (cf. Mitrany 1948, Porter 2003). At the same time, it is a political economic theory because it determines specific roles for public and private actors and their interaction to explain the monetary system's transformation. However, the fundamental causes is neither to be found in the state and public authorities (realism) nor in the interests of private agents (liberalism); it is also not due to their shared cognitive beliefs (constructivism) or broader historical processes such as financialisation or class struggle (structuralism). The functionalist logic suggests that both private and public agents behave in a way that is in accordance to the incentives and necessities provided by the system. Due to the system's properties, private financial institutions have clear incentives to conduct financial innovations in phase I. Individual institutions could decide against innovating but would be slowly driven out of the market by competition. In phase II, the system provides the incentives for the run—an individually rational decision by holders of private credit money balances—as well as the reasons for public authorities to establish backstop and accommodate via the state's infrastructural power.

[55] As discussed in Chapter 7, the accommodation will entail a number of follow-up processes that are beyond the scope of this study. The status of the credit money form within the Money Matrix is by no means fix. In an ensuing regulatory process, it may remain *private-public money*, become *pure public money*, be shifted back into the 'private credit money realm' or even be 'de-monetized', i.e. drop out of the Money Matrix as it breaks par to higher-ranking money.

3.4 Conclusion

This chapter has developed a theory of private credit money accommodation. While using the conceptual apparatus provided by the Money View framework, it has established a two-phase model that points out how a systemically relevant private credit money form first emerges in a pre-accommodation phase and is subsequently put under public control in the moment of a systemic financial crisis. The model suggests two ideal-typical answers to the research questions of this study, which subsequently are to be empiricized:

RQ1: How does private credit money accommodation affect the transformation of the monetary system? *Private credit money accommodation transforms the public money supply by shifting the delineation between public and private credit money. It is preceded by a long period of financial stability during which private profit-oriented institutions conduct financial innovation. They develop novel short-term IOUs, which eventually become private credit money as they establish par clearance vis-à-vis higher-ranking money forms and attain systemic relevance as they grow in size, interconnectedness, non-substitutability and complexity. The private credit money form is accommodated at a very specific moment in time that coincides with a 'Minsky moment', i.e. a systemic financial crisis, when public balance sheets are used to create backstops against the illiquidity and insolvency of the defaulting institutions that have issued the systemically relevant credit money form.*

RQ2: Why is private credit money accommodated in the public money supply? *Private credit money accommodation is driven by the very own properties of the monetary system itself, notably its ability to create credit money out of nothing. As a self-referential network of expanding, yet instable debt claims, the monetary system's ability to bring forth new forms of private credit money sooner or later leads to an imminent threat of implosion. This creates the necessity for political authorities to bail out the struggling institutions that issue the systemically relevant private credit money form. As private agency dominates during the rise of the systemically relevant private credit money form, public actors only react* ex post *to the technical necessities in a crisis to prevent a systemic meltdown. The accommodation—i.e. the transformation of the monetary system that induces a change in the public-private setup of the money supply while exercising the state's infrastructural power—is the unintentional side-effect of those bail-outs, decided upon on the highest level of government under extreme time pressure and uncertainty while fearing a doomsday scenario for the financial system and the wider political economy.*

Private credit money accommodation is a functionalist institutionalist theory about the transformation of the monetary system that attributes a crucial role to private credit money and can repeat itself historically. In a broader sense, the theory is capable of explaining the empirical setup of today's monetary system. In this, it responds to the problématique described in the Introduction and depicted in greater detail in Chapter 1, according to which the current scholarship on money in IPE is unable to make sense of the opaque amalgam of credit instruments issued by public and private institutions that *actually*

constitutes the money supply today. This is due to the Essentialist and Chartalist biases, the neglect of taking the debt properties of modern money and private money creation seriously, which lead to a blind spot on the role of private credit money in the IPE literature on monetary transformation. It is the claim of this study that the accommodation theory allows taking an innovative and more empirically and historically accurate look at the real-world monetary system.

In this, the accommodation theory has no predictive *ex ante* power about future cases of accommodation. "The Owl of Minerva", as Hegel writes in his *Rechtsphilosophie*, "takes flight only as the dusk begins to fall." Still, to adequately respond to the problématique and explain the setup of today's money supply, we can empiricize *ex post* and reconstruct how what today occupies the public credit money realm has attained this position through the process of private credit money accommodation in the past. This is what the empirical part of this study set out to do. In this, the two-phase model developed in this chapter will be applied on the relevant historical cases, and empirical instances of private credit money accommodation will be carved out via process tracing.

In order to determine the relevant empirical cases of private credit money accommodation, we may start with an empirical version of the Money Matrix as we can find it today. Following Pozsar (2014) and Murau (2017), the contemporary Money Matrix can be thought of as depicted in Figure 3.10. Accordingly, there are three different types of public credit money that have been private credit money in the past: bank notes, which today are issued as liabilities of the central bank and are *pure public money*; bank deposits, which—

Public Credit Money Forms	Private Credit Money Forms
(1) Pure Public Money Central Bank liabilities • Currency (Notes, Coins) • Central bank deposits	**(3) Public-private Money**
(2) Private-public Money Commercial bank liabilities • Insured bank deposits Securities dealers' liabilities • RPs (o/n) of government desk • RPs (o/n) of credit desk MMF liabilities • Shares of Government MMFs	**(4) Pure Private Money** Commercial bank liabilites • Uninsured bank deposits

Figure 3.11—The contemporary empirical Money Matrix

to the extent that they are covered by deposit insurance—are *private-public money* and are issued by commercial banks; as well as MMF shares and overnight repos, which are referred to as 'shadow money' in the literature (Pozsar 2014, Gabor and Vestergaard 2016), are issued by shadow banks and are also *private-public money* today (Murau 2017).

The subsequent case studies will analyze the accommodation of the three quintessential forms of credit money that constitute the public money supply today. Chapter 4 addresses bank notes which developed as private credit money throughout 18th century in England. Main suppliers were the Bank of England (founded in 1694) and the English country banks, which emerged from 1750 onwards. The accommodation occurred in 1797 when the government initiated the 'Restriction Period', decoupled Bank of England notes from their gold base and gave them public backstops. Chapter 5 studies bank deposits which have existed even longer than bank notes but only became systemically relevant as a private credit money form after the accommodation of bank notes in the 19th century. The accommodation occurred in the U.S. during the Great Depression through an implicit 100% government guarantee for bank deposits by passing the Emergency Banking Act in March 1933. Chapter 6 focuses on shadow money which arose from the 1970s onwards with the emergence of the shadow banking system to circumvent existing regulations for deposit banking. The key forms of shadow money were ABCPs, MMF shares and overnight repos. The accommodation of shadow money took place in 2008 when public backstops were created through emergency facilities of the Fed as backstops for overnight repos and guarantees of the Treasury to protect par clearance of MMF shares.

At the same time, this sketch of the empirical case studies to be discussed in the next chapters also points to some of the limitations that the theory of private credit money accommodation has as it is presented in this chapter. There are at least two shortcomings (cf. Chapter 7 for more details): On the one hand, as the contemporary empirical Money Matrix shows, the accommodated credit money does not necessarily have to keep its status as *private-public money*. As in the case of bank notes, post-crisis regulation can lead to further change within the Money Matrix and turn it e.g. into *pure public money*. Alternatively, the accommodation could also just remain temporary and be reverted after a while. The subsequent empirical chapters will briefly refer to the aftermath of each instance of accommodation. Systematically analyzing this post-crisis regulatory process, however, is beyond the scope of this study. On the other hand, the three quintessential cases demonstrate that the accommodation processes which turned out essential for the setup of today's money supply always occurred in the respective apex of the IMS. With its notion of international hierarchy, the Money View can explain why this is the case. However, while this study assumes that such an accommodation in the apex spills over to the periphery, it does not analyse the specific mechanisms that translate such institutional change. Since textbook knowledge and *ad hoc* empirical evidence suggest that in the Western advanced capitalist economies the same forms of credit money occupy the public monetary realm, there must be spill over processes (cf. e.g. Wagner 1862 for bank notes and Laeven 2004 for bank deposits). However, at this point, the accommodation model is neither able to adequately describe nor explain them.

Chapter 4
Case I: Bank Note Accommodation in England

> *"This suspension of cash payments was procured by the Government by Act of Parliament in order to meet a critical situation in which the Bank was faced by a 'run' at a time when it already had an extremely weak reserve position. The Government's action amounted to a legalisation of the bankruptcy of the Bank, and it created a precedent which led the public in future always to expect the Government to come to the aid of the Bank in difficult circumstances" (Smith 1936: 14-15).*

4.1 Introduction and plan of the chapter

This chapter analyzes and explains the accommodation of bank notes which occurred in England in 1797. Bank notes as a private credit money form developed from the 17th throughout the 18th century, with the Bank of England and country banks as main issuers. The accommodation took place when the government—as a reaction to the depletion of the Bank of England's bullion reserve in a financial crisis—initiated the 'Restriction Period' by suspending the guaranteed conversion of Bank of England notes into gold. Via an Order of the Privy Council and later backed by Parliament, the Restriction turned Bank of England notes into *private-public money:* Public backstops were established via the legal proclamation that Bank of England notes were a promise to pay nothing else but themselves and the government's guarantee to accept an unlimited amount of Bank of England notes for tax payments (cf. Figure 4.1).

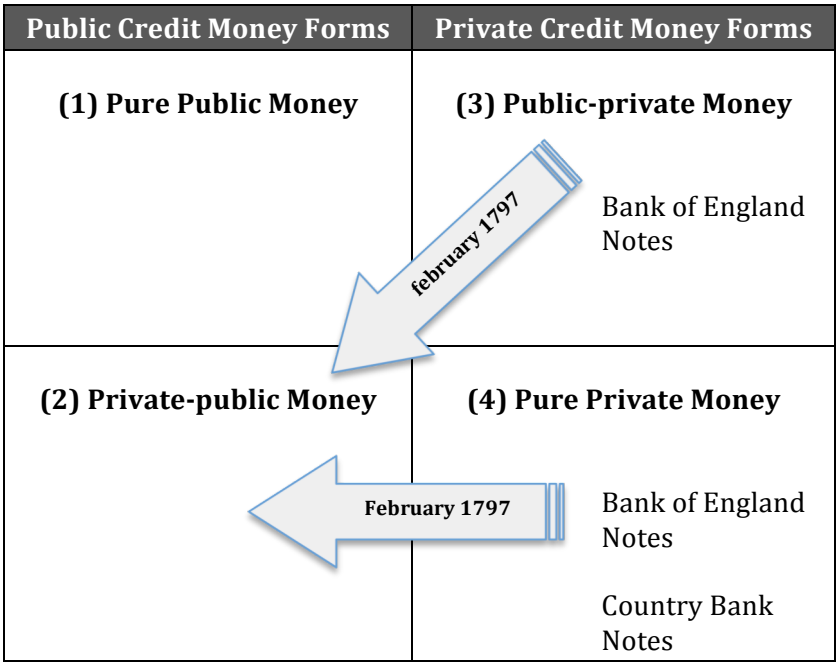

Figure 4.1—Bank note accommodation via the 1797 Order of the Privy Council

This chapter is organized as follows:

Section 4.2 addresses the rise of bank notes as a private credit money form in England throughout the 17th and the 18th century (phase I). To this end, the section develops a Money View perspective on the creation of bank notes as a swap of IOUs. The analysis draws on the work of Henry Thornton and Francis Baring as early credit money theorists. It stands in contrast to the conventional narrative about the evolution of bank notes issuance via fractional reserve banking due to fraudulent financial practices of goldsmiths (4.2.1). Subsequently, to sketch the setup of the public-private money hybridity in late 18th century England, the section discusses the institutional details of bank note issuance by the Bank of England after its foundation in 1694 as well as by country banks from the 1750s onwards. This allows understanding how bank notes developed par clearance vis-à-vis higher-ranking money forms (4.2.2). Finally, the section discusses how Bank of England notes as well as country bank notes attained systemic relevance in the middle of the 18th century (4.2.3).

Section 4.3 studies the accommodation of bank notes during the 1797 financial crisis (phase II). In this, it interprets the 1793 and the 1797 crises as complementary events. The section first depicts how the English system of bank note issuance endogenously got into financial distress—starting in the country banking system and spilling over to the Bank of England (4.3.1). Subsequently, it discusses the public measures taken in reaction to the crisis, notably the Order of the Privy Council and the Bank Restriction Act (4.3.2). Finally, the section develops the argument for why the 1797 Bank Restriction constitutes an accommodation of Bank of England notes by establishing public liquidity and solvency backstops, which amounts to an unintentional transformation of the monetary system (4.3.3).

The concluding section 4.4 presents a brief outlook on the follow-up processes of the accommodation—notably the end of Bank Restriction and the 1844 Bank Charter Act—and points out how the transformation of the monetary system has solidified.

4.2 Phase I: The rise of bank notes as private credit money

This section applies phase I of the accommodation model on bank notes and studies their rise as systemically relevant private credit money in 17th and 18th century England. Drawing in particular on the work of Henry Thornton, the section argues against a widespread narrative according to which bank notes emerged as gold certificates based on the essentially fraudulent practice of London goldsmiths. Instead, it interprets their origin as a swap of IOUs, created primarily by the profit-driven financial business of discounting bills of exchange (4.2.1). The section then sketches how bank notes adopted a role as private credit money by establishing par clearance vis-à-vis higher-ranking forms of money and how this affected the wider monetary system in the late 18th century (4.2.2). Finally, the section discusses to which extent Bank of England notes and country bank notes were systemically relevant in the late 18th century (4.2.3).

4.2.1 Financial innovation and bank note creation as a swap of IOUs

The financial innovation that took place towards the emergence of bank notes in England can be traced back to the 17th century. According to a widespread narrative, bank notes developed out of the essentially fraudulent financial activities of goldsmiths in London. For example, Gilbart (1854: 289) dates the origin of bank notes back to the year 1645 when "a new era occurred in the history of banking" as the "goldsmiths, who were previously only money-changers, now became also money-lenders". Sgambati (2016) summarizes the way in which the story is commonly told as follows:

> "[D]ishonest goldsmith bankers […] began to offer safe-keeping services to people who feared for the safety of their valuables. To certify these bailment contracts, goldsmiths issued certificates against all precious metal and coins kept in their vault. Because of goldsmiths' reputation, these certificates were deemed to be 'as good as gold' and, in time, depositors began to pay for their purchases by handing their certificates over. The certificates thus started to circulate widely. Smelling an opportunity, goldsmiths began to accept deposits for free and even pay interest on time deposits to add more capital to their portfolio. But then […] they did not just simply lend at interest the coins kept in custody to make a profit in conformity with the principles of fractional reserve banking. Instead, they began to issue anonymous gold certificates redeemable on demand to the bearer in excess of their deposits, that is, certificates that did not circulate on behalf of cash, as a 'veil' of creditor-debtor relations, but in addition to it, as a 'net worth'" (Sgambati 2016: 278, italics in original).

As Sgambati notes further, this view of the "greedy and dishonest goldsmith bankers has been reproduced countless times in mainstream as well as alternative texts" (ibid). It explains the origin of bank notes as private credit money out of an ultimately illicit trick: By creating bank notes, goldsmiths pretended to lend something out which they did not actually possess. Bank notes were entitlements to owning an amount of 'gold' or 'real money' that was not actually there.

Taking into account a credit theory of money, however, this story misses the point. A more accurate account of what happened in the 17th century is, as Sgambati puts it, that "other than dissimulating fractional reserve banking with fake certificates of deposit, goldsmiths learned how to discount other people's debts with their own IOUs in a way as to expand their 'credit' beyond their original portfolio in a sustainable fashion" (ibid). Thus, from a Money View perspective, the tale about the goldsmiths and their contribution to the invention of bank notes as credit money fails to acknowledge that the actual balance sheet operation for bank note creation is a swap of IOUs (cf. Figure 4.2):

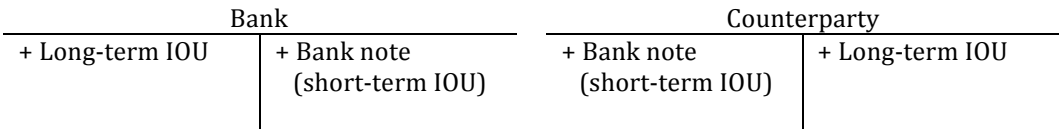

Figure 4.2—Bank note issuance as a swap of IOUs

The bank as issuer of bank notes and its counterparty exchange debt certificates of different maturities. In this process of swapping IOUs, banks act as speculative and Ponzi units in a Minskian sense: They accept the maturity mismatch between the notes they issue as short-term IOUs and the longer-term IOUs they accept in return. While gold is required as the unit of account to denominate the debt, it is not necessary that gold is actually deposited. Given that no actual endowment of gold is necessary for the creation of bank notes, the normative argument according to which the goldsmiths tricked their customers by pretending to hand out an entitlement to something that does not exist, is misleading.

In this balance sheet example, the 'long-term IOUs' in exchange for which the bank hands out its notes can be either private or public debt. This explains why bank notes may both be *pure public money* or *public-private money*. As Table 4.1 demonstrates, the bank will attain them either by buying bonds (e.g. by discounting bills of exchange or buying government bonds) or by extending loans to counterparties from the private (e.g. merchants, companies or individuals) or public sphere (government) (cf. Ricardo 1810: 4, Thornton 1802).

	Private	**Public**
Buying Bonds	Private securities, esp. bills of exchange	Government bonds
Extending Loans	Loans to merchants, companies, individuals	Loans to the Government

Table 4.1—Long-term IOUs against which banks issue notes

By far the most important debt certificate that English banks took on their balance sheet in the late 18th century in exchange for bank notes were bills of exchange. Via their business of discounting bills of exchange, private banks were most active in creating bank notes as private credit money (cf. Itoh and Lapavitsas 1998: Ch. 2).

Such a view on bank notes as genuine private credit money can be backed with the arguments that Henry Thornton makes in his 1802 *Enquiry into the*

Nature and Effects of the Paper Credit of Great Britain. In this book, Thornton (1802) systematically studies the English financial system based on the issuance of bank notes ("paper credit") and analytically derives their origin out of "commercial credit", i.e. the "confidence which subsists among commercial men in respect to their mercantile affairs" and which "disposes them to lend money to each other, to bring themselves under various pecuniary engagements by the acceptance and indorsement [sic!] of bills, and also to sell and deliver goods in consideration of an equivalent promised to be given at a subsequent period" (ibid: 75)—hence, the mercantile system based on the willingness to use bills of exchange. Thornton then emphasizes with regard to the creation of bank notes: "This commercial credit is the foundation of *paper credit*" (ibid: 76, italics in original). In this, he points to the Money View's notion of the monetary system as a self-referential network of expanding, yet instable debt claims.

Thornton's approach underpins that bank note creation neither requires gold as a higher-ranking form of money nor occurs with the intention to ever pay or receive gold for notes. Gold merely serves as a unit of account:

> "It is perfectly well understood among all commercial men, that gold coin is not an article in which all payments (though it is so promised) are at any time intended really to be made; that no fund ever was or can be provided by the bank which shall be sufficient for such a purpose; and that gold coin is to be viewed chiefly as a standard by which all bills and paper money should have their value regulated as exactly as possible; and the main, and, indeed, the only, point is to take all reasonable care that money shall in fact serve as that standard" (Thornton 1802: 111).

Instead, he stresses that bank notes are in effect created by swapping IOUs:

> "Paper constitutes, it is true, an article on the credit side of the books of some men; but it forms an exactly equal item on the debit side of the books of others. It constitutes, therefore, on the whole, neither a debit nor a credit. The banker who issues twenty thousand pounds in notes, and lends in consequence twenty thousand pounds to the merchants on the security of bills accepted by them, states himself in his books to be debtor to the various holders of his notes to the extent of the sum in question; and states himself to be the creditor of the accepters of the bills in his possession to the same amount" (Thornton 1802: 79-80).

When and how did the financial innovation occur that led to the rise of bank notes as a novel short-term IOU? Enquiring into the 'true origins' of bank notes beyond the English context is an equally "moot question" as enquiring into the origins of bills of exchange as private credit money (cf. Cameron 1967: 19). It can hardly ever be answered in a historical accurate way with certainty. The actual events—not only in England but also other places—are rather an anthropological question and not of the greatest relevance to this study (see e.g. Graeber 2011). Still, there is sufficient historical evidence to sketch how bank note issuance developed by the three most notable issuing institutions in England: the London banks; the Bank of England; as well as the English country banks.

First, London banks' notes originated in the mid-17th century from the London goldsmith's profit-driven activity of discounting bills of exchange (Sgambati 2016: 279). The goldsmith's system was inherently crisis prone and often portrayed as dubious. An imminent example for the difficulties of the goldsmith's early business model of bank note issuance is the 1672 Stop of the Exchequer, which led to the failure of many goldsmiths (Knafo 2013: 51-52). Two decades later, it was the Bank of England's foundation that marked the beginning of the end of the London banks' bank note issuance as they were superseded by Bank of England notes. Hence, London banks withdrew from the note issuing business in the early 18th century (Joslin 1954: 170).

Second, Bank of England notes were issued in massive volumes early after the Bank's establishment in 1694. Sgambati (2016: 285) refers to the financial innovation going along with this event as a "monetary revolution […] connected to the securitisation of the English national debt, the progressive construction of a financial market for public securities and the institutionalisation of Bank of England IOUs as the new currency". Indeed, what made the Bank of England special was the unique combination of a private institution as joint-stock company that received a number of legal privileges and exchanges committed itself to act as the main creditor for government debt and for administering the public finances. As the Bank also engaged in the business of discounting bills of exchange, it issued its bank notes both against public and private debt (Thornton 1802, Liepmann 1933). In the early 18th century, the Bank even received a *de facto* note issuing monopoly for the London area: "Since 1708, the issuing of notes or receipts due to payment on demand was forbidden for companies that had more than six partners, with the exception of the Bank of England" (Arnon 2011: 30).

Third, country bank notes started to develop at around 1750 and were "the most important feature of the English banking system", as to Cameron (1965: 15). They were a financial innovation specific to the industrial revolution, as they allowed supplying means of payment and funding investment in the industrializing peripheral areas of England that had had barely been integrated in the London money market. Next to money scriveners and remitters of funds between London and the countryside, country banks as bank note issuers developed due to the profit opportunities spotted by "industrialists, whose main concern was to provide a local means of payment" (Pressnell 1956: 13). Country banks discounted bills of exchange and sent many of them to London, with a London bank acting as its correspondent (Hawtrey 1932: 118). As Thornton (1802: 169) argues, country banks developed in villages typically out of other businesses such as traders, manufacturers and shopkeepers when they started discounting bills of exchange for their customers. At some point, "[f]or the sake of drawing custom to his house, the shopkeeper, having as yet possibly little or no view to the issuing of bank notes, printed "The Bank" over his door, .and engraved these words on the checks on which he drew his bills" (ibid).

The notion that bank note creation relies on a private swap of IOUs refers to all three banking entities in 18th century England. Not only London banks and

country banks were private institutions but also the Bank of England. Thornton points out the independent status of the Bank of England as a private institution:

> "The Bank of England is quite independent of the executive government. It has an interest, undoubtedly (of the same kind with that of many private individuals), in the maintenance of our financial as well as commercial credit. […] The government of Great Britain is under little or no *temptation* either to dictate to the Bank of England, or to lean upon it in any way which is inconvenient or dangerous to the bank itself. […I]t is not easy to believe, that a government which can raise at once twenty or thirty millions, will be likely, for the sake of only four or five millions (for the loan of which it must pay nearly the same interest as for a loan from the public), to derange the system, distress the credit, or endanger the safety of the Bank of England" (Thornton 1802: 105-107).

That Bank of England notes are private, not public credit money is particularly emphasized by Francis Baring in his 1797 *Observations on the Establishment of the Bank of England and on the Paper Circulation of the Country*:

> "Very few foreigners have understood the principles on which the Bank is established; they have always considered their Notes as Government paper […]. They could not distinguish between paper issued for the sole purpose of circulation, limited in its amount, and under the authority and responsibility of a corporate body, absolutely independent—and that paper which Government could issue *ad libitum*, bearing an interest, which rendered it an object for persons to purchase as a productive investment of their capitals—they were very much astonished to find the total amount of Notes in circulation to be so small, compared with the commerce and wealth of the country; and equally so, that after all, Bank Notes continued to circulate at par. Those opinions, however, did not prevail at home, for the knowledge of the sources from whence those Notes issued, namely, deposits of bullion, loans to Government, and commercial discounts" (Baring 1797: 10-12).

It is thus a crucial difference between the English bank note system and other paper money systems—e.g. that of John Law, implemented and failed in France in the early 18th century—that all bank notes used to be private credit money. Credit money creation via bank notes in the pre-1793 era solely occurred in a private realm. Public institutions did not play a role in backstopping activities of bank note issuance (cf. Figure 4.3).

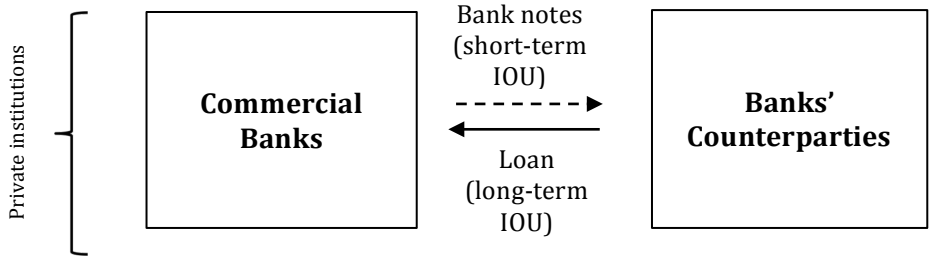

Figure 4.3—Bank note creation as a private business without public backstops

4.2.2 Establishing par clearance vis-à-vis higher-ranking forms of money

To qualify as private credit money from a Money View perspective, bank notes as privately created IOUs have to trade at par or quasi-par with higher-ranking money, which at the time was commodity money, first and foremost gold. Hence, it needs to be asked if, how and when such par exchange was established in the case of bank notes. This question refers to the two eminent forms of bank notes in the 18th century—Bank of England notes and country bank notes.

Bank of England notes, on the one hand, are a coherent form of private credit money as they are only issued by a single institution. The specific challenge in keeping up par was thus associated with the mechanics on only one balance sheet. In particular, it relied on the Bank's ability to keep up the promised convertibility into gold. As to Baring (1797: 12-13), it was

> "from a confidence in the conduct of the Directors, as a corporate body, that they would maintain and preserve the independence of the Bank in their transactions with Government, notwithstanding the partial influence which now and then prevailed,—that their Notes continued to circulate at par, with the same facility and convenience to the public as before, and that confidence was restored to a degree much beyond what could have been expected".

Vilar (1969: 281) points out that

> "[i]n 1745 a dynastic crisis of the English Crown—the threat of a Stuart restoration—started a panic and a run on the Bank. […] What saved the Bank, however, was a proclamation by the merchants of London, that they would accept and encourage payment in bank notes. In 1773, another obstacle to the acceptance of the note as currency was overcome when the death penalty was introduced for forging notes on the Bank of England, thereby putting them on a par with coin".

The Bank thus used market processes, its own balance sheet as well as its particular reputation to keep up par. It may be assumed that it succeeded in doing so early on after its foundation. Later, with the threat of capital punishment, legal constructs were applied to ensure par clearance.

On the other hand, how par was established for country bank notes is more difficult to reconstruct. As they were created by many different issuing institutions, they are not a coherent IOU but rather a group of different IOUs. The specific difficulty with country bank notes, as Liepmann (1933) emphasizes, was that holders did not have a lot of information about the liquidity and solvency of the issuers. Hence, the acceptability of country bank notes used to be rather low, and often a premium was charged on the face value of the notes. Therefore, par clearance of country bank notes vis-à-vis Bank of England notes as the higher-ranking credit money form was far from certain; rather, they traded occasionally at quasi-par. Yet, as Pressnell (1956) points out, some country bankers accepted each other's notes at face value and thus likely were willing to convert them into Bank of England notes as par. While par was, if at all, primarily established via

market processes in the early years of country banking, the foundation of the London Clearing House—as a specific private institution to improve the efficiency of the English banking system—in 1773 is likely to have contributed to reducing the price volatility of country bank notes (Kindleberger 1984: 78).

Still, once bank notes have established par vis-à-vis higher-ranking money, we can think of them as a private credit money form and discuss their status within the wider monetary system using the Money Matrix as a heuristic. Figure 4.4—compiled on the basis of various sources—presents the empirical setup of the Money Matrix in England prior to the accommodation of bank notes. Accordingly, the English monetary system in the late 18th century was made up of various forms of commodity money, public credit money and private credit money that all co-existed next to each other. The money forms were used in different de-centralized payment communities; the monetary system relied on a distinct operational logic on the countryside than in London.

Commodity Money	Public Credit Money Forms	Private Credit Money Forms
Outside Money Metallic currency • Guineas • Other gold currency • Silver currency	**(1) Pure Public Money** Government liabilities • Exchequer orders • Exchequer bills • Malt and lottery tickets	**(3) Public-private Money** Bank of England liabilities • Bank of England Notes • Deposits (BoE) London Bank liabilities • London Bank Deposits
	(2) Private-public Money	**(4) Pure Private Money** Bank of England liabilities • Bank of England Notes • Bank of England Deposits London Bank liabilities • London Bank Deposits Country Bank liabilities • London Bank Notes • London Bank Deposits Merchant liabilities • Bills of Exchange

Figure 4.4—The Money Matrix prior to the 1793 Crisis (empirically)

In the commodity money realm of the late 18th century, the core unit of account in the English monetary system was gold. However, from at least the 6th century to the 18th century, the main metal used as a currency standard had been silver. Only in the 14th century, gold coins found their way into circulation. From then on, the country was operating a bimetallic system (Feaveryear 1963: 23). It was the 1717 decision taken by then-Master of the Mint Isaac Newton to fix the Mint price of gold at the (overvalued) price of £3 17s. 10½d. per ounce which lay

the foundation of the gold standard and put in place a century-long process of de-monetizing silver (Feaveryear 1963: 154). A law of 1774 formally guaranteed a gold currency and legally downgraded silver to a secondary role (Vilar 1969: 300). The dominant role of gold had further been supported by a law of 1754 which discontinued the issuance of copper coins (Cameron 1967: 18-19). The main gold coin in circulation pre-1793, next to many other forms, was the 'guinea'. Its origin can be traced back to 1663 when it was first produced and made legal currency. Its initial nominal value was one pound sterling (cf. Stride 1955). Silver coins continued to be issued after 1717 but the good quality coins were often immediately melted down to export them. The condition of the actual silver coins in circulation was therefore very bad. They were clipped and regarded merely as a token (Cameron 1967: 18-19, Fetter 1965: 11).

The public credit money realm was made up of liabilities issued by the government. Those public IOUs were tradable on a secondary market and used for the purchase of commodities or the payment of taxes. There were three main types of instruments that may count as public credit money: Firstly, exchequer orders were tax receipts issued from the 17th century onwards. Upon a parliamentary decision in 1667, they replaced the 'tallie sticks', which had originally performed that function. Tallies are sealed logs of wood, which—according to Arnon (1991: 11)—had adopted the role of private money substitutes at some point. tallies were replaced by paper receipts called Exchequer orders. Secondly, exchequer bills (or exchequer bonds) were interest bearing bonds issued under the authority of the government. As a method for raising short-term loans, they were a serious alternative for private bank notes at the time (Feaveryear 1963: 160). Thirdly**,** malt tickets and lottery tickets were forms of publicly issued IOUs circulating as money substitutes (ibid: 159).

The private credit money realm, on the one hand, was made up of bank IOUs. The most straightforward private credit money form issued was the bank notes of the Bank of England and the country banks. In contrast, all three types of banking institutions issued bank deposits, which were the historically older instrument but less widely in use. Figure 4.5—based on Arnon (2011: 32)—provides an overview on the English banking system with the Bank of England at its apex and shows how the balance sheets of the three types of banking institutions were connected:

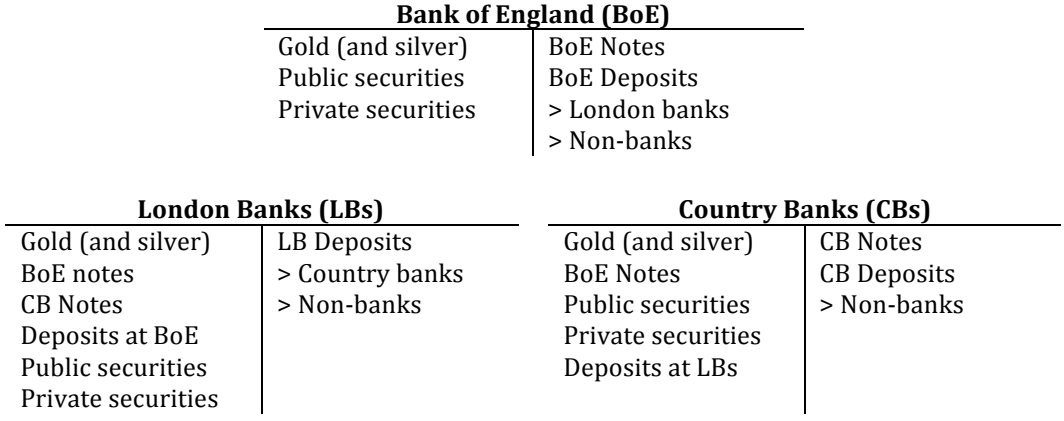

Figure 4.5—Balance sheets of the English banking system pre-1793

On the other hand, some authors argue that bills of exchange were a form of private credit money. Bills of Exchange are private IOUs typically issued upon reception of commodities, which promise to pay a specific amount of money to the person named on the bill either on demand or at a given future point in time. Bills of exchange had been used in international trade at least since the 13th century (Kohn 1999b). Making bills negotiable, i.e. passing them on as a means of payment, had been a common practice of merchants for a long time and was recognized in English Common Law at the end of the 17th century (Feaveryear 1963: 99-100). Tooke (1844: 27-28) illustrates that bills of exchange circulated as private credit money forms particularly in the countryside. He cites the interview of a country banker who pointed out that in 1792 around 10% of the circulation had been carried out with Bank of England notes and at least 90% with bills of exchange.

To contextualize the quantitative volume of bank notes in relation to other forms of money, Figure 4.6—based on the numbers in Cameron (1967: 42)—gives an overview on the quantitative evolution of four major money forms in England for the period under consideration. In the diagram, *specie in circulation* refers to gold and silver coins; *bank notes* to those notes issued by the Bank of England as well as country banks; *bank deposits* to the balances held at the Bank of England, the London private banks as well as the country banks; and *others* to a variety of other credit instruments functioning as private credit money, primarily bills of exchange but also bank deposits for the time before 1800. As Cameron (1967: 43-46) emphasizes, the data has been compiled on the basis of various sources and is very shaky, especially for the 18th century. Still, it provides an impression of the evolutionary trends of the English money supply and the relative shares of the money forms therein.

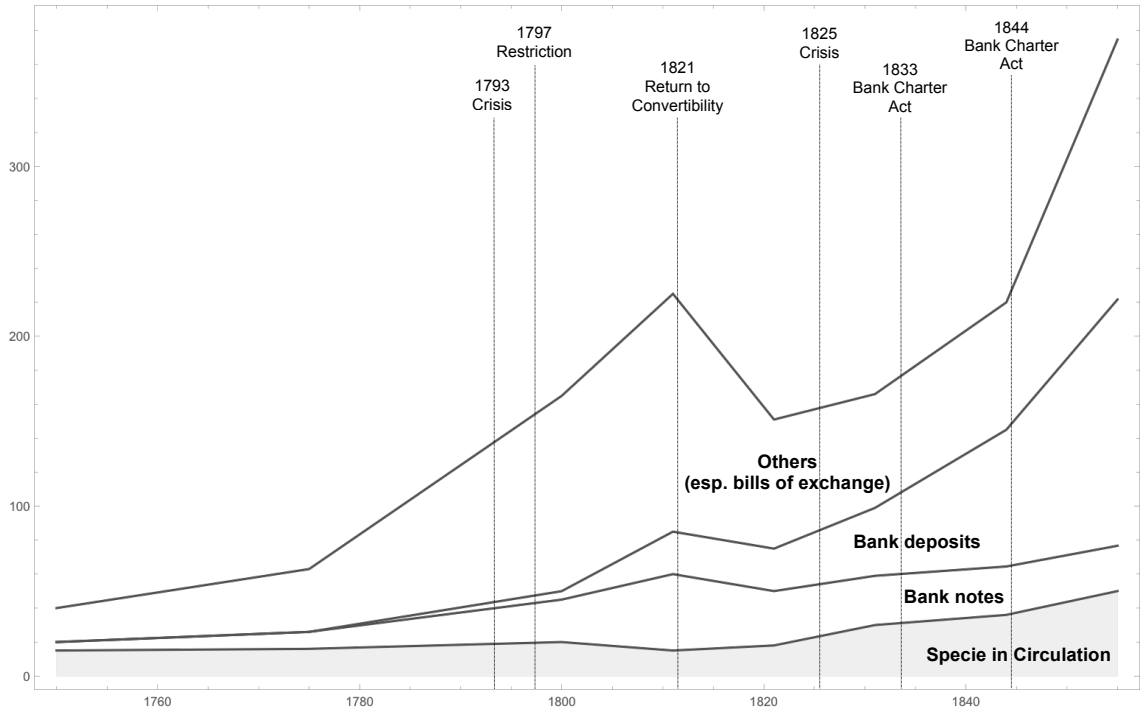

Figure 4.6—Quantities of money forms in England, 1750-1850 (in million £)

4.2.3 The systemic relevance of Bank of England and country bank notes

This section discusses the status of Bank of England notes as well as country bank notes in terms of their systemic relevance for the English monetary system in the late 18th century, using the four criteria of size, interconnectedness, complexity and substitutability.

Bank of England notes, in terms of the size of their issuance, grew massively in volume after the Bank's foundation in 1694 and soon overpowered London banks. The Bank, as to Joslin (1954), "[b]y its immense size, its privileged position in relation to government finance, and by the large volume of notes it issued, […] came immediately to occupy a unique place in the London money market. […I]t is arguable that the transition to the use of the Bank of England note as the major bank-note circulation in the metropolis was extremely rapid" (Joslin 1954: 170). Accordingly, the Bank issued notes in the volume of £764,196 in 1696, £1,340,000 in 1698 and £2,480,000 in 1720, whilst the note issuance of London banks[56] rather fluctuated around levels of £10,000 (ibid). Figure 4.7—based on Arnon (2011: 184)—gives an overview on the volume of Bank of England notes issued ("circulation"), put in comparison to the amount of bullion in its vault.

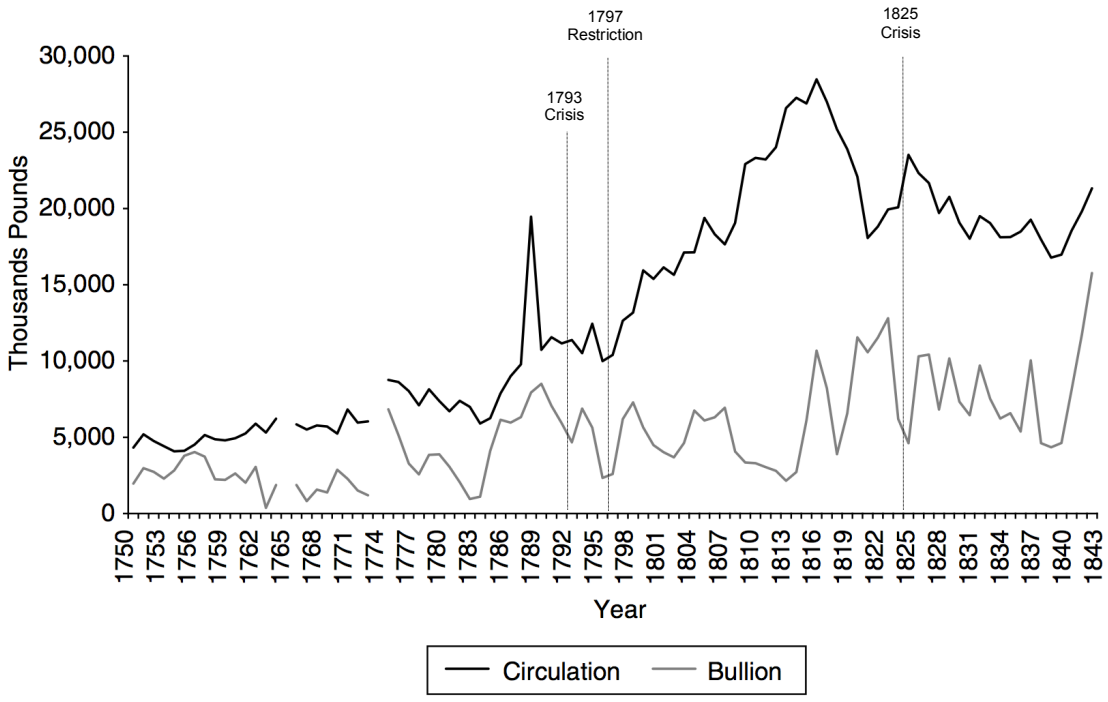

Figure 4.7—Bank of England notes and bullion, 1750-1793 (in thousand £)

As to the interconnectedness of Bank of England notes, they were issued only by a single institution (which arguably reduces their interconnectedness) but held as assets by a great number of financial market participants—from corporations within the banking system over the institutions of the English crown to merchants and the broader populace. As to Thornton (1802: 104-105),

[56] Joslin (1954: 170) problematizes that the data on note issuance by London banks is extremely shaky. If the London bank referred to by example may be seen as representative, is unclear.

"London is […] to the whole island, in some degree, what the centre of a city is to the suburbs […]. The larger London payments are effected exclusively through the paper of the Bank of England; for the superiority of its credit is such, that, by common agreement among the bankers, whose practice, in this respect, almost invariably guides that of other persons, no note of a private house will pass in payment as a paper circulation in London". The Bank's notes were thus interconnected throughout the entire country, and also—with the rise of England as the centre of the world financial system—attained a key role on an international level.

Regarding their complexity, Bank of England notes were used for a number of different functions, e.g. as a means of payment, for settlement between other banks and as reserve assets. The payment communities in which they were used for those different functions stretched across various geographical distributions, from London over the countryside to abroad. Moreover, the fact that the Bank of England issued its note both against private debt by discounting bills of exchange and public debt by lending to the English government substantially demonstrates their greater complexity compared to other credit money forms. This has key implications for the substitutability criterion: Bank of England notes were indispensable for the English money market. In particular, this is due to the note-issuing monopoly that Bank has received in 1708, which had driven out the note issuance of other banks, they could not be replaced on short notice with acceptable costs by any other form of credit or commodity money: Neither the Bank's deposits or other public or private IOUs could have taken over their functions; and the supply of gold or other metals is extremely inelastic. It may thus be assessed that early on after the Bank's foundation, say at the beginning of the 18th century, Bank of England notes became a systemically relevant private credit money form—for the country in general, and for London in particular.

For country banks, starting with the criterion of size, it is impossible to give any adequate account of how many of their notes had been issued in the 18th century. Not only is this due to the limited availability of statistical data, but also because the definition of a country bank was incoherent as country banks could unite different business models in one single entity. Data on country banks was only systematically collected in the 19th century. Quantitative estimates for the 18th century can be found e.g. in Macleod (1866), Thornton (1802), Liepmann (1933: 226) and Pressnell (1956: 6-7, 11), but differ greatly and often seem to be based on hearsay. Following the approach of Pressnell (1956), we can look at the balance sheets of individual country banks and assume that the development in the volume of their note issuance is an expression of general underlying tendencies that apply to the country banking sector in general. Table 4.2—taken from Pressnell (1956: 519)—thus presents the liabilities held on the balance sheet of the Newcastle bank Bell & Co, established in 1755, for selected years from 1756 to 1777. The overview demonstrates on the one hand the extent to which the volume of country bank notes issued increased sharply in those two decades, but could also eventually contract sharply. On the other hand, the data shows how the country banking business became more and more profitable, given that the profits were five times as high in 1777 as twenty years earlier.

	1756	1771	1773	1774	1776	1777
Capital	2,000	2,000	2,000	8,000	8,000	…
Profit and Loss	1,018	3,705	3,000	…	5,712	…
Deposits	10,000	…	…	…	85,000	37,000
Note-Issue	***13,524***	***82,000***	***102,000***	***170,000***	***179,996***	***128,000***
Unidentified Items	2,465	53,635	33,000	56,660	…	18,037
TOTAL	**29,007**	**141,340**	**140,000**	**234,660**	**278,708**	**183,037**

Table 4.2—Liabilities on the balance sheet of Bell & Co, 1756-1777 (in £)

As to the interconnectedness of country bank notes, we may argue that with a higher number of institutions issuing country bank notes across the country for the purpose of regional use and setting up links to London, the interconnectedness of the private credit money form increases. The first thing that then stands out in comparison to Bank of England notes is that there were many note-issuing country banks and not a single one. After country banks developed in the 1750s, their business model became profitable, leading to a strong rise in their number (Thornton 1802: 169). In particular, during a construction boom in the 1780s, many new note-issuing country banks appeared on the stage (Pressnell 1956). In this, the numbers given by various sources on the number of country banks differ greatly. Figure 4.8—compiled on the basis of numbers given in Pressnell (1956: 11) and Liepmann (1933: 226-227)—presents different competing estimates on the numbers of country banks starting from the mid-18th century.

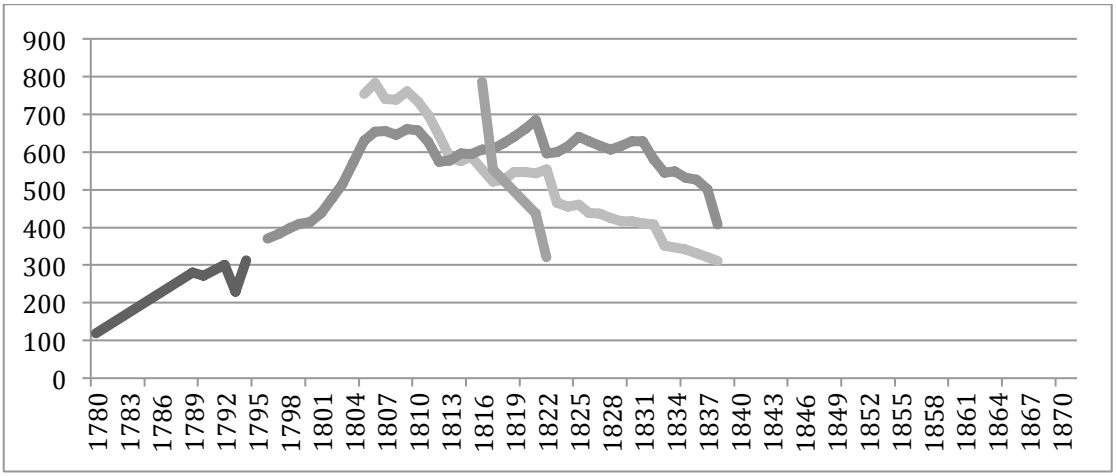

Figure 4.8—Number of country banks, 1750-1875

Based on these rough numbers, we may assume that the interconnectedness of country bank notes was high.. Country bank notes could be used as a means of payment in their respective districts and sometimes in other districts, and were often sent to London. This results in complex interlinkages throughout the country. Compared to Bank of England notes, country bank notes were thus used for other purpose and primarily in local payment communities, but had arguably had an equally high, if not higher, degree of interconnectedness.

Turning to the complexity, the geographical distribution of country bank notes was primarily limited to specific regions; they were not necessarily accepted in other districts. Still, as they connect the English periphery with the financial centre, they also flowed into London (Thornton 1802: 168-169). Finally, the substitutability of country bank notes was comparatively high. First, it was relatively easy to shift from one type of country bank note to another. Second, it would have been possible to further up the hierarchy and use Bank of England notes, though their supply was naturally scarcer than that of country bank notes. Third, country bank notes could be substituted e.g. with bills of exchange, which we can also consider as a private credit money form (cf. Tooke 1844: 27-28). For this reason, country bank notes may have played an integral and growing role for their local payment communities in which they were issued. However, they were a by far less important private credit money form for the English monetary system in general and therefore do rather not qualify as systemically relevant.

To sum up, we may contend that Bank of England notes were the systemically relevant private credit money form that kept the self-referential network of expanding, yet instable debt claims running. Its systemic relevance accrues from said criteria, and also corresponds to the effective perception at the time (Baring 1797; Thornton 1802). This is much less true for country bank notes. Figure 4.9 translates these findings into an account of the hierarchy of money at the time. Accordingly, gold was at the top layer. It promised to trade at par to the notes issued by the Bank of England, which relied on a private guarantee by the Bank and was maintained via its balance sheet. At a lower level in the hierarchy, country banks sought to establish quasi-par vis-à-vis Bank of England notes. In their case, it is rather questionable that they had systemic relevance for the wider system or were perceived as such (cf. Pressnell 1956).

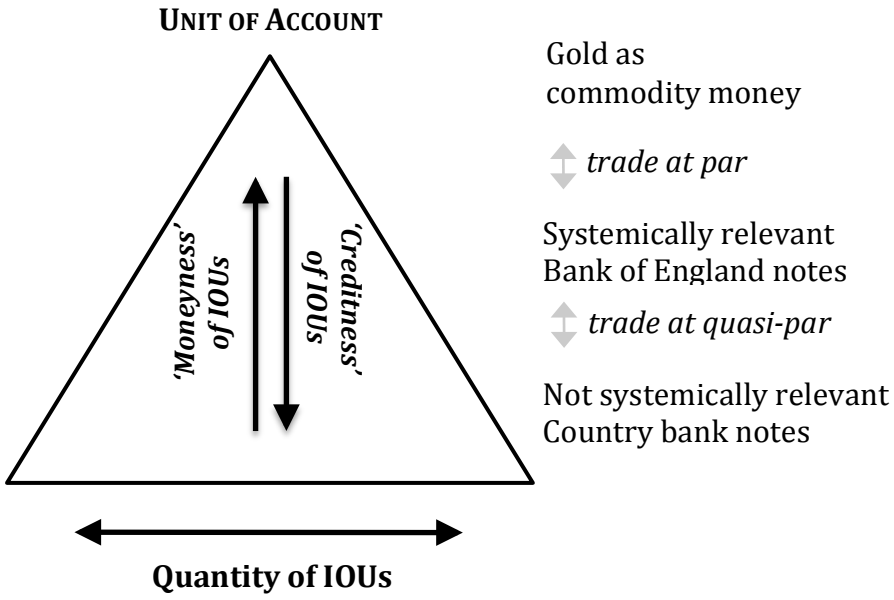

Figure 4.9—The hierarchy of gold, Bank of England notes and country bank notes

4.3 Phase II: The accommodation of bank notes in the public money supply

This section studies the accommodation of bank notes—or more precisely: Bank of England notes. It starts by addressing the financial crises of 1793 and 1797, which originated in the country banking system and spilled over to the Bank of England (4.3.1). In February 1797, as an emergency crisis intervention, an Order of the Privy Council stopped the convertibility of Bank of England in gold. This unprecedented government intervention bailed out the Bank of England as it established unprecedented public liquidity and solvency backstops (4.3.2). With this action, Bank of England notes were accommodated and shifted from the private into the public credit money realm. This was the unintentional side-effect of an attempt to rescue the Bank of England's operationability in wartimes due a doomsday scenario circulating within the Prime Minister's cabinet (4.3.3).

4.3.1 Financial instability and the runs of 1793 and 1797

Financial crises and bank runs were a frequent phenomenon in 18th century England. Hoppit (1986: 44) lists thirteen different crises; those happened in 1701, 1710, 1715, 1720, 1726, 1745, 1761, 1763, 1772, 1778, 1793 and 1797. However, the crises after 1770 were particular as they had been associated with massive expansion of private credit money:

> "Because of the business community's heavy dependence on credit instruments, the stability of which was largely maintained by confidence, because those instruments were easy to create and, finally, because growth encouraged risk-taking and speculation, genuine expansion found itself periodically beset by a debility in private finance that bordered on complete paralysis. […] In particular it was the strengths and weaknesses of bills of exchange that were problematic, being at one moment advantageous but at the next destructive. […] After 1770 financial crises usually resulted from private finance getting out of hand, after the initial foundations for growth had been overtaken by speculation" (Hoppit 1986: 51).

The runs of 1793 and 1797 were turning points in English financial history as they were the first in a long series of financial crises that originated in the country banking system and spilled over to the London money market as well as the operations of the Bank of England. Given that they both took place in conjunction with and were eventually triggered by the French-English Revolutionary War, they can be regarded as complementary phenomena and two waves of the same overarching crisis. Such complementary view of the two crises is not very common in the literature but supported e.g. by the assessment of Baring (1797: 15) who establishes a clear connection between 1793 and 1797:

> "What happened in the beginning of 1793 was […] far beyond any thing which preceded, or has followed it, in magnitude, it pervaded, more or less, every part or place in both islands, and affected every description of property. The last, and most important event, in one respect, is that which compelled the Bank of England to suspend their payments.".

The crisis of 1793 represents the first wave of bank runs in the French-English War and was "one of the worst financial and commercial crises that England had experienced up to that time" (Fetter 1965: 13). It manifested itself in a panic in the English banking system that was triggered by the French declaration of war against Britain on 1 February 1793 (Hoppit 1986: 55). Beginning with the bankruptcies of two country banks in mid-February 1793, namely the corn traders Messrs. Donald & Burton and Messrs. Lane, Son & Fraser engaged in American trade, the crisis peaked in the last weeks of March with six country banks failing, among them the well-known Caldwell & Co (Pressnell 1956: 457-458; also see Hayek 1939: 38). As to Feaveryear (1963: 178), "panic spread like wildfire throughout the country".

While the outbreak of the war with France was of major importance for triggering the crisis (cf. Baring 1797: 19), Pressnell (1956: 457) emphasizes that there was an "independent existence of strain in the country's credit system". In particular, the creation of private credit money in the form of country bank notes had played a major role in building up structural vulnerabilities (Hoppit 1986: 51). Three structural conditions had led to those vulnerabilities in the banking system: First, the volume of country bank notes had substantially increased from the late 1780s onwards. Tooke (1838: 194) explains that "rising prices of corn and farming stock, and the consequently improved state and credit of the farmers, have been among the principal occasions of an increased issue and circulation by the country banks; and this was a state of things which prevailed between 1787 and 1791". Second, due to an investment boom which had been associated with low interest rates and which manifested itself e.g. in a massively increased activity of canals construction, "liquid funds were transformed into a less liquid state" (Pressnell 1956: 457). Hence, as they held more long-term loans, the reserve position of country banks had deteriorated and their ability to redeem their notes into specie or Bank of England notes had decreased. Third, the years before the 1793 crisis got along with a substantial reduction of government debt. This was led by Prime Minister William Pitt. His policies "reduced the national debt by £10,250,000 between 1786 and 1793" (Andréades 1909: 175). The banking system had thus become even more dependent on private assets against which private credit money was issued.

The struggles of the country banks soon spilled over to London and caused an internal drain at the Bank of England. Baring (1797: 20-21) notes that "[i]n this predicament the country at large could have no other resource but London; and, after having exhausted the Bankers, that resource finally terminated in the Bank of England. In the mean while, the alarm in the country continued to increase; confidence in their Banks vanished; every creditor was clamorous for payment, which he insisted should be made in gold, and which was complied with, until the Bankers in London were exhausted". Horner (1802: 192-193) explains that "[t]he pressure originated in an extraordinary demand for guineas, in the country; but the want of bank notes in London soon became the principal evil. The notes, previously in circulation, were not below the usual number; but that was rendered, by a slower circulation, insufficient for the necessary payments".

At the peak of the crisis, the Bank of England applied procyclical measures and intensified the panic. Instead of satisfying the demand for more Bank of England notes, it did the opposite. By curtailing its discounts, it contracted the note supply (Hayek 1939: 38-39). Baring (1797: 22) criticized this behaviour and, as a counterfactual, brought up the historically first account of the view that Bank of England should play the role of a lender of last resort in a crisis: "In such cases the Bank are not an intermediate body, or power; there is no resource on their refusal, for they are the *dernier resort*" (Baring 1797: 22). To alleviate the run, the government issued Exchequer bills as innovative emergency measure (ibid: 31-33) that was decided upon following up on the recommendation by representatives from the City of London to Prime Minister Pitt (Fetter 1965: 13-14).[57] It succeeded to calm down the financial strains (Hayek 1939: 39). As to Hawtrey (1932: 120), the issuance of Exchequer bills gave the Bank of England a new reliable asset against which it could issue its bank notes in times of financial stress when bills of exchange were unreliable. Moreover, it brought along the signalling effect that something was done at all (also see Thornton 1802: 98-99).

After the 1793 crisis, the private credit money system became the object of heated critical debates. In particular, the question was whether country banks were to blame for the financial strains. Pressnell (1956: 458) insists that the 1793 crisis was "a mercantile crisis which affected the country banks and exposed their weaknesses, but which was not caused by them". Some observers, however, put heavy blame on the "country bankers who, by investing in the funds and issuing large amounts of paper notes, both created the crisis and ensured that public and private finance were disastrously linked" (Hoppit 1986: 55). For example, Baring (1797) blames the country banks for their practice to offer interest rates on deposits to attract funds and thus taking on too much risk: "A Banker in London never allows interest to his customers, and can afford to reserve a proportion of his deposits, to enable him to answer sudden demands, or a run on his house; as he thereby sustains no real loss, but only diminishes the amount of his profit. The country Banker is in a very different situation, for he allows interest on deposits, and therefore he cannot afford to suffer even a small sum to remain dormant and unproductive" (Baring 1797: 15-16). Therefore, country banks had an incentive to overissue notes and not keep sufficient reserves in stock: "Thus it will appear, that whilst the circulation was greatly increased, and its beneficial effects enjoyed, […] it was founded on the most insecure principle, and liable to almost instantaneous convulsion, by unforeseen, and even trifling circumstances" (ibid: 18-19). He concludes that private credit money creation by country banks had to be prohibited: "It is therefore most earnestly to be wished, that a law should pass, to prevent Country Banks from issuing Notes payable on demand, as they never can be in a situation to pay without some notice; and the country ought to be protected against those convulsions which have arisen, and will continue to arise from such a practice" (Baring 1797: 18-19).[58]

[57] See Fetter (1965: 14-16) for further details on the political process.

[58] Some arguments of the country banks' critics have remarkable similarities to the discourse on shadow money creation in the 21st century (cf. Chapter 6).

In 1797, the second wave of bank runs in the French-English War materialized. In the aftermath of the 1793 crisis, the British financial structure had continued to deteriorate. In this situation, rumours about a French invasion led to further financial troubles. According to Chadha and Newby (2012: 6), a badly prepared landing of a group of French soldiers did indeed take place at Fishguard in Wales on 22 February 1797 (also see Fetter 1965: 21). Bank runs, however, had begun already on 18 February (Arnon 1991: 19): As to Fetter (1965: 21), farmers in Newcastle "brought their livestock and produce into town and on receiving went to the banks and converted their notes into specie. The following Monday the Newcastle banks suspended payments, as did the Durham and Sunderland banks. Bank runs followed in other towns". Those runs not only caused sudden failures of a number of country banks in the north of England, but also had significant effects on London (Thornton 1802: 113): On the one hand, as in 1793, the demand for Bank of England notes increased sharply as holders of hierarchically lower credit money instruments viewed them as a safe haven; Thornton estimates that the interest rates for those notes reached 16 or 17 per cent. On the other hand, holders of Bank of England notes wanted to convert their notes into guineas in order to satisfy the demand that came especially from the countryside (ibid).

Prior to 1797, the Bank of England's bullion reserve had been severely depleted; it dropped from £7 million in February 1794 to £1 million in February 1797 (Fetter 1965: 18). This brought along the imminent danger that Bank of England notes were deprived of their commodity base. The situation had been provoked by a simultaneous external and internal drain: Externally, the English balance of trade had become unfavourable prior to 1797, leading to bullion flowing out of the country (Thornton 1802: 113). In particular, France's return to the gold standard in August 1795 contributed to the gold outflow (Boyle and Geary 2003: 3). Internally, heavy gold borrowings by the government—Stanhope (1862: 15) refers to an order of magnitude of £ 10.5 million—for war finance had a similar effect. As Smith (1936: 14) explains, Prime Minister Pitt had made a deal with the Bank of England in 1793 after the outbreak of war with France. Upon request of the Bank, Pitt had passed a law that indemnified the Bank against liability for loans it had made to the government. However, Pitt did not insert a limiting clause in the bill, which effectively enabled the government to borrow from the Bank without any limits. "By 1795 these borrowings had become so excessive as to affect the foreign exchanges and seriously endanger the Bank's reserve position, and the Bank directors appealed to the Government asking Pitt to keep down his demands on the Bank, and at the same time it contracted discounts to private customers. What Pitt did, however, was to take all possible steps to facilitate the Bank's lending to the Government" (Smith 1936: 14-15).

Due to those structural circumstances, the acute financial panic arising in the country banking system in mid-February 1797 brought the Bank of England to the brink of bankruptcy. The internal and external drain on the Bank was complemented by a continuous reduction of the volume of country bank notes issued. As to Tooke (1838: 203), the volume of country bank notes had

witnessed an increase in 1796 to then fall sharply in early 1797. Table 4.3—taken from Pressnell (1956: 460)—depicts the reduced issuance:

	1792	1794	Summer 1796 – Jan 1797	End of Feb 1797
Six Bristol banks	100	39	55	38
A Newcastle bank	100	114	65	47
Devon banks	100	50	50	16
Eleven corresponding banks of Down, Thornton & Co.	100	70	87	44

Table 4.3—Decline in the volume of country bank notes issued after 1793 (in %)

In this situation, with the supply of country bank notes being low, the demand for Bank of England notes was high, which implied a higher vulnerability of the Bank of England in case of a sudden run to convert its notes into specie. The doomsday scenario was suddenly real that the Bank of England could default and break the promise to convert its notes into gold at face value

Using the analytical language of the Money View, the expansion of the monetary system as a self-referential network of debt claims came to a halt and started reverting itself with the crises of 1793 and 1797. This followed up on decades of expansion in the credit money system, connected to the Industrial Revolution. This endangered par clearance between the various forms of credit money. Figure 4.10 depicts the contagion effects that materialized in the crises 1793 and 1797. Both runs started with a run on country bank notes and threatened the par clearance vis-à-vis Bank of England notes as higher-ranking money. Only in 1797, the second wave of the run, also the promise for par clearance between Bank of England notes and gold was endangered.

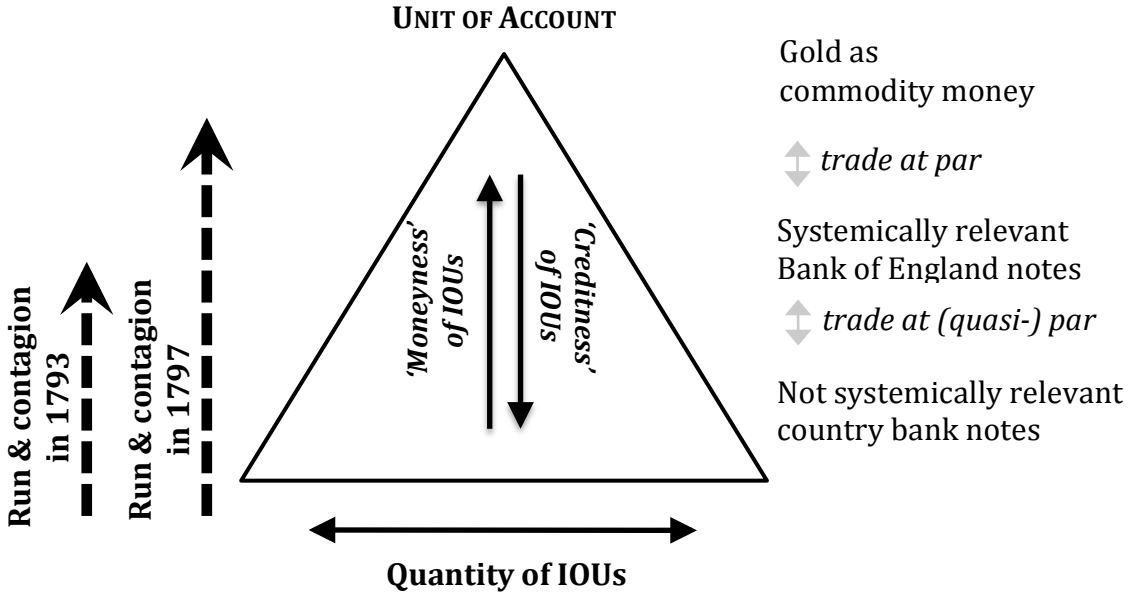

Figure 4.10—The 1793 and 1797 runs with upward contagion in the hierarchy

4.3.2 Bank Restriction as Public Bailout in Reaction to the Run

On Sunday, 26 February 1797, when the panic was about to reach its peak and upon the imminent threat that the Bank of England could face illiquidity and insolvency due to the depletion of its gold reserves, the Privy Council—a small, and somewhat secretive, executive organ of the King (cf. Wilding and Laundy 1971: 601)—gathered for an emergency crisis meeting. Among the participants of the meeting were the King, the Prime Minister and the Chancellor of the Exchequer (Chadha and Newby 2012: 6; Bank of England 1797). This highest political executive body, to prevent the default of England's core monetary institution, decided that the Bank of England should suspend the convertibility of its notes into gold. This political crisis reaction was unprecedented at the time and marked the beginning of the so-called 'Restriction Period'. In today's words, it amounted to a public bailout of the Bank of England.

The political process leading to the Restriction started when news about the landing of French troops reached London on Saturday, 25 February:

> "[A]n emergency meeting of 'His Majesty's Most Honourable Privy Council' was called for on Sunday. George III himself came from Windsor and the meeting was held at the Council Chamber, Whitehall, on Sunday the 26th February 1797" (Chadha and Newby 2012: 6).

Stanhope (1862: 16) points out that the meeting was called for by Prime Minister Pitt because the Bank of England's "Directors, in dire perplexity, addressed themselves to Pitt for counsel and guidance". The order of the Privy Council originated—as to Stanhope (1862: 15-16)—from the determinacy of Prime Minister Pitt. He decided that, to avoid a depletion of the Bank of England's gold reserves, holders of Bank notes should no longer be able to convert them into gold, although nominally that is what they are entitled to. The order with the instructions was sent to the Bank's directors on the same evening, instructing them to no longer hand out gold for Bank of England notes:

> "The outcome of this meeting was an Order of the Privy Council to suspend the cash payments which was communicated to the Bank of England by the Council late on a Sunday night. The council 'ordered that a copy of this minute be transmitted to the directors of the Bank of England, and they are hereby required, on the grounds of the exigency of the case, to conform thereto until the sense of parliament can be taken as aforesaid'" (Chadha and Newby 2012: 6).

When the Directors received the Order, they acted in accordance with it (Secretary's Department of the Bank of England 1797. On Monday, 27 February 1797, the Privy Council's order was announced, framed as a message from the King (Chadha and Newby 2012: 6), and published by attaching the following note to the Bank of England doors:

> "Upon the Representation of the Chancellor of the Exchequer, stating that from the Result of the Information which he has received, and of the Enquiries which it has been his Duty to make respecting the Effect of the unusual Demands for Specie, that have been made upon the Metropolis, in

> Consequence of ill-founded or exaggerated Alarms in different Parts of the Country, it appears that unless some Measure is immediately taken, there may be Reason to apprehend a Want of a sufficient Supply of Cash to answer the Exigencies of the Publick Service. It is the unanimous opinion of the Board, that it is indispensably necessary for the Publick service, that the Directors of the Bank of England, should forbear issuing any Cash in Payment, until the Sense of Parliament can be taken on that Subject, and the proper Measures adopted thereupon, for maintaining the Means of Circulation, and supporting the Publick and Commercial Credit of the Kingdom at this important Conjuncture; and it is ordered that a Copy of this Minute be transmitted to the Directors of the Bank of England, and they are hereby required on the Grounds of the Exigency of the Case to conform thereto until the Sense of Parliament can be taken as aforesaid" (Bank of England 1797).

That Monday, the Bank of England also published a statement saying that despite the restriction of convertibility, it wanted to continue with the rest of its banking business as usual, notably discounting bills of exchange:

> "[i]n consequence of an order of his Majesty's Privy Council, notified to the bank last night, […t]he directors mean to continue their usual discounts for the accommodation of the commercial interest, paying the amount in bank notes, and the dividend warrants will be paid in the same manner" (cited after Chadha and Newby 2012: 7).

As to Stanhope (1862), the private sector complied with this strategy of continuing to use Bank of England notes although they were no longer tied to gold:

> "[a] meeting of the merchants of London was immediately summoned, and held next day at noon in Guildhall, the Lord Mayor presiding. They resolved unanimously that they would accept bank-notes in any payment which they had to receive, and tender bank-notes in any payment which they had to make. A Resolution to this effect was signed by all the persons present" (Stanhope 1862: 17).

Thus, the suspension of cash payments—as an emergency crisis intervention decided upon by the executive branch of government—was backed by all other relevant public and private institutions:

> "[A]t the point of the suspension all political institutions such as the Bank, Parliament and the government but also the London Money Markets showed considerable concordance. Their objective seemed to have been to ensure smooth operations of the credit markets in spite of the war and suspension of convertibility. In the name of monetary stability the authorities, which were accustomed to make autocratic decisions, in this occasion paid a special attention to communicate their policy actions openly and systematically to the markets and the wider public. The Bank, as can be read from its announcement, made it clear that its other businesses continued as usual: there were no changes in discounting, private or public loans or in relationship with its proprietors" (Chadha and Newby 2012: 7-8).

On 3 May 1797, the Parliament issued an *ex post* legitimization of the Privy Council's decision by passing the Bank Restriction Act[59], titled 'An Act for confirming and continuing, for a limited Time, the Restriction contained in the Minute of Council of the Twenty-sixth of *February* One thousand seven hundred and ninety-seven, on Payments of Cash by the Bank' (Public Act, 37 George III, c. 45). The bill which led to Act had for the first time been introduced into parliament already on 9 March 1797 but took two months until it was passed (Stanhope 1862: 19-20). The debates leading up the Act were heated; the Bank Restriction faced sharp opposition. Stanhope (1862: 18), with great sympathy for Pitt's decision, states that "the ardour of political contention [...was] at all times and in every party hard to be relinquished", which led to "invectives of Pitt without stint, measure, or reserve". For example, Long Fox (1797: 4)—in a pamphlet published only days after the Restriction—finds it necessary to "condemn the conduct of Mr. Pitt" and his "fatal abuse of power". He bemoans the theft of property, and sees in the Restriction the act of a tyrant. Sheridan, another member of parliament, expressed the fear that "the paper of this country would ultimately experience the fate of the French' assignats or mandats since 'both contained the idea of compulsion'" (cited in Hollander 1911: 441). And the Marquis of Lansdowne argued: "If you attempt to make bank-notes a legal tender, their credit will perish. This is not matter of conjecture, but of experience. A fever is as much a fever in London as in Paris or Amsterdam, and the stoppage of payment must be the same in whatever country it shall happen" (cited in Stanhope 1862: 18).

Despite the widespread criticism and fear about the suspension of cash payments, exemplified by the parliamentary debate, why did the Privy Council decide to issue its order for bank restriction in the first place? In line with the view adopted in this study about the inherent instability of private credit money, Chadha and Newby (2012: 6) argue that authorities had not many options. They could let things play out and risk a complete depletion of the Bank's bullion reserve, or take action:

> "During that weekend in February 1797 the monetary authorities were faced with two options: (i) let the currency exhaust the gold supply, as the ongoing run on the currency would surely bring about; or (ii) suspend cash payments and ensure that the extant monetary gold stock was protected" (Chadha and Newby 2012: 6).

In this, inaction was connected to a doomsday scenario according to which the financial system was at the brink due to the internal and the external drain:

> "Anticipating a panic and a bank run to break out on the following Monday, the Privy Council [...] decided to keep the Bank's doors closed to the public in order to prevent the bearers of the Bank of England's notes from converting them to gold and, consequently, emptying the Bank's gold reserves" (ibid).

[59] The duration of the Act was at first limited to 24 June 1797 (Public Act, 37 George III, c. 45, Sec. XII). However, primarily due to the Franco-English war, it was renewed many times and remained in place until 1821.

Hence, from the policy-makers' point of view, there was literally no alternative to implementing the Restriction. This interpretation corresponds to the narrative that can be found in Thornton (1802) and Horner (1802). Out of fear for the worst and under extreme time pressure, also given the wartime context, Prime Minister Pitt decided in favour of the bailout as the lesser of two evils.

However, there are also competing interpretations. Walter Boyd (1801), for example, insinuated that Pitt had provoked the suspension to serve the interest of the banking industry. As to Arie Arnon, Boyd believed that

> "the policies implemented during the months before the Restriction were calculated to create a shortage in the circulation so that the public, suffering from this scarcity, would be ready to accept new measures" (Arnon 2011: 85).

Accordingly, Boyd writes in his *Letter to Pitt*:

> "When I call to mind the conduct pursued by the Bank of England, for a considerable time previous to the suspension of the payment of its notes, there appear in it many circumstances which almost warrant the suspicion that, instead of really dreading that suspension as an evil, they rather looked to it as an advantage. At what particular period the idea of turning this real calamity into an imaginary benefit, was first conceived it is impossible to ascertain; but it seems natural enough to conclude, that is must have speedily followed that of the supposed necessity of suspending the payment of Bank notes. If this be true, it will account for that line of conduct which the Bank pursued for many months previous to the 26th of February 1797. For, if it had been really in contemplation to reduce the means of circulation to that extreme scarcity which might prepare the public mind for the introduction of any system, however exceptionable, that should promise relief, the Bank of England could not have acted more consistently than they did, in order to produce such an effect" (Boyd 1801: 69-70).

Feaveryear (1963), in turn, puts the restriction in a broader context. He stresses that the actual origins dated back to the 1793 crisis and to the country banking system. Accordingly, the Bank of England directors

> "were faced with a widespread loss of confidence in the country banks owing to the fear of what the effects of an attempted invasion might be upon those banks. The root of the trouble lay in the banking system itself. The mere declaration of war in 1793 had brought down scores of the country banks and had caused grave loss and even ruin to many thousands of people. The banks had never really recovered. […] At the mere threat of invasion many of these shaky little houses might topple over, and when that threat came no amount of mere credit accommodation from the Bank could enable those houses to meet their customers' insistent demand for hard metal. If the Bank had held its 8-million reserve of 1791 it might have been able to face such a situation. But the reserve had wasted to a shadow of its former self […], and with such a credit system, standing upon such a reserve, a scare of invasion was almost bound to cause a stoppage of payment" (Feaveryear 1963: 186).

4.3.3 Accommodating Bank of England notes as systemic transformation

The suspension of cash payments in 1797 has received great scholarly attention ever since. Newby (2007: 2) calls it "[t]he world's first successful paper money regime"; for Arnon (2011: 63) it constitutes "a crucial turning point for money and credit in both theory and practice". Yet interpretations of this incident vary substantially (cf. Newby 2007: 2). Within the framework of this study, the Restriction corresponds to an accommodation of Bank of England notes. As Figure 4.11 highlights, Bank of England notes were shifted from the private credit money realm—as both a form of *public-private money* and *pure-private money*—into the public credit money realm and became *private-public money*.

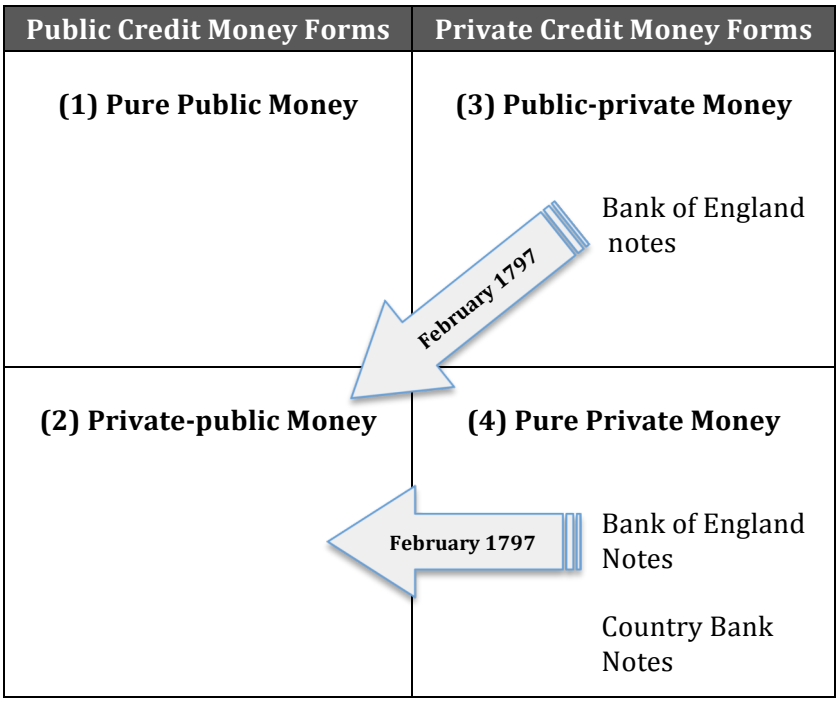

Figure 4.11—The Bank Restriction as an accommodation of bank notes

A conventional reading of the events around the Restriction emphasizes the decoupling of bank notes from their gold base. The Restriction is then seen as a 'theft' of private property as holders of Bank of England notes were deprived of the gold that they are actually entitled to get. This approach corresponds to the narrative of bank note origination via the goldsmiths who create credit instruments on the basis of the specie they physically hold in stock. The underlying gold is taken as the true source of 'value' for the bank notes. This is an interpretation subject to the Chartalist and the Essentialist bias (cf. Chapter 1). From a Money View perspective, however, the connection of bank notes to gold had not been actually necessary for bank note issuance in the first place as bank notes are derived out of private credit creation—i.e. discounting private debt such as bills of exchange or public debt such as government securities. The Restriction thus has to been seen from a different angle: It is not so much a loss of gold as 'real money' that takes place. Instead, only the way changes in which it is ensured that Bank of England notes keep their purchasing power: It is shifted away from the commodity base to a form of government guaranty.

The Order of the Council and the Bank Restriction Act effectively created public backstops for keeping up the Bank of England's liquidity and solvency. In late February 1797, the Bank was at the brink of illiquidity. Had the outflow of bullion continued in the same pace, the Bank's gold reserves would have been depleted in a very short time (Chadha and Newby 2012: 6). The British government, to avoid the collapse of its leading financial institution, granted permission to the Bank to continue its operations even though it was illiquid. With its executive powers, the Privy Council effectively created a liquidity backstop for the Bank, which later was confirmed by the legislator. By law, the Bank was made remote against illiquidity. As Smith (1936: 15) puts it, "[t]he Government's action amounted to a legalisation of the bankruptcy of the Bank". In consequence, the Bank received the permission to issue its bank notes as debts that it did not have to repay; its liabilities were turned into an entitlement to nothing else but themselves. Bank of England notes thus took on the status of an ultimate means of payment under political control. Every payee had to be satisfied by receiving the amount due in Bank of England notes. As to Cannan (1925: xiii), the Bank of England "was relieved from all fear of being asked to give other money for its notes".

In addition, with the 1797 Act, the government announced that it would accept an unlimited amount of non-convertible Bank of England notes for all kinds of payments that it was to receive as public revenue. Moreover, it ruled that also in the private sphere, payments in Bank of England notes were to be treated as if they were in 'cash', i.e. specie. With this proclamation, the English government established a *de facto* 100% guarantee for Bank of England notes. Due to the governmental guarantee, Bank of England notes received a backstop on the English government's balance sheet. As private tax debt could always be cancelled out by paying with Bank of England notes, those notes kept their purchasing power, even if a 'run' on them was imminent. With this decision, as Liepmann puts it, the English state used legal proclamation to integrate Bank of England notes into the public monetary system:

> "In this law, the state agreed to accept the notes of the Bank for all payments due to it as 'public revenue' to an unlimited extent. By legal proclamation, it thus included the Bank of England's notes, a privately issued means of payment, in its public monetary system and granted a more comprehensive basis to their use in circulation than to any other means of payment" (Liepmann 1933: 34-35; author's translation).[60]

Following up on this thought, Wolter (1917: 27) argues that with this decision, were "public money", despite their private issuance.[61]

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[60] The original quote reads: "Der Staat erklärte sich nämlich in diesem Gesetz bereit, die Noten der Bank bei allen Zahlungen, die ihm als 'public revenue' zu leisten seien, unbeschränkt anzunehmen. Damit nahm er durch gesetzliche Proklamation die Noten der Bank von England, ein Zahlungsmittel privater Emission, in sein staatliches Geldwesen auf und gab ihrer zirkulatorischen Verwendbarkeit dadurch eine so umfassende Grundlage und so sichere Gewähr, wie sie kein anderes Zahlungsmittel besaß" (Liepmann 1833: 34-35)

[61] "Der Staat nahm da, wo er Geld zu verlangen hatte, als solches die Noten der Bank an, also waren sie trotz ihrer privaten Emission staatliches Geld" (Wolter 1917: 27).

Figure 4.12 presents a sketch of how a public framework had been established to backstop Bank of England notes:

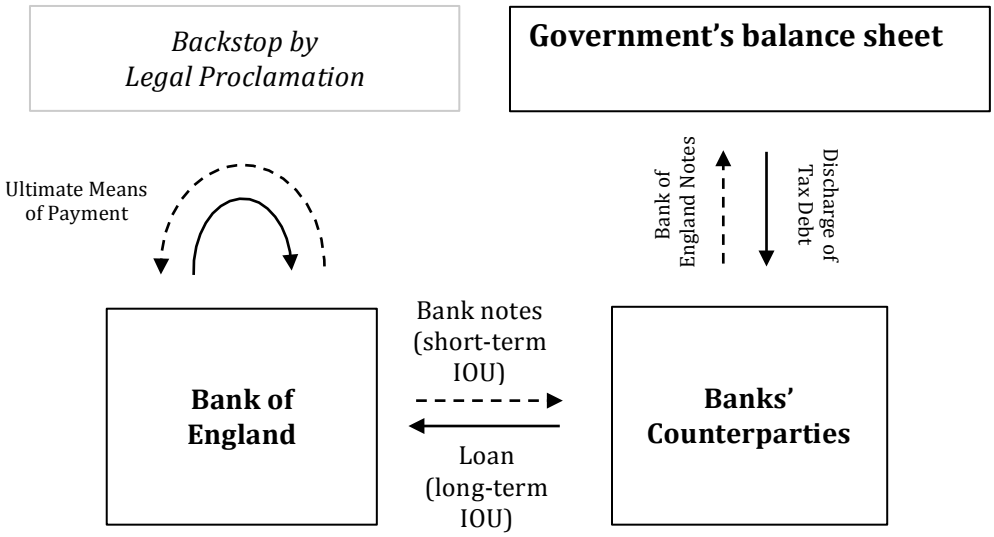

Figure 4.12—Public liquidity and solvency backstops for Bank of England notes

With this framework, the now publicly backstopped Bank of England notes were shifted to the top of the domestic hierarchy of money. As to Cannan (1925), "[t]he £1 of the note issue became the standard £1". Or, as Walter Boyd puts it, "the paper of the Bank of England has [...] become (what the coin of the country only ought to be) the ultimate element into which the whole paper circulation of the country resolves itself" (Boyd 1801: 20). In this, the state effectively guaranteed that Bank of England notes always trade at par to the unit of account. Figure 4.13 illustrates this transformation of the monetary system.

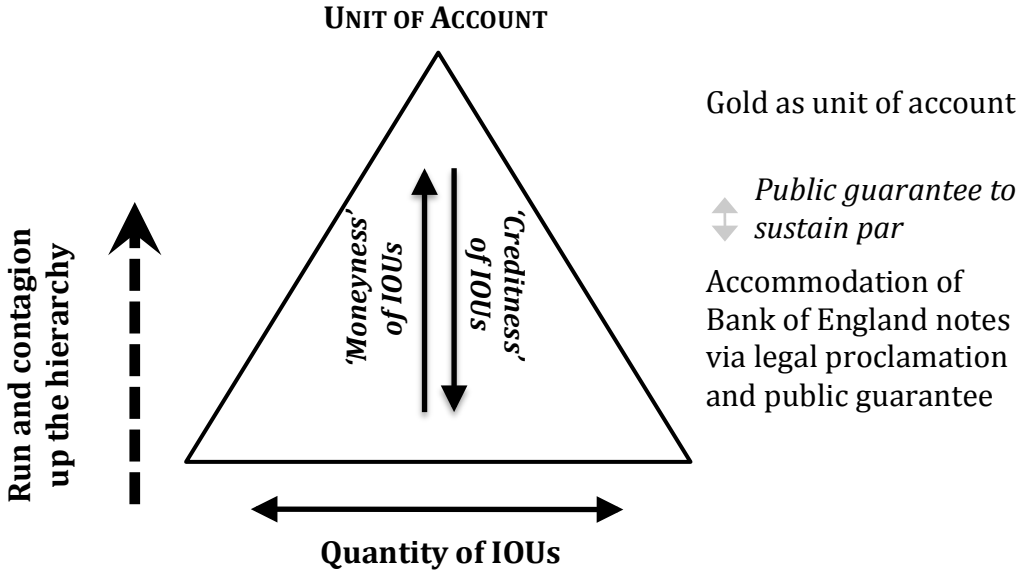

Figure 4.13—Accommodation as public guarantee to sustain par clearance

When the Privy Council ordered to stop the conversion of Bank of England notes into gold, which it could only legitimize *ex post* with the Bank Restriction Act, the policy-makers involved did not have in mind that they would alter the status of Bank of England notes and transform the monetary system. Their primary interest was to rescue the Bank of England as the core institution of English finance and the government bank that administered the funds of the English Crown. The accommodation of Bank of England notes was thus an unintentional side-effect of Prime Minister Pitt's determinacy.

While debates at the time and long in its aftermath have focused on the 'true' reasons for the Restriction, this study sees it in the context of the rise of bank notes as private credit money throughout the 18th century. The Bank of England and English country banks were able to create credit money out of nothing by swapping IOUs denominated in gold as the unit of account. At some moment in time—here it was associated with the outbreak of the Franco-English war—a point had to be reached at which the credit money expansion started reverting itself. As there were no endogenous forces left to stabilize the expanding, yet instable network from within, only an outside intervention could prevent the collapse of the debt house of cards. Pitt's decision on 26 February 1797 mobilized the state's infrastructural power to respond to the functional necessity to keep the English credit money system afloat. With the Bank of England continuing to discount bills of exchange—i.e. conducting the swap of IOUs between bank notes and bills of exchange—without the underlying ability to transcend the credit money claim in the commodity money sphere, the pure self-referentiality of the activity was made obvious in the aftermath of the accommodation and became backed by the state. This also had an effect on country bank notes: The 1810 Bullion Report expresses the view that "so long as the Cash payments of the Bank are suspended, the whole paper of the Country Bankers is a superstructure raised upon the foundation of the paper of the Bank of England" (Cannan 1925: 61).

4.4 Conclusion

This chapter has traced the rise of bank notes as a private credit money form in England from the mid-17th century and the accommodation of Bank of England notes in 1797 with the Order of the Privy Council. This political intervention unintentionally transformed the English monetary system by establishing public liquidity and solvency backstops and thus shifting the delineation between public and private credit money within the hybridity of the self-referential credit money system.

The chapter has applied the two-phase model of private credit money accommodation on the 18th century context of England as the then centre of the world's financial system and the international core country in industrialization and the rise of capitalism. It demonstrated how the Bank of England and country banks as speculative and Ponzi units, while using the techniques earlier developed by London goldsmiths, established an encompassing and expanding credit money system in England, with Bank of England notes eventually becoming systemically relevant. In the 1793 crisis—which Hoppit (1986: 55) describes as "the worst of the century […] because there was a very general failure of paper credit that reduced 'many respectable, prudent, and, ultimately, very solvent persons to the mortifying necessity of stopping payment'"—the expansionary tendency reverted itself. While the first round of bank runs did not yet affect Bank of England notes as the systemically relevant credit money form, this happened in 1797, setting free the technical necessity to accommodate the systemically relevant private credit money form, following the functionalist logic embedded in the credit money system which allows money creation *ex nihilo*.

What happened to the accommodated Bank of England notes in the aftermath of 1797? Was the accommodation and the concomitant transformation of the monetary system permanent? How did it affect the setup of the money supply as we know it today?

The Bank Restriction had been implemented as an emergency measure. The Act had provided that the suspension of cash payments should only remain in place for a little more than seven weeks. In the next years, however, the suspension was continuously extended such that the Restriction Period was ultimately kept up until 1821 (Liepmann 1933). In this time, in terms of the Money Matrix, Bank of England notes were *private-public money* and country bank notes remained *pure private money*. Between 1804 and 1819, a range of parliamentary investigations were conducted that either directly or indirectly touched upon the status of bank notes. Most prominently, the Bullion Report of 1810—the final document of the Select Committee on the High Price of Bullion—called for a return to convertibility, which was extensively debated in parliament and became an important reference point in the public discourse (cf. Fetter 1959). The status of country bank notes remained unaffected during the Restriction Period. As Feaveryear (1963: 190) notes, "[c]onfidence in the country banks was completely restored. Their number, which in 1793 had been about 400, and which had been reduced in the panic of that year by about 80, increased in the thirteen years after 1797 to over 750."

The work of the parliamentary committees that had been established during the Restriction Period was connected to vivid intellectual controversies about monetary theory. Those controversies found their way into history books as the 'Bullionism Debate', which took place in three rounds and overlapped with the analyses in the committees—both with regard to timing and the persons involved. In these debates, 'Bullionists' wanted the Bank of England to return to convertibility, whilst Anti-Bullionists supported the suspension of convertibility (Arnon 2011: 73; cf. also 2.2.1). One monetary idea that had been established and popularized during the Bullionism debates refers to the question of control over the issuance of country bank notes and effectively introduced the logic of a state-based monetary theory. As to Humphrey (1988: 4), what he calls the 'strict bullionists', brought forth

> "the monetarist notion of control of the money stock through the high-powered monetary base. With respect to base control, they argued that the Bank of England could, through its own note issue, regulate the note issue of the country (non-London) banks as well as other privately issued means of payment (bills of exchange and checking deposits)".

After Bank of England notes had received a *de iure*, not only *de facto*, status as legal tender in 1811 (Wolter 1917: 90), the political decision for re-enacting the convertibility of Bank of England notes into gold was made with the Resumption Act in 1819—a legislation often referred to as the 'First Peel's Act' (Liepmann 1933). The Act suggested that from 1819 to 1821, the Bank should reduce the price of gold until it reached the mint price. At the same time, while effectively following Ricardo's notorious 'Ingot Plan' (Bonar 1923: 282; cf. Ricardo 1816), the Bank should only hand out bullion, not coins, in order to avoid an exchange of notes into coins for the domestic circulation. After the Resumption Act was passed, there was very little interest for getting Bank of England notes redeemed in bullion (Fetter 1965: 96). Notably, during the Restriction, the people had become accustomed to using non-metallic currency. In May 1821, the Bank of England decided to return to convertibility earlier than foreseen. In May 1821, a law was passed making it possible to exchange Bank of England notes into coins again (Liepmann 1933).

What did the return to convertibility imply for the status of Bank of England notes? Did their accommodation prevail? Despite the intention of the 1819 Act, Bank of England notes were arguably not shifted back into the private money realm and remained *private-public money* as their public backstops did not disappear. Firstly, there is no evidence that the government stopped accepting an unlimited amount of Bank of England notes for all kinds of payments as decided upon in 1797 and further confirmed in 1806. Secondly, it is true that the backstop that turned Bank of England notes into the ultimate means of payment by legal proclamation was removed in its explicit form as commodity money was put at the top of the hierarchy of money again. Formally, the Bank of England was no longer in the position to issue debts that it did not have to repay; its liabilities were no longer an entitlement to nothing else but themselves. However, implicitly the backstop remained in place: It was widely expected that if necessary, the Restriction could be repeated and a law be re-introduced that would make the Bank illiquidity remote again (cf. Liepmann 1933).

The main step of re-regulating the bank note supply after the 1797 accommodation occurred with the 1844 Bank Charter Act. The Act followed the intellectual debate between the Currency School and the Banking School, which may be viewed as a struggle between monetary theories of credit and credit theories of money as well as between a state-based and a market-based approach to money creation (cf. Chapter 2.2). As Figure 4.14 indicates, the Act re-regulated the status of bank notes both in the public and the private credit money realm:

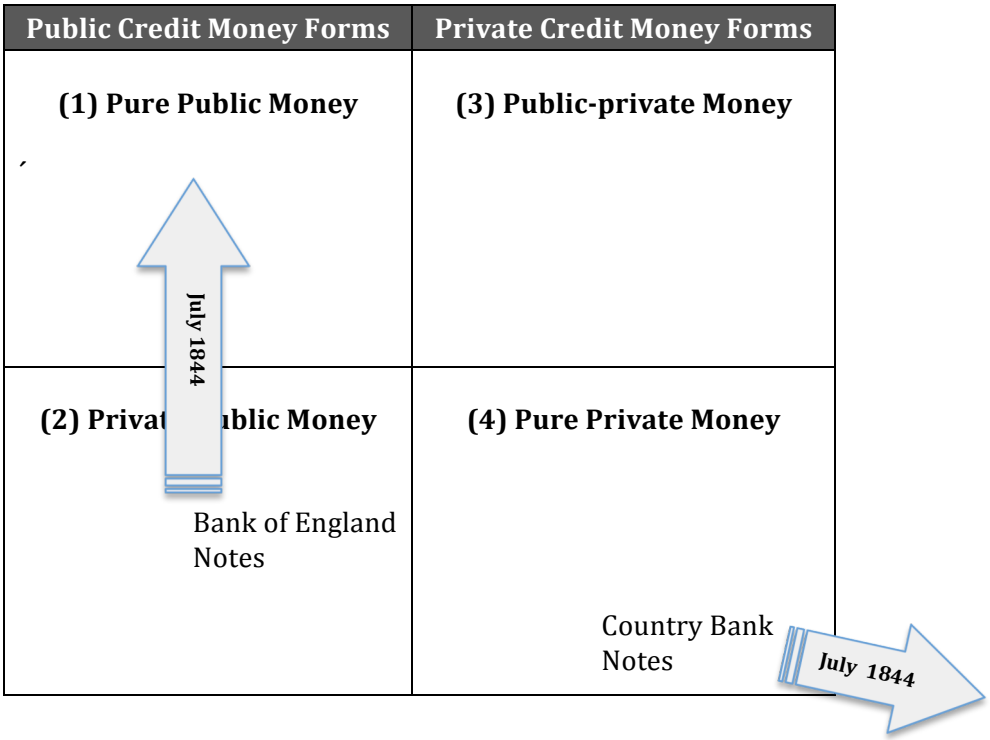

Figure 4.14—Re-regulating the bank note supply via the 1844 Bank Charter Act

Accordingly, on the one hand, the Act split up the Bank of England into an Issue Department and a Banking Department. The Issue Department was in charge of note issuance and international transactions; the Banking Department held the responsibility for acting as regular bank in the domestic financial system and was in charge of acting as the government's bank and discounting bills. The Act introduced a 100% coverage for all Bank of England notes in the circulation ('circulation' was defined as either lying the Banking Department or being indeed out in the hand of the general public). In theory, the notes accordingly received the status of being purely certificates for precious metal. This novel regulation of Bank of England notes turned them into *pure public money* because their issuance was not put under a legal mandate and got committed to serve the public interest (cf. 2.3.3). On the other hand, country bank notes lost their status as *pure private money* and were demonetized. As the circulation of country bank notes was not allowed to increase, country banks effectively lost their right to issue notes, with the intention to gradually convert them into Bank of England notes (Liepmann 1933).

In the aftermath of the 1844 Act, the approach to regulate bank notes as *pure public money* spilled over to other countries, yet with a considerable time lag. For example, in the United States, non-convertible bank notes as legal tender were only introduced in 1863 during the Civil War (Giannini 2004: 71). Wagner (1862) publishes his analysis of the monetary and credit theory of the 1844 Bank Charter Act in the context of plans by the government of Austria to regulate the Austrian bank note supply in accordance with the English model (ibid: III). In retrospect, without delving deeper into the associated mechanisms, we can contend that the use of bank notes as *pure public money* is the norm today (cf. Pozsar 2014). The decisive step leading to this setup in today's public-private hybridity of the monetary system was Prime Minister Pitt's decision to bail out the Bank of England in 1797 and the concomitant unintentional accommodation of Bank of England notes, which shifted them from the private to the public credit money realm.

Chapter 5
Case II: Bank deposit accommodation in the United States

> *"[T]he Bank Holiday that began on March 6, 1933, marked the end of an old regime, and the Fireside Chat a week later inaugurated a new one. The Emergency Banking Act of 1933, passed by Congress on March 9—combined with the Federal Reserve's commitment to supply unlimited amounts of currency to reopened banks—created de facto 100 percent deposit insurance" (Silber 2009: 20).*

5.1 Introduction and plan of the chapter

This chapter analyzes and explains the accommodation of bank deposits which occurred in the United States in 1933. Bank deposits emerged even earlier than bank notes; they are expressions of the debt owed by the bank to their customers and are hence a byproduct of double-entry book keeping, which was already common in Renaissance Italy. Still, they developed into a fully functional private credit money form only after the accommodation of bank notes, first in England and later in the United States. The accommodation took place after the 1929 Financial Crisis when the U.S. financial system was subject to a multi-annual crisis, which appeared in four waves of bank runs between 1930 and 1933. It could only be stopped when President Franklin Delano Roosevelt declared a National Banking Holiday and, by passing the Emergency Banking Act and holding his First Fireside Chat in March 1933, announced an implicit 100 percent government guarantee for deposits. This turned deposits into *private-public money* (cf. Figure 5.1).

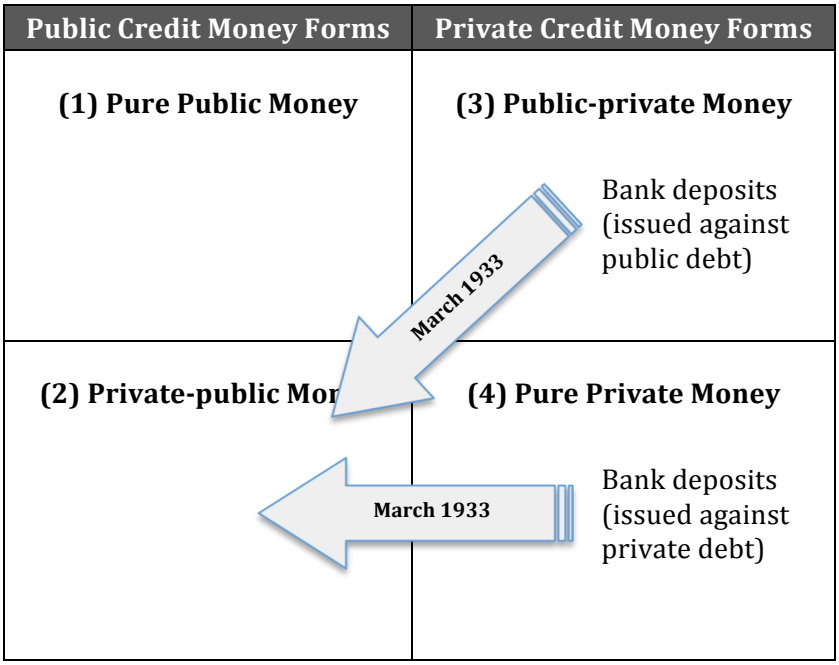

Figure 5.1—Bank deposit accommodation via the 1933 Emergency Banking Act

This chapter is organized as follows:

Section 5.2 addresses the rise of bank deposits as a private credit money form, with a focus on the U.S. in the 19th and early 20th century (phase I). To this end, the section develops a Money View perspective on the creation of bank deposits as a swap of IOUs. The analysis draws on the work of Charles Dunbar and Basil J. Moore, who stress that banks are autonomous creators of deposits. Deposit issuance is viewed as a financial innovation by speculative and Ponzi units that occurred very early in the case of traditional Italian Renaissance commercial banks and in the 1870s in the case of U.S. trust companies (5.2.1). Subsequently, the section discusses the institutional details of bank deposit issuance by commercial banks and trust companies to understand how they established par vis-à-vis higher-ranking money forms. Based on this discussion, the section sketches the public-private money hybridity in the U.S. prior to the Great Depression (5.2.2). Finally, the section discusses how the deposits of commercial banks and trust companies had attained systemic relevance by the early 20th century in the Federal Reserve System (5.2.3).

Section 5.3 studies the accommodation of bank deposits at the end of the Great Depression (phase II). The section first depicts how the U.S. banking system got into deep financial stress following up on the 1929 stock market crash. In this, it regards the 1929 Stock market crash and the ensuing four waves of bank runs as complementary events (5.3.1). In March 1933, the nation-wide run on commercial banks and the extensive withdrawal of deposits could only be ended when President Franklin Delano Roosevelt—as one of the first measures after assuming office—announced a National Bank Holiday, passed the Emergency Banking Act and held his First Fireside Chat (5.3.2). Finally, the section develops the argument for why Roosevelt's unprecedented emergency measures constitute an accommodation of bank deposits. Accordingly, the government established an implicit 100% deposit guarantee by creating a solvency backstop on public balance sheets for deposit-issuing commercial banks and thus shifted deposits from the private to the public money realm. This amounted to an unintentional transformation of the monetary system (5.3.3).

The concluding section 5.4 presents a brief outlook on the follow-up processes of the accommodation—notably the Banking Acts of 1933 and 1935—and points out how the transformation of the monetary system was solidified.

5.2 Phase I: The rise of bank deposits as private credit money

This section applies phase I of the accommodation model on bank deposits and studies their rise as a systemically relevant private credit money form with a focus on the U.S. in the 19th and early 20th century. Drawing on the work of Charles Dunbar and Basil J. Moore, the section interprets bank deposit creation as a swap of IOUs that banks, as speculative and Ponzi units, developed and conducted endogenously, independently of the state's influence (5.2.1). The section then sketches how bank deposits adopted the role as private credit money, in particular after the accommodation of bank notes, by establishing par clearance vis-à-vis higher-ranking forms of money and how this affected the wider U.S. monetary system in the early 20th century (5.2.2). Finally, the section discusses to which extent commercial bank and trust deposits were systemically relevant in the Federal Reserve System (5.2.3).

5.2.1 Financial innovation and bank deposit creation as a swap of IOUs

A common view on bank deposits, which developed roughly in the middle of the 20th century and has largely been naturalized today, is that deposit creation does not occur upon the autonomous discretion of commercial banks and can be directly or indirectly controlled by public authorities, notably the central bank, as it requires a higher-ranking form of money for the deposit creation process to start. For example, Basil Moore critically refers to this notion:

> "Mainstream economic analysis takes the view that central banks have it in their power to initiate exogenous changes in the nominal supply of money, simply by increasing or reducing the high-powered base and so the total volume of bank deposits. The argument appears straightforward, logical, supported by empirical evidence, and intuitively persuasive. The monetary base (currency and bank reserves) constitutes the liabilities of the central bank. These are necessarily equal to its total assets, and so are affected by its purchase or sale of securities on the open market. Commercial banks are also observed to maintain a relatively stable ratio of total reserves to deposits. *Ergo* the money supply appears to be exogenous" (Moore 1988: ix, italics in original).

From a Money View perspective, however, deposit creation is nothing but a swap of IOUs between a bank and its counterparties. The deposit is denominated in the common unit of account, here the U.S. Dollar, and constitutes a promise to pay a respectively higher-ranking form of money, typically notes or coins. To create a deposit, however, it is not necessary that a dollar note or coin is actually around. Deposit issuance by banks creates credit money literally out of nothing. Figure 5.2 denotes the balance sheet mechanics involved (cf. McMillan 2014: 21-33):

Bank		Counterparty	
+ Loan (long-term IOU)	+ Deposit (short-term IOU)	+ Deposit (short-term IOU)	+ Loan (long-term IOU)

Figure 5.2—Bank deposit issuance as a swap of IOUs

Accordingly, banks issue deposits endogenously as a short-term IOU in exchange for a long-term (or 'longer-term') IOU issued by the counterparty. Typically, deposits have the shortest possible maturity as they are available on demand and instantaneously convertible into a money form that is higher up in the hierarchy. However, there are also deposit forms with a longer maturity (cf. Brady 1911). The counterparties' IOUs usually are loans that the commercial bank grants to its customers, or securities (e.g. bills of exchange or commercial paper) that the bank discounts.

That deposit creation ultimately relies on a swap of IOUs is made evident in the *Chapters on the Theory and History of Banking* by Charles Dunbar, originally published in 1885 as a university textbook:

> "The depositor, or the creditor of a bank, who has to make a payment to some other person, has his choice between two methods of making it. He may demand money from the bank, in the exercise of his right as a creditor, and deliver this money; or, with the assent of the person to whom he has to make payment, he may give to this person an order on the bank for the money, or what is commonly called a check. If he adopts the latter method, a payment for goods or of a debt is effected by the simple transfer of a right to demand money from the bank […]. To this extent the check is plainly made a substitute for the sum of money for which it calls. It represents no particular money or groups of coins, for, as we have seen, the deposit is likely to have been created by the bank in exchange for some security bought by it, and is, therefore, a naked right to demand, and not a claim to any particular cash" (Dunbar 1885: 39-40).

Historically, as a private IOU, bank deposits emerged earlier than the Bank of England-style private bank notes. Deposit-issuing commercial banks originated in Italy during the Late Middle Ages and the Early Modern Period, and can thus be viewed as the speculative and Ponzi units of their time. An important aspect of their business was to have accounts on how much money they owed to their customers—those records were the early versions of deposits (cf. Kindleberger 1984: 49). Why did early commercial banks offer deposits as a service for their customers? The Bank of Amsterdam, for example, required that bills of exchange of a certain amount were transacted at the Bank, which forced merchants to hold deposit accounts there. Holding these accounts offered certain conveniences such as safe storage or the guarantee to receive money of a satisfactory quality once it was withdrawn (Kindleberger 1984). Early deposits, however, were not easily transferable on secondary markets, as this required the evolution of advanced checking and clearing systems. Such institutions only developed and spread in the 18th century, with Britain in the lead (Giannini 2004).

In the U.S., deposit banking transformed substantially throughout its different eras. Its traditional institutional structure is a mix of relicts from the 'Free Banking Era' (1837-1863) and the National Banking System (1863-1913), which was established during the Civil War (cf. Smith 1936: 146-167). Figure 5.3 sketches the different types of deposit issuing banks that emerged in the 19th century, with state-chartered banks, national banks and trust companies:

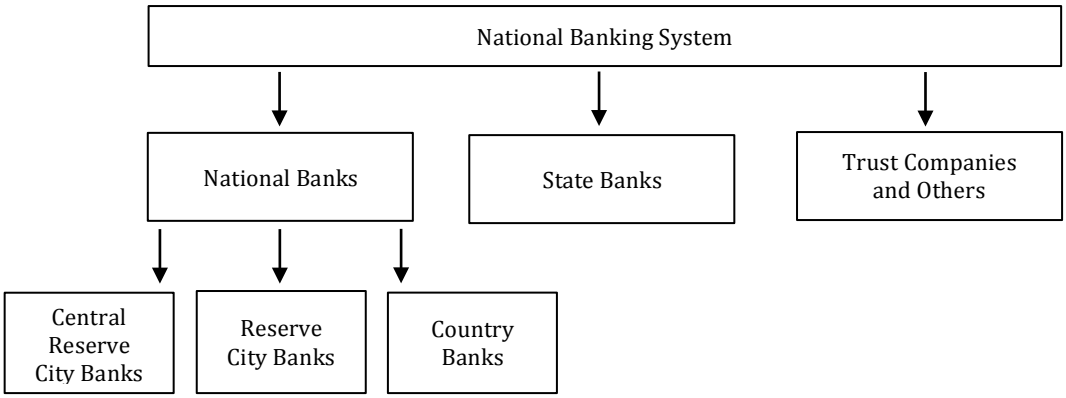

Figure 5.3—Categories of deposit-issuing banks in the National Banking System

The private commercial banks operational in the antebellum period typically were 'state banks' or 'state-chartered banks' that had received their licenses from one of the various U.S. states. The rules concerning their business models, in particular the issuance of private bank notes and bank deposits, differed from state to state. Some of those rules even dated back to the colonial period when the banking business was not yet clearly developed and overlapped with other business forms (Willis 1915: 4-5). In 1838, the rules for conducting the banking business became even more loose when the state of New York pronounced the so-called Free-banking Law according to which any person or institution was made free to issue notes (Smith 1936: 42-51).

During the Civil War, the regulations for the issuance of bank notes and bank deposits were fundamentally altered. On the one hand, the National Currency Act of 1863 created a 'bond currency' and removed the characters of bank notes as an 'asset currency' tied to precious metals. The act created 'national banks' that—as opposed to state banks—were incorporated under federal law. To issue notes, national banks had to purchase government bonds, the amount of which was limited. Thus, the provision effectively made the bank note supply inelastic and dependent on the provision of government debt. At the same time, while the note issuance by state banks was not formally prohibited, state bank notes were virtually taxed out of existence (Young 1929: 289).[62] As Mehrling (2002: 207) explains,

> "[t]he intention was to support the market for government bonds issued to finance the war effort, but the long-run consequence was to fix the supply of note currency. Even after redemption of the greenback issue and successful return to the gold standard in 1879, the quantitative constraint on the national bank note issue remained."

[62] With the tight regulation of bank note issue according the currency principle (cf. Young 1929: 294), the U.S. banking system was made more akin to the British system of bank notes as public money, which had been implemented in Britain via the 1844 Bank Charter Act. Still, turning bank notes into *pure public money* was only completed when the Federal Reserve System was introduced and the Federal Reserve itself had effectively developed into a public institution (cf. Conti-Brown 2016).

On the other hand, the National Banking Act of 1864 modified the system of deposit banking. While the rules for state banks were not affected, minimum reserve requirements were introduced for national banks by law to have an instrument of control over deposit creation. Accordingly, national banks had to hold a certain amount of legal tender, i.e. hierarchically higher money, to be able to issue bank deposits. To determine the reserve requirements, national banks were split up in three categories: 'Central Reserve City Banks' in New York, Chicago and Saint Louis had to keep a 25% reserve in the form of legal tender. 'Reserve City Banks' in other cities had to hold 25% reserves as well, while half of it could be kept in the form of deposits at the Central Reserve City Banks. 'Country Banks' had to keep a reserve ratio of 15%, three fifths of which could be held via deposits at Central Reserve or Reserve City Banks (Young 1929: 295).

The new legislation had a range of important effects on the role of deposits in the banking system. First, it led to a significant rise in the importance of bank deposits vis-à-vis notes. As the number of bank notes issues depended on the amount and the profitability of government debt, the foundation of the National Banking System

> "tended to increase deposit creation disproportionately to the increase in note issue. In parts of the country where people insisted on having notes, banks charged a higher rate of interest than in those parts of the country where borrowers could be induced to take deposit credits and where check payments predominated over demands for currency withdrawals in the form of notes" (Smith 1936: 149).

Second, it increased the vulnerability of deposit banking to financial panic. The strict reserve requirements, instead of making the system more resilient, did not provide more elasticity to banks but increased the pressure on them to call in loans in times of stress. Moreover, the pyramiding of reserves between the three categories of national banks was problematic insofar as it fueled speculation in the centers, particularly New York, and at the same time led to massive spill-overs of financial strains from central reserve cities to country banks, and vice versa. Finally, the continued prohibition of branch banking forced country banks to invest in the money markets making their positions rather illiquid and susceptible to runs (Smith 1936: 151-160).

With the dual system of national and state banks as issuers of deposits established during the Civil War, trust companies entered the picture as third category of institutions that created bank deposits. Whilst the first U.S. trust company had been founded in 1822 (Herrick 1909: 2), deposit issuance by trust companies developed at around Civil War times (Barnett 1911: 12ff., also see Herrick 1909: 6). As Bruner and Carr (2009: 66) explain,

> "[o]riginally organized in the late nineteenth century to handle various financial tasks for private estates and corporations, the sphere of activity for trust companies gradually expanded to offer services little different from those of traditional banks."

Among those services were accepting deposits, making of loans as well as acting "as trustees, underwriters, and distributors of new securities" (ibid: 67). This occurred in a legal space that the National Banking System had left rather unregulated:

> "Despite their functional similarity to national and state banks, trust companies were generally less well regulated. They were permitted, for instance, to hold a wider variety of assets; unlike national banks, trust companies could own stock equity directly. Also, unique among large financial institutions, trusts were not required to hold reserves against deposits before 1906" (ibid).

In this, trusts had quite similar roles as the English country banks discussed in Chapter 4 and may be seen as the 'shadow banking sector' of the age.

Taken together, all three deposit-issuing financial institutions—national banks, state banks and trust companies—acted as speculative and Ponzi units that created deposits by swapping IOUs of different maturities. In contrast to their European counterparts, U.S. banks did this swap primarily against stocks and bonds, not bills of exchange. In Britain but also in France and Germany, deposits were primarily created by discounting bills of exchange and issuing acceptances. This corresponded to the idea of 'sound banking' and was reflected in the so-called 'Real Bills Doctrine'. Accordingly, the private creation of deposits was 'sound' as long as the deposits were issued against commercial credit that corresponded to an actual trade of tangible goods (cf. Mints 1945). Those countries therefore possessed a liquid discount market on which bills of exchange were traded. In the National Banking System, in contrast, due to the legal interpretation of the 1864 National Banking Act, banks were not allowed to issue acceptances (Jacobs 1910: 4).

Similar to its European counterparts, however the commercial banks issuing deposits were private institutions that did not have access to backstops on public balance sheets. In the National Banking System, commercial banks did not have a public lender of last resort they could turn to in case of a liquidity shortage. This role was occasionally and in an *ad hoc* manner taken over by privately run clearing houses, which were typically controlled by the major local banks. From 1913 onwards, this role was taken on by the Federal Reserve, which however also was a private institution—a bankers' bank—and not yet under substantial public control (Conti-Brown 2016). Thus, U.S. deposit creation via swapping IOUs occurred exclusively in the private realm (see Figure 5.4):

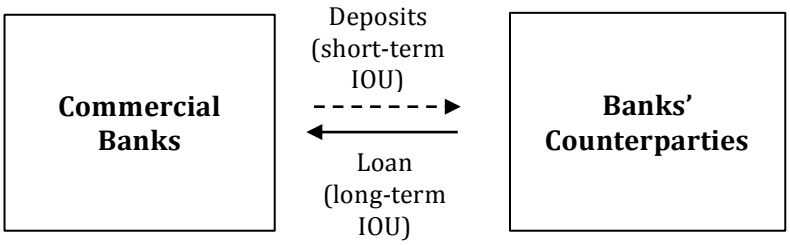

Figure 5.4—Deposit creation as a private swap of IOUs

5.2.2 Establishing par clearance vis-à-vis higher-ranking forms of money

While today bank deposits are very commonly referred to as a form of 'money', this position was by no means the dominant view in the 19th century. At the time of the National Banking System, the term 'money' was commonly used for coins and notes while bank deposits were referred to as a form of 'credit'. This can be demonstrated on the basis of two selected representative examples.

On the one hand, the view can be identified in the works of the National Monetary Commission, which published extensive analyses on money and banking towards the very end of the National Monetary System's existence. In his 1910 report *The Use of Credit Instruments in Payments in the United* States, David Kinley makes clear that in his view, bank deposits are not 'money':

> "In all industrial communities exchanges are made in three ways: by direct barter; by direct money payment; and by indirect barter, or exchanges wherein, instead of money, credit documents of some kind are given, which cancel on another partly or wholly, and so render the use of money necessary only for the settlement of balances, if at all. [...A] third volume of goods produced and entered into market are sold on the basis of a price established by the money exchanges, but are not paid for with money in any form. For a large majority of these purchases checks are given either at the time of purchase or soon after. These checks are deposited with the banks; by means of book-keeping they are set off against one another, and the balances only call for money payment. Even these balances, however, may not call for the use of money for their settlement; they may, and indeed frequently are, entered to the credit of the owner on the books of his bank, and in time canceled by the payments against him coming in at a later period" (Kinley 1910: 2-3).

On the other hand, the same logic is prevalent when Allyn Young wrote his text *The Mystery of Money. How Modern Methods of Making Payments Economize the Use of Money.* Published in 1924 for the first time and revised in 1929, Young is a blunt as one can get with regard to the status of bank deposits. He evidently does not see a qualitative difference between the credit instruments the bank issues as its liability (i.e. deposits) and the credit instruments it holds as its assets (i.e. a promissory note or a bill of exchange):

> "Nine tenths of the business transactions in a country like the United States are performed with the aid of credit rather than of money. From the purely quantitative point of view, credit is vastly more important than money. [...W]ho would be willing to say that we could dispense with money and get along very well by the use of debts as means of payment? The objection is obvious. A debt can hardly be a means of payment, for it itself is something to be paid. [...] A bank is an institution which deals in debts. It buys the debts of its customers and sells its own debts. Its customers' debts come to it in the form of promissory notes and bills of exchange. A promissory note is, of course, a promise to pay money either on demand or, more usually, on or before a certain date. A bill of exchange or draft is an order to pay, drawn by a creditor upon a debtor" (Young 1929a: 271-272).

From a Money View perspective, it is not surprising and easy to explain that bank deposits were rather considered 'credit' and not 'money': In a credit money system, the categories of 'money ' and 'credit', though often used as dichotomous oppositions (if operating within the logic of a 'monetary theory of credit'), are in fact two sides of the same coin. Whether a given instrument is perceived as money or credit depends on the relative perspective. For the issuer of the credit money form, the financial instrument tends to be 'credit'. For the person or institution that holds the instrument as its asset and uses it to make payments or store value, it rather constitutes 'money'. Hence, a clear distinction between 'money' and 'credit' is not possible but a matter of standpoint and terminology. It seems to be a regularity though that financial instruments that have taken on the role of private credit money are not commonly referred to as 'money' but 'credit', which changes after their accommodation. Being integrated into the public money supply lets them appear as a form of 'money proper'.[63]

To qualify as private credit money in a strict Money View sense, bank deposits as privately created IOUs, based on swapping IOUs of different maturities, have to trade at par or quasi par with higher-ranking money. At the time, this was commodity money, first and foremost gold, as well as bank notes. This gives rise to the question when and how such par clearance was established for the three eminent forms of bank deposits—those issued by national banks, state banks as well as trust companies. Providing a detailed quantitative and qualitative analysis of when exactly this occurred for the various types of bank deposits is beyond the scope and intent of this study. Not only would it face severe challenges for data collection, it is also very unlikely that the adoption of par exchange for bank deposits vis-à-vis higher-ranking money throughout the U.S. was a homogenous development. Instead, the key argument for the theory of private credit money accommodation is to show that deposits have gradually adopted par clearance. Thus, this section argues that, concomitantly to the various stages of U.S. banking history, bank deposits incrementally solidified their promise to trade to higher-ranking money at par. While the promise to trade at par was very weak during the Free Banking Era, when the dominant form of private credit money were still bank notes (cf. Friedman and Schwartz 1963), the systematic use of deposits as money substitute developed after the centralisation of bank notes issuance (cf. Liepmann 1933). This manifested itself first in the National Banking System and later in the Federal Reserve System.

In the National Banking System, claims for par clearance mainly relied on market mechanisms and private pooling arrangements. The National Banking System was characteristically marked by the absence of a central bank—a feature that had developed in the decades before the Civil War and made U.S. banking predominantly rely on private credit money creation. In 1791, after a struggle between Alexander Hamilton and Thomas Jefferson, the U.S. had established the First Bank of the United States, a de facto central bank with the powers of note issue, government funding and acting as a state agent. In 1811, the First Bank was abrogated as Congress blocked the renewal of its charter. The

[63] Arguably, only in the 1930s, in the context of the Great Depression and the accommodation of bank notes, scholars started treating them explicitly as money (cf. e.g. Meade 1934).

same happened to the Second Bank of the United States, which was established in 1816 and closed in 1836 when President Andrew Jackson vetoed charter renewal (Giannini 2004: 67-70). In absence of a centralized institution, the necessary task of interbank clearing was conducted by privately run clearing houses, which were established in the major financial centers and typically controlled by the leading local banks. The activity of central clearing was particularly important as the U.S. had a unit banking system that did not allow branch banking, which left the banking sector in a highly atomized and decentralized shape (cf. Dunbar 1885). Sometimes the Treasury took on the functional role of a central bank. Provided that it had a fiscal surplus, the Treasury intervened in the financial market by purchasing securities similar to open market operations or lent directly to banks as central banks would do via the discount window (Smith 1936: 163).

Upon the assumption that bank deposits gradually adopted par clearance within the National Banking System and may thus count as private credit money, Figure 5.5—compiled on the basis of various sources—presents the empirical Money Matrix for the U.S. at the turn of the century:

<table>
<tr><th>Commodity Money</th><th>Public Credit Money Forms</th><th>Private Credit Money Forms</th></tr>
<tr><td rowspan="2">Outside Money

Metallic currency
• Gold coins
• Subsidiary silver
• Standard silver dollars</td><td>(1) Pure Public Money

Treasury liabilities
• Greenbacks
• Gold certificates
• Silver certificates
• Treasury notes of 1890</td><td>(3) Public-private Money

National Bank liabilities
• National Bank Notes</td></tr>
<tr><td>(2) Private-public Money</td><td>(4) Pure Private Money

National Bank liabilities
• Bank Deposits
State Bank liabilities
• Bank Deposits
Trust Companies' liabilities
• Trust Deposits</td></tr>
</table>

Figure 5.5—The Money Matrix in the early 20th century (empirically)

Accordingly, next to bank deposits as forms of *pure private money* issued by national banks, state banks and trust companies, bank notes were *public-private money* issued only by national banks.

At the top of the monetary hierarchy was still commodity money. During the Civil War, the U.S. went off the gold standard. Secretary of the Treasury

Salmon P. Chase negotiated a loan from the big banks of New York, Boston and Philadelphia to the government of the Northern States and insisted that it was to be fully paid in gold. As a consequence, virtually all gold reserves were pooled at the Treasury, which forced the banking system to suspend convertibility of bank notes into gold (Smith 1936: 42-56). After the Civil War, the U.S. adopted a bimetallic system with fixed exchange rates between gold and silver. In 1879, bimetallism was replaced by a pure gold standard again. Controversies had accompanied the bimetallic standard since its re-enactment because the price of silver had been too low, making silver coinage unprofitable. After the Franco-Prussian War of 1870-71, the newly founded German Empire decided in favour of the gold standard, de-monetized silver and caused a further global price slump of silver. With the Coinage Act of 1873, the U.S. effectively ended the production of silver dollars. After years of struggle, the decision was taken with the 1878 Bland-Allison Act to join the international gold standard but to keep some silver in circulation (Young 1929: 281-286). The crucial importance of gold was cemented with the Gold Standard Act of 1900 (cf U.S. Congress 1900).

The public credit money realm of the National Banking System was made up of two categories of 'pure public money' issued as liabilities of the Treasury: 'Greenbacks', on the one hand, were initially an emergency money form in the Civil War. To deprive banks of their gold reserves and concentrate them at the Treasury for the purpose of war finance, Treasury Secretary Chase created them as a liability that was not based on assets but solely on the guarantee of the government to redeem them. By proclaiming that they are legal tender, banks were forced to hand out gold in demand for their notes and accept greenbacks as an ultimate means of payment instead. Prior to the Civil War, issuing paper money that only relied on government guarantees had been a taboo. Subject to strong inflation during the war, greenbacks were cancelled out in its aftermath by accepting them for tax payment without re-issuing them (Young 1929: 283). On the other hand, certificates for precious metals were a second form of Treasury liabilities. Gold and silver certificates constituted forms of paper currency in domestic circulation, which did not usually have a 100 percent backing and hence were a form of public credit money. While gold certificates were first introduced in the Civil War (Woelfel 1991), silver certificates were created as a concession to silver miners who felt disadvantaged by the abolishment of the bimetallic standard. With the 1878 Bland-Allison Act, the U.S. Treasury was urged to buy a monthly amount of silver bullion and mint it into coin while paying with silver certificates as legal tender (Knox 1892: 148-156).

In the National Banking System's private credit money realm, commercial banks could not count on guaranteed emergency liquidity or solvency support from any public institution. If a bank's assets shrunk under the amount of its outstanding liabilities, the bank had to close and the counterparties lost their deposits, which they held as assets. Bank failures were the normality, their possibility was well-known, which frequently gave rise to panics and bank runs, often creating self-fulfilling prophecies. The most influential crisis was the panic of 1907 that arose after the failure of the Knickerbocker Trust Company. After a series of runs on deposits—first on trusts, then also on commercial banks—in New York in October, the crisis spilled over to the rest of the country (Bruner

and Carr 2009: 135-139; Friedman and Schwartz 1963: 159). In a typical fashion for the time, the banker J. Pierpont Morgan bailed out the deposit issuing commercial banks by establishing a private emergency backstop through which he supplied liquidity to the distressed banking system (cf Figure 5.6).

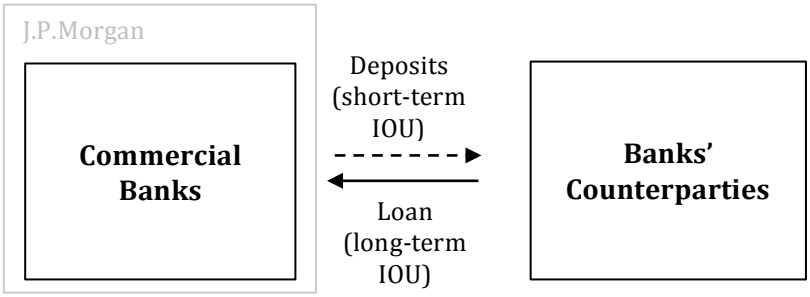

Figure 5.6—J. P. Morgan's private backstop cushioning other banks' losses

Following up on the 1907 crisis, a vivid political process emerged that ultimately led to the abolition of the National Banking System, and with some detours, the establishment of the Federal Reserve System with the Federal Reserve Act in 1913 (cf. e.g. Warburg 1930).

The creation of the Federal Reserve System was a major step forward towards sustaining par for bank deposits vis-à-vis higher-ranking money. In its orginal version, i.e. in its setup until after the Great Depression, the Federal Reserve was more of a de-centralized bankers' bank and hence a private, not a public institution (Conti-Brown 2016). As to the Federal Reserve Act (U.S. Congress 1913), the Federal Reserve System was supposed to be made up of eight to twelve reserve districts. National banks were free to decide whether to subscribe to the capital stock of the regional Federal Reserve Banks (Sec. 2), state banks had to apply for membership (Sec. 9). Hence, the member banks are the 'owners' of the Federal Reserve Banks. Each Federal Reserve Bank should be supervised and controlled by a board of directors, made up of nine directors who are in office for three years, two thirds of which were chosen by the private sector. The Federal Reserve Board, in turn, was supposed to be made up of seven members, including the Secretary of the Treasury and the Comptroller of the Currency as well as five members appointed by the President with the consent of the Senate (Sec. 10). It was granted supervisory powers for each Federal Reserve Bank and each member bank (Sec. 11a, details in Sec. 21 and 22). As Friedman and Schwartz (1963: 190) note, this organizational structure

> "gave rise to numerous conflicts within the System, the most notable being the continual struggle for power between the Federal Reserve Bank of New York and the Federal Reserve Board, with the balance shifting from time to time depending largely on the personalities involved".

With regard to deposit creation, the Federal Reserve Act implemented a shift towards the discounting of short-term credit and permitting the issuance of acceptances. Federal Reserve Banks were allowed to discount notes, drafts and bills of exchange with maturities of up to 90 days if they were "arising out of actual commercial transactions" and not "covering merely investments or issued

or drawn for the purpose of carrying or trading in stocks, bonds, or other investment securities, except bonds and notes of the Government of the United States" (Sec. 13). This, of course, corresponded to the Real Bills Doctrine (cf. Mints 1945). The act centralized reserve holding at the Federal Reserve Banks and thus put an end to the pyramiding of reserves, which had characteristically shaped the National Banking System. Accordingly, country banks had to keep 12% reserves, reserve city banks 15% and central reserve city banks 18% for demand deposits; for time deposits, all banks had to keep a reserve ratio of 5% (Sec. 19). Concomitantly, the Federal Reserve Act established the category of Federal Reserve deposits as liabilities of the Federal Reserve Banks. Against those deposits, the Federal Reserve banks had to keep a 35% percent reserve in the form of gold or lawful money, i.e. money that the U.S. Treasury would exchange for gold (Friedman and Schwartz 1963: 195-196). The Federal Reserve Board was put in the position to determine the interest rate, i.e. "require Federal reserve banks to rediscount the discounted paper of other Federal reserve banks at rates of interest to be fixed by the Federal Reserve Board" (Sec. 11b), and modify the reserve requirements for banks in special circumstances (Sec. 11c).

5.2.3 The systemic relevance of bank deposits

This section discusses the status of commercial bank and trust deposits in terms of their systemic relevance for the U.S. monetary system in the early decades of the Federal Reserve System, using the four criteria of size, interconnectedness, complexity and substitutability.

With regard to the size of their issuance, deposit creation increased massively in the late 19th century, with a short reduction due to the 1907 crisis, but then further until 1929. Figure 5.7—based on the data of Herrick (1909: 20)—shows the growth of deposits issued by various types of commercial banks as well as trust companies from 1875 to 1908. Figure 5.8—taken from Federal Reserve Board (1959: 12)—expands this overview on deposit issuance by non-national banks until its peak in 1929, but does not distinguish between trust companies and other commercial banks.

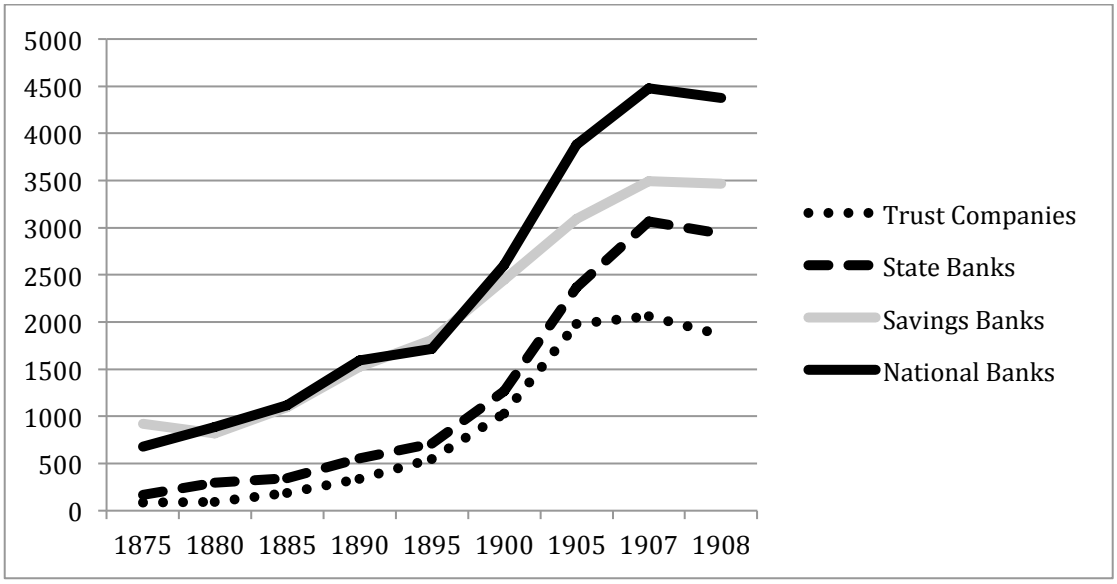

Figure 5.7—Deposits issued by different institutions, 1875-1908 (in million USD)

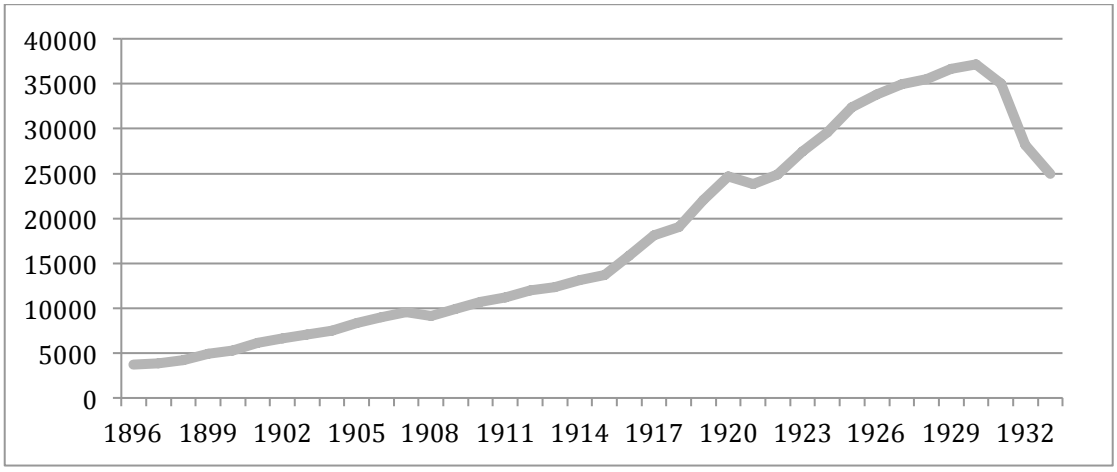

Figure 5.8—Deposits issued by non-national banks, 1896-1933 (in million USD)

As to the interconnectedness, bank deposits were issued by many different individual institutions. In particular, due to the prohibition of branch banking, the interconnectedness between different institutions was very high. Figure 5.9—taken from Herrick (1909: 19)—shows the increase in the number of trust companies, which was particularly sharp at around the turn of the century. Still, it needs to be cautioned that credible statistics on trust companies are shaky and hard to obtain, not the least because trust companies are not a coherent category of financial institutions (ibid: 1-2).

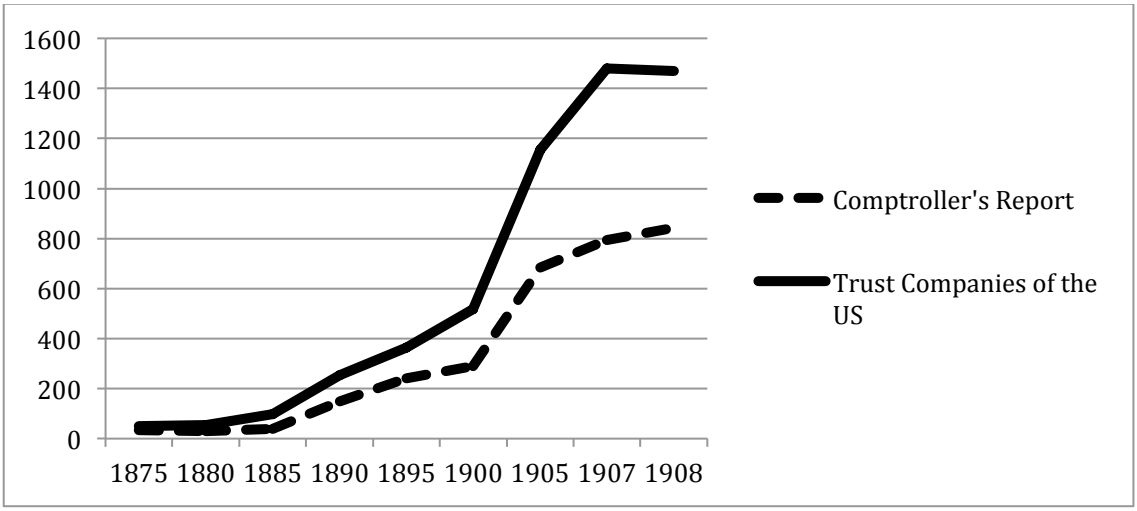

Figure 5.9—Number of trust companies based on different sources, 1896-1908

Concerning the complexity, both commercial banks and trust companies had an increase in their interconnectedness throughout the monetary and financial system. Trust companies were particularly opaque financial instruments (cf. Cator 1902, Herrick 1909, Barnett 1911, Bruner and Carr 2009). Figure 5.10—taken from Frydman et al (2013: 38)—sketches the scheme of trust companies that, with its attempt to corner the market, caused the 1907 panic. Concerning their substitutability, deposits issued by commercial banks and trust companies could be substituted among each other relatively easily but not fully be substituted by higher-ranking money forms, notably bank notes and Federal Reserve deposits. Given the sharp rise in deposit issuance in the early 20th century, no alternative short-term IOUs would have been available into which the balances could have been shifted all at once.

To sum up, we may contend that, in the Federal Reserve System prior to the 1929 Financial Crisis, bank deposits have become a systemically relevant private credit money form in the self-referential network of expanding, yet instable debt claims. The deposits of national banks—not the least due to their preferential treatment in the Federal Reserve Act—were hierarchically higher and treated more preferentially than those of state banks. Trust deposits, on the other hand, were less seen as a key financial instrument in the Federal Reserve System. Data about them in the Federal Reserve System is difficult to obtain (cf. Frydman et al. 2013); as the literature rarely focuses on them post-1913, we may assume that their relative relevance declined.

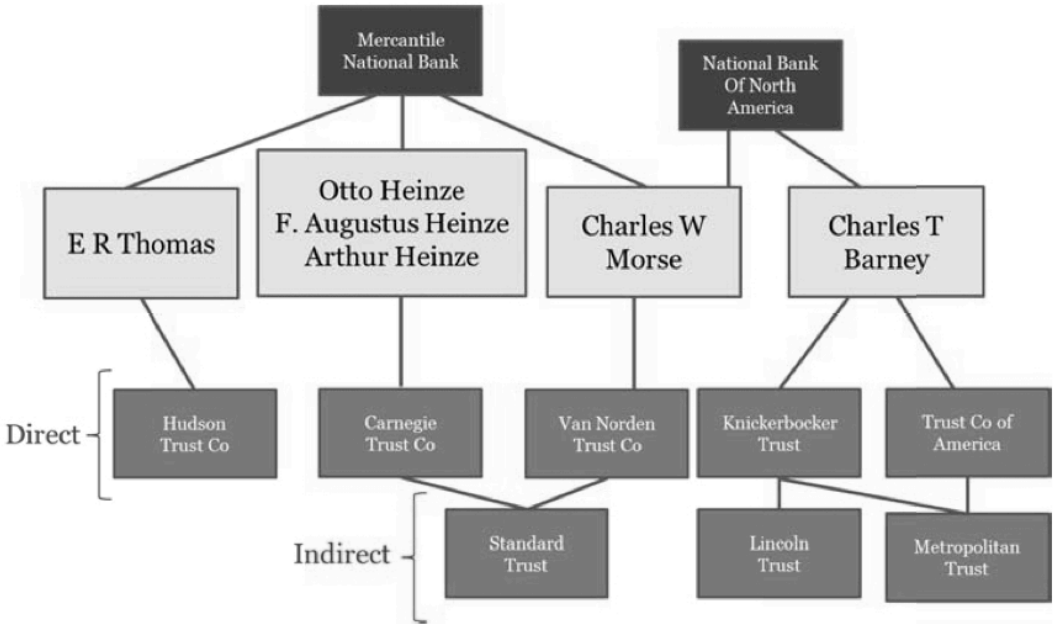

Figure 5.10—Trust company conglomerate causing the 1907 crisis

Figure 5.11 translates these findings into an account of the hierarchy of money at the time. Accordingly, gold was at the top layer. With the Federal Reserve Act, the issuance of bank notes had been centralized at the Federal Reserve Federal Reserve notes were issued against commercial credit and redeemable in gold at face value on demand, inducing par clearance (U.S. Congress 1913: Sec. 16). National bank deposits were the key systemically relevant private credit money form below notes in the hierarchy, promising to trade at par on demand, followed by state bank and trust deposits.

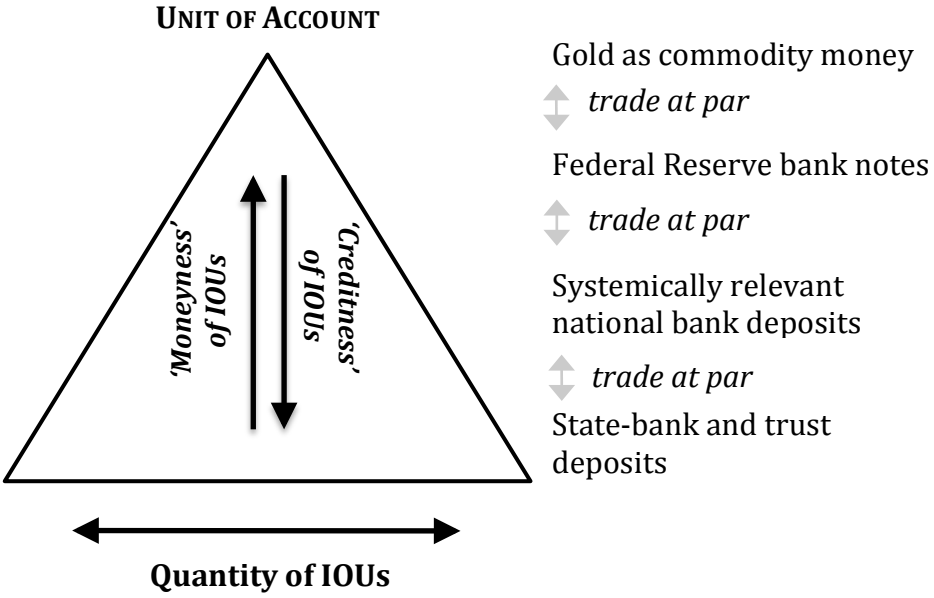

Figure 5.11—The hierarchy of gold, bank notes and bank deposits

5.3 Phase II: The accommodation of deposits in the public money supply

This section studies the accommodation of bank deposits. It starts by addressing the 1929 Stock Market Crash and the four waves of bank runs ensuing it between 1930 and 1933, in which depositors sought to convert their deposits into higher-ranking money (5.3.1). The series of runs could only be stopped when newly elected president Franklin Delano Roosevelt bailed out the banks by announcing a National Bank Holiday, holding his First Fireside Chat and passing the Emergency Banking Act in March 1933 (5.3.2). This unprecedented government intervention accommodated deposits as it established an implicit 100 percent deposit guarantee and shifted them from the private into the public credit money realm. This transformation of the monetary system was the unintentional side-effect of rescuing attempts for the banking system to prevent a doomsday scenario that—after years of unsuccessful management by President Hoover—was seen as imminent (5.3.3).

5.3.1 Financial Instability and the runs from 1930 to 1933

The Great Depression which ensued the 1929 stock market crash marks the most substantial failure of deposit banking in modern economic history. The prelude to the 1929 Financial Crisis was that the bull market, which had been developing since 1925 and led to what Galbraith (1954: xx) describes as a 'speculative orgy', reached its peak on 7 September and declined in the following weeks. As Ahamed (2009: 308) puts it: "By 1929, anywhere from two to three million households, one out of every ten in the country, had money invested in and were engaged with the market. Trading stocks had become more than a national pastime—it had become a national obsession". On 24 October 1929, the Black Thursday, a panic emerged: "blocks of securities were dumped on the market and nearly 13 million shares were traded" (Friedman and Schwartz 1963: 305).

To provide an analytical perspective on the Great Depression with a focus on bank deposits, this section adopts the periodization of Wicker (1996) and divides the era into five different phases during which the U.S. banking system was affected in various fashions. Accordingly, in the initial phase from October 1929, the banking system was hardly hit thanks to the decisive intervention of the New York Fed. This initial period of relative calmness was followed by a series of bank runs, which appeared in four waves: The first wave (November 1930 to January 1931) peaked around a series of runs following the bankruptcy on the Bank of the United States in New York City. The second wave (April to August 1931) remained region-specific in the greater Chicago area and had no nation-wide effects. The third wave (September to October 1931) was mainly precipitated by Britain's suspension of the gold standard. It caused major disruptions in the U.S. banking system and was followed by a range of innovative political measures adopted by the Hoover administration to cope with the situation. Finally, in the fourth wave (November 1932 to March 1933), the panic reached an unprecedented level with a nation-wide run and an unparalleled volume of deposits defaulting. Figure 5.12 visualizes the four waves in relation to the monthly volume of deposits suspended in the U.S. (cf. FRB 1937: 909).

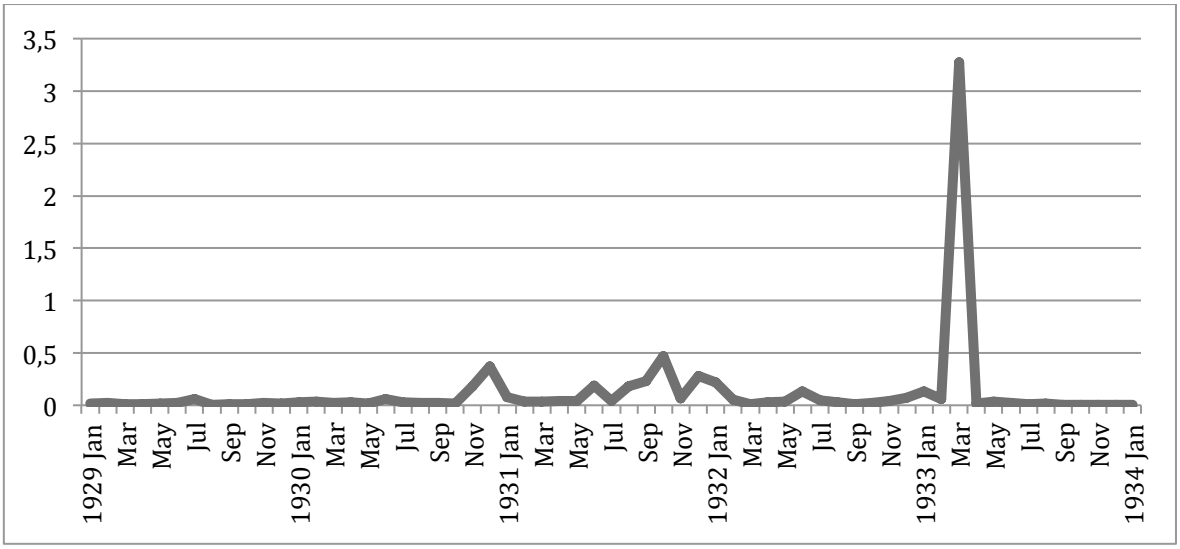

Figure 5.12—Monthly suspensions of bank deposits, 1929-1934 (in billion USD)

The 1929 crash first left the banking system remarkably unaffected. The number of deposits suspended due to bank failures remained at the usual low level. "Because the big New York City banks held their reserves in the form of call loans to stockbrokers, a collapse in stocks inevitably raised concerns about the safety of one bank or the other, often leading to a run on the system, which in turn led to a withdrawal of liquidity from the market, which in turn drove the market down further" (Ahamed 2009: 357). However, a spill-over to the banking system could be avoided because the New York Fed acted promptly and effectively. It supplied additional reserves to the New York banking system by, in the words of Governor George Harrison, 'keeping its discount window wide open' and through open market purchases of government securities amounting to $ 160 million (Friedman and Schwartz 1963: 339).

With this intervention, although it was successful, Governor Harrison had overstepped his competences within the checks and balances of the Federal Reserve System because he had not consulted with the Board in Washington:

> "That purchase was far in excess of the amount the System's Open Market Investment Committee had been authorized to purchase for System account. It was made by the New York Bank on its own initiative for its own account without consulting either the Open Market Investment Committee or the Board. Though subsequently ratified, it was [...] the occasion for another battle in the struggle between the Bank and the Board, which had important effects on Federal Reserve policy during the rest of the contraction" (Friedman and Schwartz 1963: 339).

The Board was very irritated about Harrison's independent initiative and perceived his failure to get approval from Washington first as a violation of the code of conduct. This led to ongoing struggles about the competencies between Washington and New York. While the Board sought to further restrict the autonomy of the New York Fed, Harrison suggested postponing the bureaucratic quarrels over legal authority until after the crisis (Ahamed 2009: 359).

The first wave of bank runs during the Great Depression occurred roughly one year after the stock market crashed. Bank failures began in the periphery in November 1930, when 256 banks with $ 180 million of deposits failed, and affected New York City in December with 352 banks failing and $ 370 million of deposits lost (Friedman and Schwartz 1963: 10-11, 308-311). This changed the monetary character of the crisis in a substantial way. Bank customers now systematically sought to convert their holdings of bank deposits as private credit money into hierarchically higher, yet scarcer, bank notes. This made banks' liquidity and solvency positions deteriorate and often induced self-fulfilling prophecies:

> "Many banks, seeking to accommodate cash demands or increase liquidity, contracted credit and, in some cases, liquidated assets. This reduced the quantity of cash available to the community which, in turn, placed additional cash demands on banks. Banks were forced to restrict credit and liquidate assets, further depressing asset prices and exacerbating liquidity problems. As more banks were unable to meet withdrawals and were closed, depositors became more sensitive to rumors. Confidence in the banking system began to erode and bank 'runs' became more common" (FDIC 1984: 33).

The initial events took place following the failure of Caldwell and Company, an investment banking firm from Nashville, Tennessee, which "had invested aggressively in low-grade municipal bonds on pyramided credit provided by his chain of banks and insurance companies" (Kindleberger 1973: 130). As Caldwell controlled the largest chain of banks and insurance groups in the South, its failure affected four states—Tennessee, Kentucky, Arkansas and North Carolina—with 70 banks failing in Arkansas alone (Wicker 1996: 32-33). Caldwell's collapse took place in a strained financial environment. A few months before, the Fed had stopped its liquidity injections, given that Governor Harrison had expressed his conviction that the most severe part of the crisis was over (Ahamed 2009: 370). After the failure of Caldwell, the Federal Reserve Banks of Richmond and Atlanta eased the monetary conditions by increasing their purchases of bills and government securities. However, the St. Louis Fed in whose district Caldwell was located, remained inactive. The New York Fed's action, in turn, was contractionary throughout November (Wicker 1996: 54-55). Thus, the initial response of the Federal Reserve System was not unanimous and most likely contributed to exacerbating the problem.

In December 1930, the banking crisis reached New York. The events unfolding are closely connected to the collapse of Bank of the United States (BUS)—a rather small commercial bank located in the Bronx whose resonant name made it appear much more significant than it actually was. The BUS was heavily invested into real estate projects. While it seemed healthy in its books, its actual exposure was hidden through affiliate companies. On 10 December, rumours spread that the bank was in trouble. Depositors lined up outside of the bank, waiting to convert their deposits into notes (Ahamed 2009: 385-386). On 11 December, the BUS had to close. By volume of deposits, this was the largest bank failure in U.S. history at the time (Friedman and Schwartz 1963: 308-310). As a consequence, with confidence in the banking system deteriorating, the same

happened to the Bankers' Trust of Philadelphia on 22 December and the Chelsea Bank and Trust in New York on 23 December (Wicker 1996: 36). Notably, a private rescuing attempt facilitated by the New York Fed did not materialize. Shortly before finishing the deal, the Clearing House banks involved had second thoughts. They cancelled the deal as they did not consider BUS's problem to be one of liquidity, which could be resolved by emergency lending, but of solvency (Ahamed 2009: 387). This assessment had been put into doubt later on, leaving it an open question why the BUS was actually denied a kind of support that had been common in many instances before (Wicker 1996: 55-56).

Despite these drawbacks, the first wave of the crisis did not last long, with bank failures declining sharply at the beginning of 1931 (Friedman and Schwartz 1963: 312). After the BUS had failed, the New York Fed became very active to minimize the side-effects on the money market caused by excess conversion of deposits into higher-ranking money:

> "In the face of large depositor withdrawals, the New York Fed purchased for its own account $40 million of government securities on Saturday, December 13. Federal Reserve notes in circulation in the New York District increased $71 million between December 11 and December 17 and another $46 million in the following statement week. Bills discounted and bills bought increased $103 million. Increased accommodation at the discount window and the purchase of acceptances plus security purchases were able to more than offset the effects of increased hoarding on bank reserves. Nevertheless, reserves fell by $ 57 million. The increase in Federal Reserve notes in circulation relative to the fall in reserve deposits led to an increase in the monetary base" (Wicker 1996: 55-56).

Government policies during the first wave, as the memoirs of President Hoover demonstrate, did not pay great attention to the banking system. At the core of the administration's agenda was the fight against unemployment that had arisen in the aftermath of the stock market crash (Hoover 1952: 41-60).

The second wave of bank runs took place from April to August 1931 when 563 banks failed with losses of deposits amounting to $497 million. In contrast to the other waves, Wicker (1996: 62-65) determines, the literature does not agree on an exact periodization (cf. Friedman and Schwartz 1963: 313-315 who employ a different approach) and has not developed a coherent narrative about the order of events. In geographical terms, the panic was concentrated on the greater Chicago area and did not have any perceptible nation-wide effects (Wicker 1996: 68). The financial strains were exacerbated by distortions in Europe, which had effects on American finance as U.S. commercial banks held significant amounts of foreign short-term obligations. Especially the failure of Austria's Kreditanstalt in May 1931 and the closing of banks in Germany in July had repercussions. Public authorities remained inactive and missed the gradual erosion in confidence. The Federal Reserve only used open market operations to react to usual seasonal movements (Friedman and Schwartz 1963: 314). The Hoover administration was extremely busy dealing with the deteriorating situation in Europe and the world economy but did not undertake extraordinary measures with regard to domestic banking (cf. Hoover 1952: 61-80).

The third wave of bank runs followed directly upon the second, yet put it on a different scale and made the previously regional banking crisis a national one (Wicker 1996: 77-78). Precipitated by the British announcement to go off the gold standard in September 1931, the U.S. monetary and banking system was simultaneously confronted with an external and an internal drain. The decision of the United Kingdom to go off the gold standard was an external shock for the U.S. banking system and led to an international run on U.S. gold reserves causing a massive outflow of gold (cf. Friedman and Schwartz 1963: 315-316). Concomitantly, bank runs emerged all over the country, with customers seeking to convert their deposits into notes and inducing bank failures and the annihilation of private credit money balances. In September and October, 817 banks failed and $ 47 million of deposits were suspended (Wicker 1996: 62). Geographically, the most affected areas of this internal drain were Ohio, Pittsburgh and Philadelphia (Ahamed 2009: 435), while the Federal Reserve district of New York remained rather unaffected (Wicker 1996: 78). In August and September, banks with deposits of $ 414 million, i.e. more than one percent of total commercial bank deposits, closed their doors (Friedman and Schwartz 1963: 316). The hoarding of currency became a nation-wide issue. In November and December, the panic calmed down. However, the notes that had been withdrawn were kept in various hiding places. A substantial return to the banking system did not materialize (Wicker 1996: 72-73; Ahamed 2009: 435). Table 5.1—taken from Wicker (1996: 87)—presents an overview on the simultaneous emergence of the external and internal drain.

Date	Change in monetary gold stock (external drain)	Change in currency in circulation (internal drain)
23 Sep 1931	-114	+76
30 Sep 1931	-156	+82
7 Oct 1931	-99	+185
14 Oct 1931	-218	+42
21 Oct 1931	-87	+32
28 Oct 1931	-48	

Table 5.1—External and internal drain during the third wave (in million USD)

The New York Fed intervened by raising interest rates from 1.5 to 2.5 percent on 9 October, and to 3.5 percent on 16 October (Friedman and Schwartz: 1963: 317). In this, it decided to act against the external drain in order to cushion the international effects, while exacerbating the internal drain, i.e. the conversion of deposits into notes. Moreover, the Fed did not conduct open market purchases to counteract the internal drain but sold government securities (FDIC 1984: 35-36) and thus increased the deflationary pressure in an already deflationary environment (Ahamed 2009: 436). This policy decision has been debated extensively and criticized widely. As to Ahamed (2009: 435-436), the Fed sought to defend the provision given in the Federal Reserve Act that its notes should have a 40 percent gold backing. Wicker (1996: 88-90), in contrast, argues that the New York Fed's main concern was to defend the monetary base, i.e. the sum of Federal Reserve notes and deposits. Friedman and Schwartz (1963: 317-318) note that it had a direct impact on the number of bank failures, which spiked in the direct aftermath of the decision.

To cope with the deteriorating situation in the banking system, President Hoover announced the foundation of the National Credit Corporation (NCC) in October—a private organization among bankers responsible for forwarding loans to struggling banks in order to ease liquidity problems (FDIC 1984: 36). This reflected his preference for a market-based solution without government involvement in support of the Fed. The NCC should function similar to J.P. Morgan's 1907 rescue scheme but was far less successful and proved ineffective after a few weeks (Hoover 1952: 84-85, 97; Wicker 1996: 95). When the failure of the NCC became obvious, Hoover turned to stronger political measures. In January 1932, he founded the Reconstruction Finance Corporation (RFC) as a government controlled version of the NCC. It was tasked to provide short-term funding to banks and other financial institutions, but also non-financial institutions such as railroad companies. It should support the Fed's lender-of-last-resort function, which was only allowed to provide emergency liquidity to its member banks against strict collateral requirements. With this task, the RFC clearly interfered with the Fed's mandate and blurred the difference between illiquidity and insolvency, which had guided the Fed's policy in beforehand (Jones 1951: ix, Wicker 1996: 109). The RFC succeeded insofar as its liquidity support enabled more than 4,000 banks to remain open until the end of 1932 (FDIC 1984: 36) and brought the rise in hoarding to a halt (Jones 1952: 16).

The fourth wave of bank runs began—as the previous ones—in the periphery. Nine bank failures in Idaho in August 1932 had left the situation strained. On 1 November 1932, the governor of Nevada declared a twelve-day banking holiday when the biggest banking corporation of the state was about to fail and the RFC refused to make a repeated emergency loan. In total, 13 banks were suspended in Nevada that month, amounting to $ 19 million of deposits lost. The events are of special relevance because Nevada was the first state to announce a bank moratorium, which introduced a novel source for the uncertainty of depositors and became a vehicle for panic and contagion (Wicker 1996: 108, 115). The banking panic took on a nation-wide dimension with the failure of the Union Guardian Trust Company of Detroit, as a consequence of which Michigan Governor William A. Comstock declared a banking holiday on 14 February 1933. That decision was preceded by a struggle between Henry Ford, the largest depositor of Union Guardian, and Arthur Ballantine, Under Secretary of the Treasury, on the conditions of the trust company's insolvency. Ballantine and the RFC insisted that Ford should "play a principal role in the bailout by subordinating $7.5 million in deposits and contributing $4 million in new capital to the Guardian Group. The negotiations collapsed when Henry Ford said that he expected the RFC to grant the loan without any further commitment from the Ford family. He simply did not believe that the RFC would allow Guardian Trust to fail" (Wicker 1996: 118; also see Wigmore 1985: 438-439). Without a run happening before, the Michigan moratorium affected more than 500 banks that held $ 1.5 billion in deposits (Wicker 1996: 118). The moratorium caused a run on cash all over the United States. The contagion immediately affected Ohio, Indiana and Illinois. By 3 March 1933, half of the U.S. states had declared a bank holiday (Shaw 2015: 46). "For the first time, also, the internal drain partly took the form of a specific demand for gold coin and gold certificates in place of Federal Reserve notes or other currency" (Friedman and Schwartz 1963: 326).

The Federal Reserve reacted to the events in a similar way as in the third wave. "It raised discount rates in February 1933 in reaction to the external drain, and it did not seek to counter either the external or internal drain by any extensive open market purchases" (Friedman and Schwartz 1963: 326). In this, the Fed was caught up again in struggles between New York and Washington. While it is likely that Governor Harrison of the New York Fed would have implemented a more active crisis resolution strategy by making open market purchases, his discretion in this respect had been severely limited by a decision of the Board on 4 January 1933, which had established a ceiling for the holding of government securities. Still, the New York Fed was able to provide some remedies through its bill buying policies and successfully prevented a money market panic by making it possible to smoothly transfer funds to and from New York without paying excessive interest rates (Wicker 1996: 134-138). However, Wicker (1996: 137-138) critizises that the Fed should have recognized "its lender-of-last-resort responsibilities and extended its support to troubled banks even if they were of questionable solvency with insufficient collateral and whose demise would spread fear and uncertainty to other banks in the rest of the country. There was no solid basis for their having relinquished their lender-of-last-resort responsibilities to the RFC."

Overall, using the analytical language of the Money View, the expansion of the monetary system as a self-referential network of debt claims had started to revert itself with the 1929 crash and kept on shrinking during the four waves of bank runs in the Great Depression. This continuously endangered par clearance of deposits vis-à-vis higher-ranking bank notes and led to the annihilation of vast private credit money balances held in the form of deposits. In the fourth wave, even the par convertibility of notes into gold was put into question. Figure 5.13 depicts the contagion effects that materialized between 1930 and 1933.

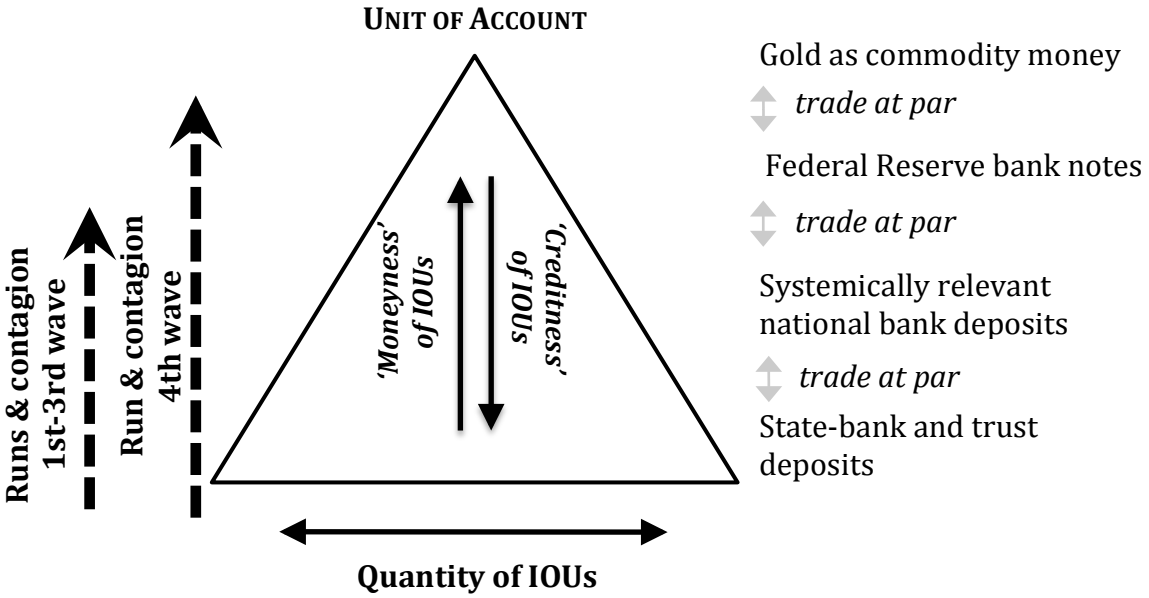

Figure 5.13—Bank runs with upward contagion in the hierarchy, 1930-1933

5.3.2 The Emergency Banking Act as public bailout in reaction to the run

The fourth wave of bank runs during the Great Depression coincided with the absence of clear political leadership, which played a crucial role for the deteriorating banking situation (Silber 2009: 23). In the presidential elections on 8 November 1932, President Hoover was defeated by his Democratic contender Franklin Delano Roosevelt. The months after the election, before Roosevelt assumed office on 4 March 1933, Hoover was no longer able to exercise decisive action; he was widely perceived as a 'lame duck' (Wigmore 1985: 421). At the same time, there was uncertainty about the next administration's policy. Rumours asserted that Roosevelt was planning a massive inflationary programme by suspending the gold standard, which further fueled cash withdrawals and hoarding (Kindleberger 1973: 194-195). On 17 February, Hoover asked Roosevelt in a letter to publicly commit to a balanced budget and avoiding inflation or devaluation in order to calm down the banking panics. Such a commitment would have involved abandoning large parts of Roosevelt's New Deal programme, so the President-elect never replied (Ahamed 2009: 444). Moreover, in July 1932, Roosevelt's vice-presidential candidate and Speaker of the House John H. Garner had insisted that FRC loans were to be made public—a decision that tended to accelerate bank runs (Kindleberger 1973: 195).

One of the first actions taken by Roosevelt after he had assumed office was to declare a national bank holiday on 5 March 1933. With a measure unprecedented in U.S. history, banks were forced to remain closed until 9 March; that day, the moratorium was again extend for three days (Silber 2009: 19).

> "After his inauguration, which was on a Saturday, the new President was confronted with the news that the New York banks would not be able to open on the following Monday. The closing of the banks was a preemptive strike, aimed to prevent a further cataclysmic explosion of bank and financial institution failures which would be accompanied by a horrendous decline of asset prices. The closing of the banks moved the solution of the immediate problem of broad insolvency of banks to the legislative sphere of Washington, rather than leaving it to the machinations of the financial community" (Minsky 1995: xi).

With his decision, Roosevelt effectively implemented a plan developed by the Hoover administration. In mid-February, the New York Fed's governor Harrison had already presented such a proposal. However, it was not implemented as President Hoover and Eugene Meyer, head of the Federal Reserve Board, could not agree on how to move ahead and who should take responsibility. On 2 March, the gold reserves of the New York Fed had fallen below the minimum reserve ratio. "Harrison called the president, begging him once again to declare a national banking holiday. Hoover replied that he 'did not want his last official act in office to be the closing of the banks'" (Ahamed 2009: 445). It was thus left to Roosevelt to take this action as his first measure in office. "To the surprise of many, Americans adapted to life without banks remarkably well—the initial reaction was not chaos but cooperation. Store-keepers liberally extended credit, while doctors, lawyers, and pharmacists continued to provide services in return for personal IOUs. […] Other places resorted to barter" (ibid: 451-452).

With the announcement of the national bank holiday, President Roosevelt had exhausted, if not overstepped, his formal competences. As the legal basis, he had invoked "an obscure provision of the 1917 Trading with the Enemy Act, designed to prevent gold shipments to hostile powers" (Ahamed 2009: 451). Four days after the announcement, Congress passed the Emergency Banking Act (EBA), which not only provided an *ex post*-legitimization of Roosevelt's action by expanding the presidential authority in a banking crisis (U.S. Congress 1933a: Title I, Sec. 1) but also presented a legislative package on how to deal with the closed banks and how to re-organize the Federal Reserve's competences.

On the one hand, the EBA's provisions for the closed banks entitled the Comptroller of the Currency to appoint a conservator for each bank who then should "take such action as may be necessary to conserve the assets of such bank pending further disposition of its business as provided by law" (ibid: Title II, Sec. 3). Hence, the conservator had to decide if the bank was solvent and allowed to reopen (ibid: Title II, Sec. 5) or if parts of its assets were to be set aside and distributed among its depositors (ibid: Title II, Sec. 6). To raise new capital, the EBA allowed banks to issue 'preferred stock', provided the approval of the Comptroller of the Currency (ibid: Title III, Sec. 1). The Secretary of the Treasury, in turn, could instruct the RFC "to subscribe for preferred stock […] or to make loans secured by such stock as collateral" (ibid: Title III, Sec. 4). This was a remarkable expansion of the RFC's powers to remedy the crisis (FDIC 1984: 39).

On the other hand, the re-organization of the Federal Reserve's role and competences entailed two major changes with regard to bank deposits. First, the EBA empowered the President to "investigate, regulate, or prohibit […] any transactions in foreign exchange, transfers of credit between or payments by banking institutions […] and export, hoarding, melting, or earmarking of gold or silver coin or bullion or currency" (U.S. Congress 1933a: Title I, Sec. 2). The act stipulated further that "no member bank of the Federal Reserve System shall transact any banking business except to such extent and subject to such regulations, limitations and restrictions as may be prescribed by the Secretary of the Treasury, with the approval of the President" (ibid: Title I, Sec. 4). Thus, the federal government received full authority over the Federal Reserve System, effectively abolishing central bank autonomy and turning the Fed into a government branch (cf. Ahamed 2009: 454-455). Second, the EBA entitled the Fed—in "exceptional and exigent circumstances, and when any member bank has no further eligible and acceptable assets available to enable it to obtain adequate credit accommodations through rediscounting"—to "make advances to such member bank on its time or demand notes secured to the satisfaction of such Federal reserve bank" (U.S. Congress 1933a: Title IV, Sec. 2). Thus, the Fed was granted the emergency power to fulfil its lender-of-last-resort function by accepting any kind of collateral at its discretion. In addition, Treasury Secretary William Woodin committed that the Treasury would indemnify the Fed for any losses it would occur in bailing out the banking system (Silber 2009: 26).

While the EBA granted the administration the necessary instruments to rehabilitate the banking system, it was Roosevelt's First Fireside Chat, a nation-wide radio broadcast on Sunday, 12 March 1933, that restored confidence in

banks among the U.S. population and, in this completed the successful short-term government intervention. In his announcement, Roosevelt (1933) explained:

> "The bank holiday […] is affording us the opportunity to supply the currency necessary to meet the situation. Remember that no sound bank is a dollar worse off than it was when it closed its doors last week. Neither is any bank which may turn out not to be in a position for immediate opening. The new law allows the twelve Federal Reserve Banks to issue additional currency on good assets and thus the banks that reopen will be able to meet every legitimate call." Further he stated: "I do not promise you that every bank will be reopened or that individual losses will not be suffered, but there will be no losses that possibly could be avoided; and there would have been more and greater losses had we continued to drift. I can even promise you salvation for some, at least, of the sorely pressed banks" (Roosevelt 1933).

To underpin his promises, Roosevelt pointed out how his administration was going to deal with the closed banks—a procedure he had established with an executive order issued on 10 March. Accordingly, the Secretary of the Treasury was to issue licenses allowing banks to reopen (Friedman and Schwartz 1963: 422). Banks were divided into three categories: those that could be reopened without any support, those that required a capital infusion from the RFC and those that had to be liquidated (Minsky 1995: xi):

> "There was no time for individual bank examinations. Decisions were made on the basis of whatever information was available at the time which in most cases was bank examiners' reports at the last examination date. Since there were decisions pending to open or not to open 18,000 banks in no more than four days, the task was an especially gruelling one. For a bank to be denied a license to reopen appeared to be on the face of it arbitrary and capricious, particularly since there was no provision for appeal, and the standards of evaluation were not fixed in advance. It would be difficult to conceive of a more arbitrary act of government short of nationalization of the banks" (Wicker 1996: 146).

The Fireside Chat indeed calmed the situation. When the banks reopened on 13 March, depositors returned their hoarded cash. More than half of the notes hoarded were returned within two weeks after the Fireside Chat (Silber 2009: 19). At the same time, the U.S. banking landscape was fundamentally altered:

> "Only one-half of the nations' banks with 90 percent of the total banking resources were judged capable of resuming business on March 15; these banks were presumably safe which meant that they were solvent. The government guaranteed the soundness of each of the reopened banks. The other half remained unlicensed; 45 percent of these were placed under the direction of 'conservators' whose function it was to reorganize the banks for the purpose of eventually restoring all of them to solvency. The remaining 5 percent (about 1,000 banks) would have to be closed permanently" (Wicker 1996: 145-146).

Taken together, the rescuing operations of the Roosevelt administration in March 1933 sum up to a large, nation-wide bailout of the U.S. banking system.

3.5.3 Accommodating bank deposits as systemic transformation

President Roosevelt's New Deal, and notably his first 100 days in office, have risen to pre-eminent historical prominence and were subject to wide scholarly debates (cf. Alter 2006). This study adds an additional perspective: Within the Money View framework, the Emergency Banking Act—in line with Roosevelt's promises made to the U.S. population in his First Fireside Chat—established an implicit 100 percent guarantee by the government for deposits. By creating a *de facto* solvency backstop, in addition to putting the Federal Reserve System under federal control and extending the lender-of-last-resort responsibilities, deposits received comprehensive governmental protection. As Figure 5.14 highlights, Roosevelt's intervention thus constitutes an accommodation of bank deposits, which were shifted from the private credit money realm—as both a form of *public-private money* and *pure private money*—into the public credit money realm and became *private-public money*.

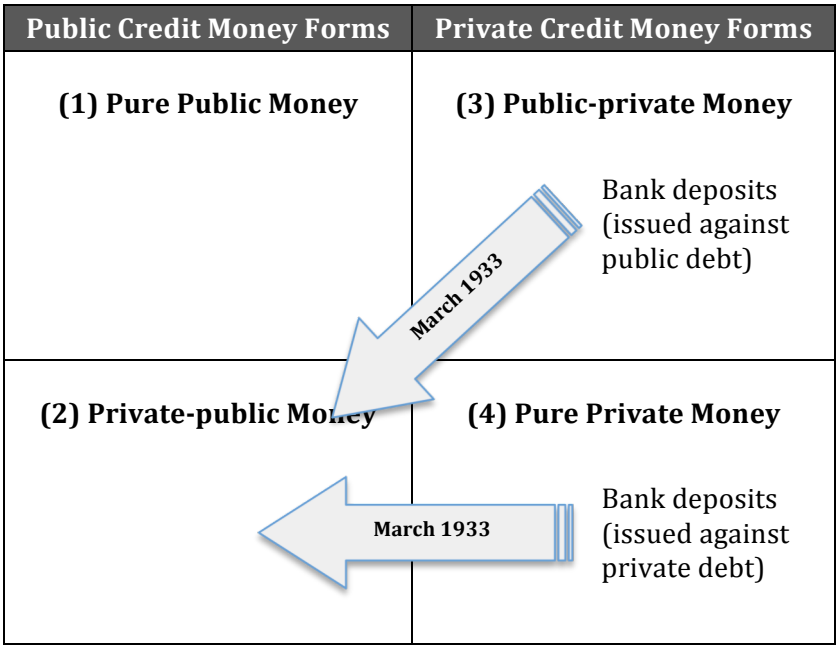

Figure 5.14—Bank deposit accommodation via the 1933 Emergency Banking Act

Silber (2009) details how the implicit deposit insurance worked. Most important was the Fed's "commitment to supply unlimited amounts of currency to reopened banks" (ibid: 20), which could be credibly made by Roosevelt due to the expanded presidential powers. This commitment went well beyond mere liquidity support but also addressed the banks' solvency—a line that had been blurred substantially during the four waves of bank runs. The Fed's action was backstopped by the Treasury's assurance to indemnify the Federal Reserve banks for all losses they might possibly incur. In addition, the RFC's guarantee to inject capital into all banks—not only member banks of the Federal Reserve System but also non-member national banks, state banks and trust companies—through the purchase of preferred stock was a second dimension of the solvency backstop for bank deposits (see Figure 5.15).

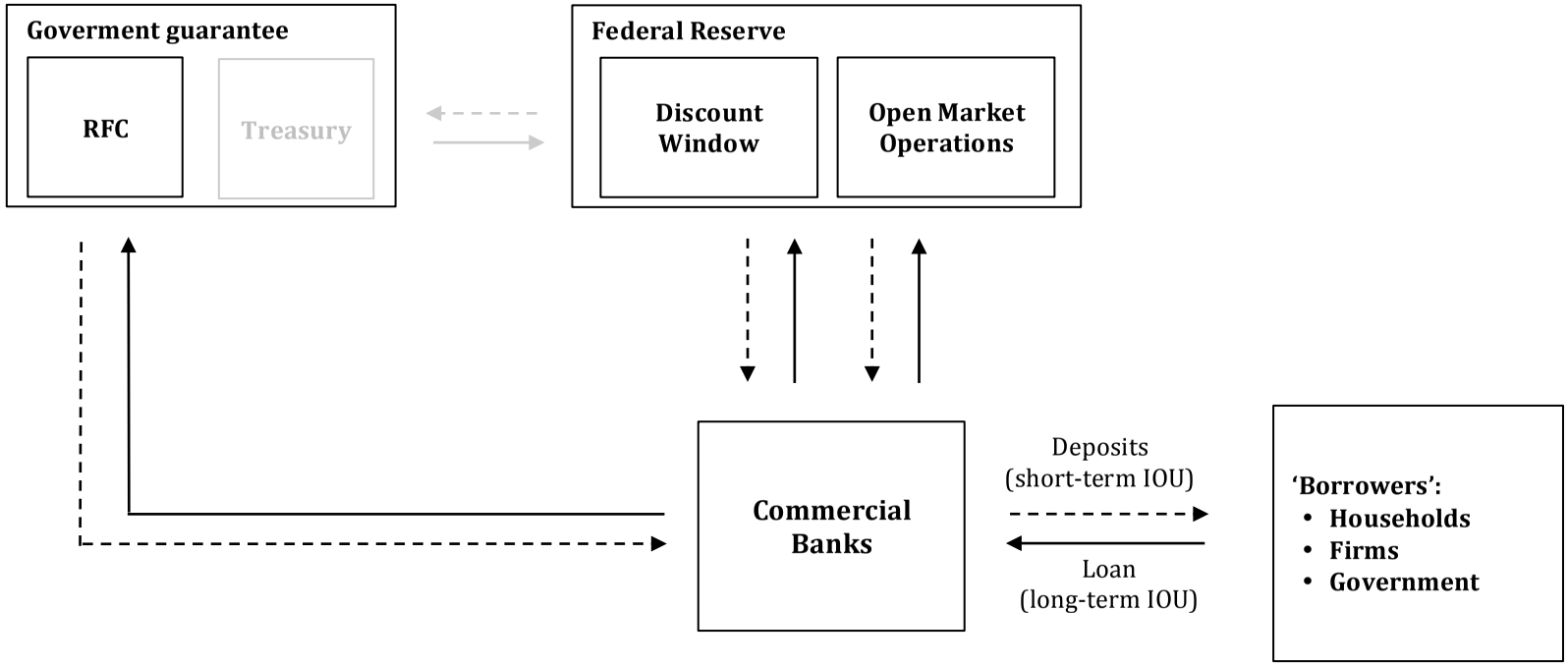

Figure 5.15—Roosevelt's implicit 100 percent deposit guarantee

Further, Silber (2009: 27) insists that the implicit deposit guarantee had been well understood by the population. He hypothesizes that to communicate the guarantee, there was actually a concerted plan going on, even beyond the proclamation of the guarantee via the Fireside Chat. Thus, in the Minutes of the Board of Directors of the New York Fed on 10 March 1933, it says:

> "Under this law, enacted as a part of the program for reopening the banks, the Federal Reserve Banks become in effect guarantors of the deposits of the reopened banks. While they are not legally bound there is a large moral responsibility" (cited after Silber 2009: 27).

Two days later, coinciding with the Fireside Chat, the New York Times wrote:

> "Some bankers who were here today [...] interpreted the emergency banking act as a measure under which the government practically guarantees, not officially but morally, the deposits in the banks which it permits to re-open. This point of view was based on the fact that banks permitted to open are characterized as 100 per cent sound and assured of sufficient currency to meet all obligations" (cited after Silber 2009: 25).

Years later, Francis Awalt, in 1933 Acting Controller of the Currency, confirmed that the administration had intended to announce such an implicit guarantee:

> "It was felt that the various Federal Reserve Banks must back the reopened banks to the hilt, and that it was no time for any conservative head of a Federal Reserve Bank to exercise his conservatism, should demand be made for currency. We reasoned, therefore, that if the Federal Reserve agreed to a reopening of a particular bank, it would necessarily be forced to back it one hundred percent" (cited after Silber 2009: 26).

Altogether, Roosevelt set up an *ad hoc* public framework to guarantee that deposits maintain par vis-à-vis higher-ranking money (Figure 5.16):

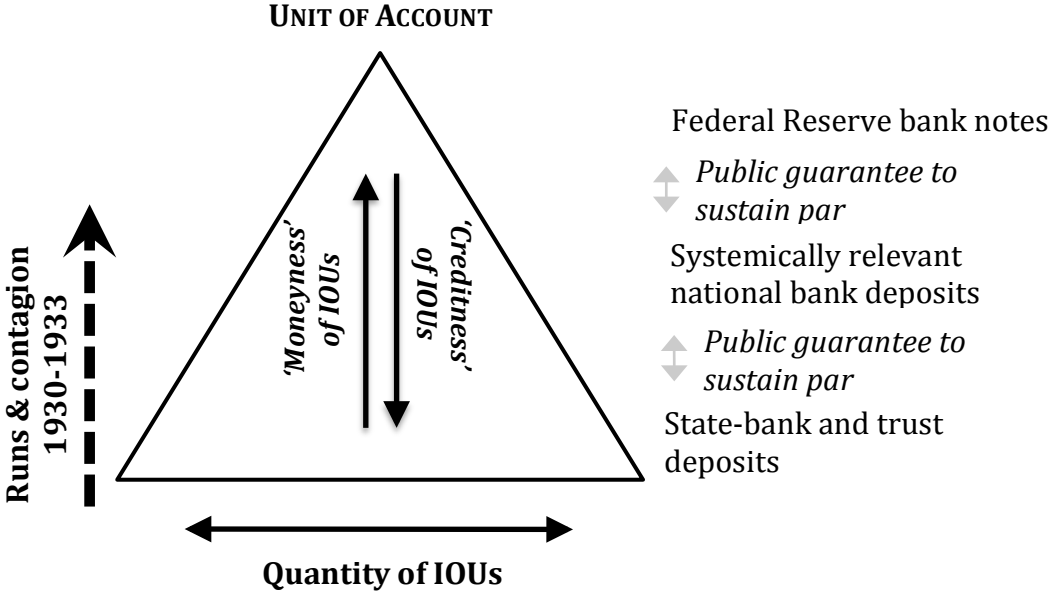

Figure 5.16— Accommodation as public guarantee to sustain par for deposits

Establishing the public framework to guarantee par clearance changed the character of deposits as credit money. In the logic of the monetary system as a self-referential network of expanding, yet instable debt claims, bank deposits had initially been a promise made by the private issuing institution to pay a higher-ranking money form on demand. The public framework effectively exempted the issuing speculative and Ponzi units from meeting their payment obligation in a crisis as the state from then on declared to stand ready and take over the payment commitments. The banks that were re-opened after the 1933 bank holiday were made effectively bankruptcy remote. This changed the character of deposits and amounted to a transformation of the monetary system.

In this, accommodating bank deposits in the public money supply and thus transforming the monetary system was not the primary goal of the President but an unintentional side-effect. When the Roosevelt administration set up the implicit deposit insurance scheme, their primary focus was to rescue the U.S. banking system and stop the disintegration banks as deposit-issuing speculative and Ponzi units after years of a secular banking crisis. A great number of remedial measures had been tried between October 1929 and March 1933, but none had ultimately been able to provide a satisfactory remedy. For this reason, there were not many alternative proposals left on the table other than a strong and decisive government intervention when Franklin Delano Roosevelt assumed office (cf. Ahamed 2009: 453-454). Confronted with a nation-wide bank run, he had to take far reaching measures under extreme time pressure and with the terminal disintegration of the U.S. banking system as a realistic scenario. Introducing a public guarantee for deposits had been discussed already after the 1907 crisis, and in 1932—during the third wave of bank runs—a bill for explicit deposit insurance had been sponsored in Congress by Representative Henry B. Steagall. The bill had passed the House but was killed in the Senate Banking and Currency Committee on 28 May 1932 due to the intense opposition of Senator Glass (Friedman and Schwartz 1963: 434). Thus, President Roosevelt implemented plans that had been on the table before but had lacked an actual majority. In a quasi-dictatorial manner, positioned at the highest executive position, he pushed through the plan as the *ultima ratio* in the Great Depression, hazarding all accompanying consequences.

As to the functionalist logic of the accommodation theory, the underlying reason for the deposit accommodation to materialize in 1933 was not President Roosevelt's individual determinacy, nor can it be attributed to errors that had been made before he assumed office, such as President Hoover's hesitation to intervene forcefully or the decision of the Federal Reserve to raise interest rates instead of reducing it. Instead, the root cause for the accommodation was a property deeply rooted in the credit money system itself—namely the ability to create credit money out of nothing, which, over time, had turned bank deposits into a systemically relevant private credit money form through a process of financial expansion that at some point had to revert itself. Then, to prevent the collapse of the debt house of cards, the state's infrastructural power to backstop the collapsing credit money system had to be exercised. This technical necessity eventuated when newly inaugurated President Roosevelt implemented the accommodation with his quasi-dictatorial actions in March 1933.

5.4 Conclusion

This chapter has traced the rise of bank deposits as a private credit money form with a focus on the 19th century U.S. and their accommodation via the establishment of an implicit 100 percent deposit guarantee by Franklin Delano Roosevelt via the 1933 Emergency Banking Act and his First Fireside Chat. This political intervention unintentionally transformed the U.S. monetary system by permanently shifting the delineation between public and private credit money within the hybridity of the self-referential credit money system.

The chapter has applied the two-phase model of private credit money accommodation on the U.S. in the early 20th century as the then emerging centre of the world's financial system. It demonstrated how deposit-issuing commercial banks and trust companies as speculative and Ponzi units rose in importance throughout the National Banking System and were at the core of the early Federal Reserve System. In the Great Depression, with the ongoing system-wide failure of deposit-issuing institutions, the expansionary tendency reverted itself. While the first three waves of bank runs did not yet trigger a political intervention that would have gone beyond the established lines of granting primarily private liquidity support, it was only the fourth wave with its sheer dimension of bank failures that set free the necessity to accommodate the systemically relevant deposits, following the functionalist logic embedded in the credit money system which allows money creation *ex nihilo*.

What happened to the accommodated bank deposits after the Emergency Banking Act? Were the accommodation and the concomitant transformation of the monetary system permanent? How did it affect the setup of the money supply as we know it today?

The implicit deposit guarantee had been implemented as an emergency measure which was justified only months later, in June, with the Banking Act of 1933 (U.S. Congress 1933b). The 1933 Act contains a great number of new provisions for the U.S. banking system and various amendments to the 1913 Federal Reserve Act. Most importantly, the Act confirmed the accommodation of bank deposits and, by founding the Federal Deposit Insurance Corporation (FDIC), turned the implicit deposit guarantee into an explicit one (ibid: Sec. 8). Moreover, by implementing the provisions commonly referred to as the 'Glass-Steagall Act' (ibid: Sec. 16, 20, 21 and 32, cf. Carpenter and Murphy 2010: 5-7), commercial and investment banking were separated. As it granted a special status to commercial banks as deposit issuers, deposit creation was effectively declared an activity different from and standing out compared to other forms of credit creation. Moreover, bank deposits were made more similar to bank notes by prohibiting interest payments on demand deposits—a provision also known as 'Regulation Q' (U.S. Congress 1933b: Sec. 11). The authorization of branch banking aimed at making deposit creation safer and banks more resilient (ibid: Sec. 5). Finally, the Act strengthens the centralized control over deposit creation within the Federal Reserve System by making the Board responsible for open market operations (ibid: Sec. 8). Figure 5.17 sketches the new setup of the public framework for deposit creation to guarantee par established with the 1933 Act.

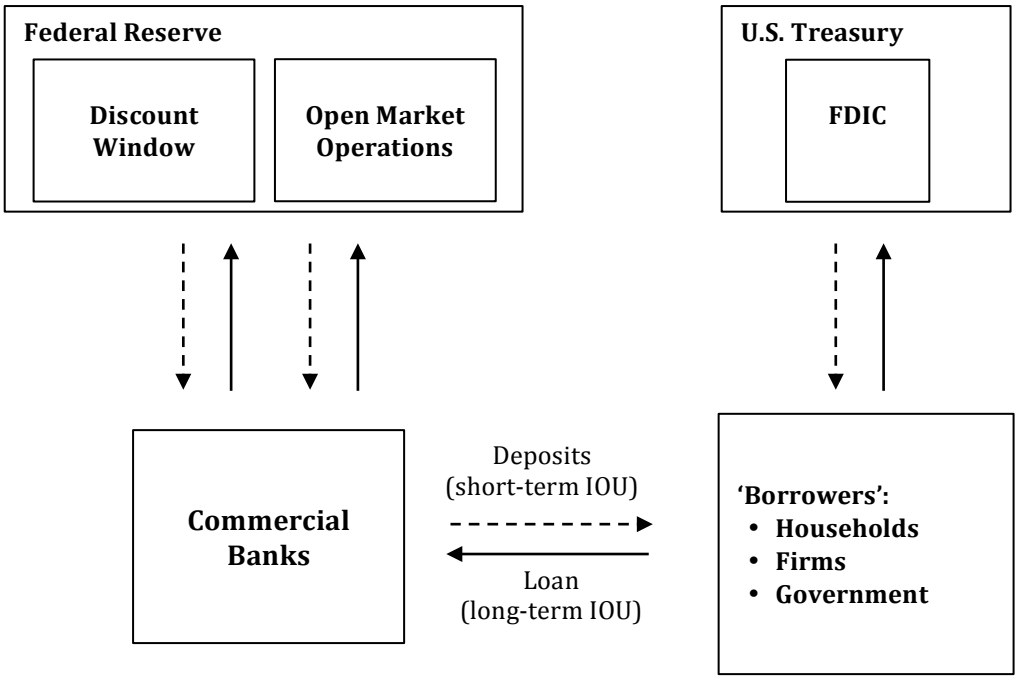

Figure 5.17—Explicit deposit guarantee via the newly established FDIC

Many observers and politicians had regarded the Banking Act of 1933 merely as a preliminary legislation decided upon under high time pressure and expected further legislation to follow (cf. Phillips 1995: 58). This was delivered with the Banking Act of 1935, which modified the regulations for the FDIC (cf. FDIC 1984) and completed the centralization of power in the Federal Reserve System by strengthening the Board in Washington, effectively turning the Fed into a public institution (cf. Conti-Brown 2016). The banking community voiced strict opposition to this politicization and argued, in line with many other bankers, that the provisions were against all intentions of the original Federal Reserve System. The press even feared 'economic dictatorship' by the government over the banking system (Burns 1974: 139-140, 149-169).

Still, there was also disappointment about the absence of stricter regulations for deposit creation. Most notably, the so-called 'Chicago Plan' had been advertised, primarily by a group of academics around Henry Simons, who called for the "outright abolition of deposit banking on the fractional-reserve principle" (Simons 1933, cited in Phillips 1995: 65). The idea was to divide banks into two parts: one to administer the part of the payments system that uses deposits subject to check; the other to participate in financing of the 'capital development of the economy'. "The 'Chicago Plan' called for deposits subject to check to be offset on the books of the banks with 100 percent reserves" (Minsky 1995: xii). The intention was to deprive banks of their ability to create deposits autonomously as credit money—in fact, the translation to deposits of what the 1844 Bank Charter Act had been for bank notes. For the banking industry, the Chicago Plan was the even bigger evil. Hence, the presence of an alternative that would have brought along even more government involvement may have increased their consent to the 1935 Act (Burns 1974: 130).

Figure 5.18 demonstrates the effect that the Banking Acts of 1933 and 1935 had on the status of bank deposits in the empirical Money Matrix. While the Emergency Banking Act had only provided for an implicit, ad hoc deposit guarantee based on very widely interpreted presidential powers and not put into tangible law, the Banking Acts of 1933 and 1935 made the status of bank deposits *private-public money* explicit and legally binding.

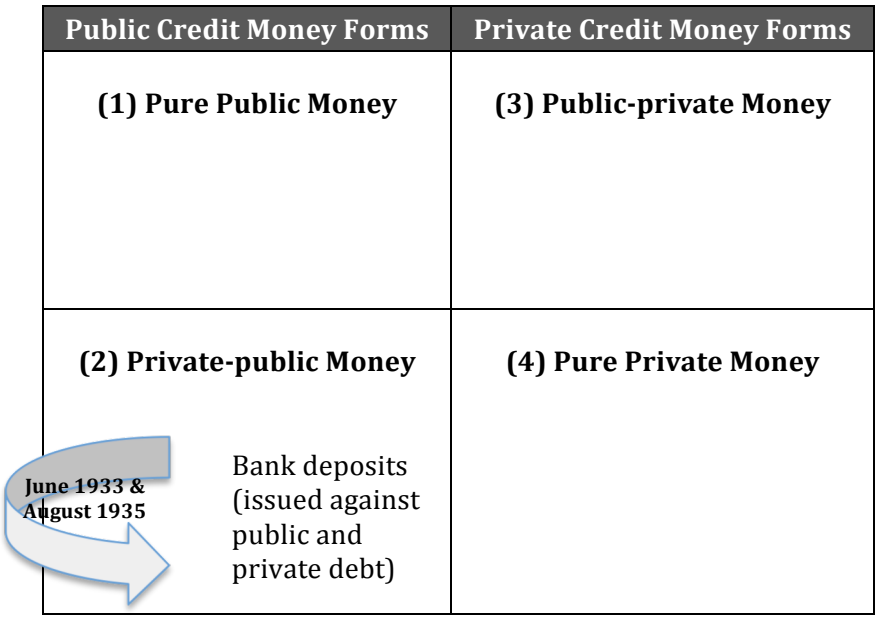

Figure 5.18—Re-regulating deposits via the 1933 and 1935 Banking Acts

This approach, throughout the 20th century, became the international norm (cf. Laeven 2004) and is authoritative for the role of bank deposits in the money supply today. The decisive step leading to this setup in today's public-private hybridity of the monetary system was President Roosevelt's decision to bail out the U.S. banking system in 1933 and the concomitant accommodation of bank deposits, which shifted them from the private to the public credit money realm.

Chapter 6
Case III: Shadow Money Accommodation in the United States

> *"September 2008 was the moment when the Fed moved from lender of last resort to dealer of last resort, in effect taking the collapsing wholesale money market onto its own balance sheet. […] This financial crisis is not merely a subprime mortgage crisis or even a shadow banking crisis; it is a crisis of the entire market-based credit system that we have constructed since 1970" (Mehrling 2011: 122-123).*

6.1 Introduction and plan of the chapter

This chapter analyzes and explains the accommodation of shadow money which occurred in the U.S. in 2008. With the financial liberalization of the 1970s, in what was later termed the shadow banking system, three privately created IOUs gradually took on the role of shadow money: asset-backed commercial papers (ABCPs), overnight repurchase agreements (repos) and money market fund (MMF) shares. The accommodation took place in the 2007-9 Crisis when the Fed and the U.S. Treasury intervened to backstop the shadow banking system. Overnight repos were turned into *private-public money* via the Fed's Primary Dealer Credit Facility and the Term Securities Lending Facility, MMF shares via the Treasury's Temporary Guaranty. ABCPs, in contrast, were not accommodated as their market had been dried out already in 2007 (cf. Figure 6.1).

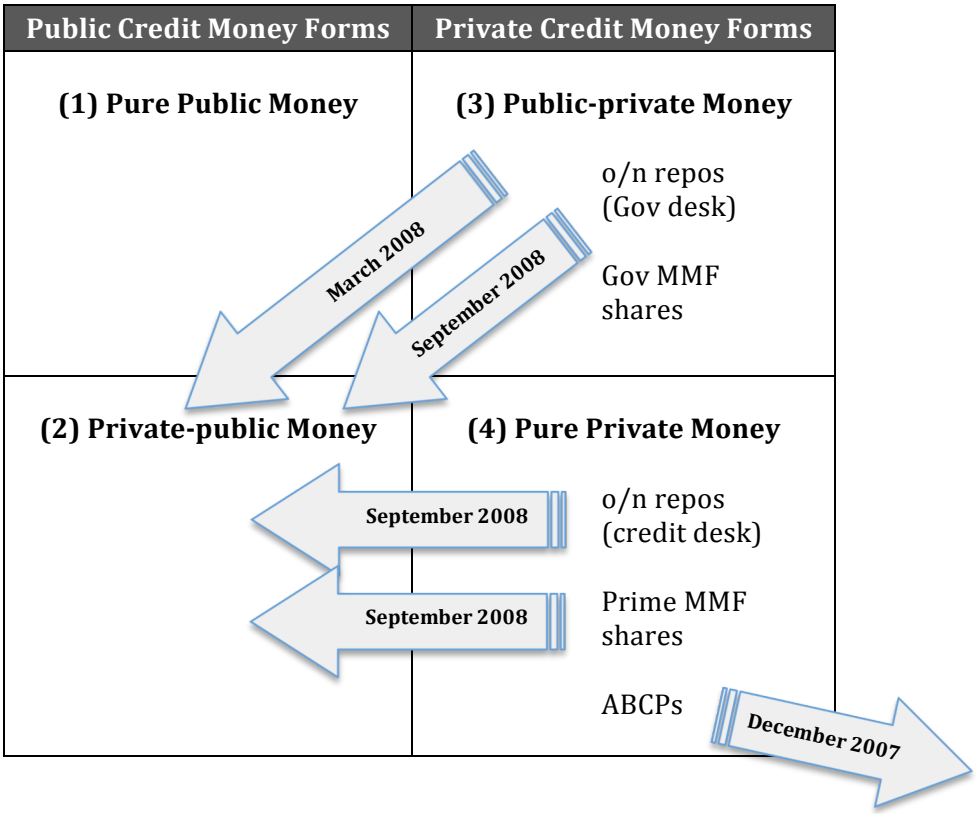

Figure 6.1—Shadow money accommodation via Fed and Treasury interventions

This chapter is organized as follows:

Section 6.2 addresses the rise of ABCPs, overnight repos and MMF shares as private credit money forms in the United States, which took place after the collapse of the Bretton Woods System (phase I). To this end, the section develops a Money View perspective on the creation of shadow money as a swap of IOUs. The analysis draws primarily on the work of Perry Mehrling, Zoltan Pozsar, Daniela Gabor and Morgan Ricks as the main authors in the shadow money discourse. The core argument to view shadow banking as a monetary phenomenon is that the mechanics on the balance sheets of the issuers of the three shadow money forms—Special Purpose Vehicles, Securities Dealers and Money Market Funds—have crucial parallels to those of deposit-issuing commercial banks (6.2.1). Subsequently, the section discusses the institutional details of shadow money creation to understand how shadow money forms established par vis-à-vis bank deposits. In particular, it will be pointed out how shadow money has been specifically invented to offer more profitable alternatives to deposits. This makes it possible to sketch the public-private money hybridity in the U.S. prior to the 2007-9 Financial Crisis (6.2.2). Finally, the section discusses how to which extent shadow money forms attained systemic relevance throughout the late 20th and early 21st century (6.2.3).

Section 6.3 studies the accommodation of shadow money during the 2007-9 Financial Crisis (phase II). In this, it interprets the crisis in its essence as a run on the shadow banking system that occurred in three waves in 2007 and 2008. The section first depicts how the shadow banking system endogenously got into financial distress—the collapse of the housing market affected ABCP issuance which spilled over on the repo market and finally affected MMF shares (6.3.1). Subsequently, it discusses the public measures taken in response to the crisis, notably the emergency liquidity facilities established by the Federal Reserve and the temporary guarantee for money market funds announced by the Treasury (6.3.2). Finally, the section develops the argument for why those interventions represent an accommodation of overnight repos and MMF shares by establishing public liquidity and solvency backstops, which amounts to an unintentional transformation of the monetary system (6.3.3).

The concluding section 6.4 presents a brief sketch of the follow-up processes of the accommodation which—although a range of important decisions have already been taken—must be considered as still ongoing. Primarily, it focuses on decisions taken by the Securities and Exchange Commission to re-regulate ABCPs and MMF shares as well as institutional innovations implemented by the Federal Reserve.

6.2 Phase I: The Rise of Shadow Money as Private Credit Money

This section applies phase I of the accommodation model on ABCPs, overnight repos and MMF shares, the three eminent shadow money forms, and studies their rise as systemically relevant private credit money in the United States. Drawing in particular on the work of Perry Mehrling, Zoltan Pozsar, Daniela Gabor and Morgan Ricks, the section substantiates the argument that shadow banking—as is specific for the contemporary financial system—is a *monetary* phenomenon. ABCPs, overnight repos and MMF shares are accordingly created by profit-driven speculative and Ponzi units by swapping IOUs of different maturities (6.2.1). The section then sketches how ABCPs, overnight repos and MMF shares adopted a role as private credit money by establishing par clearance vis-à-vis deposits as higher-ranking money forms and how this affected the monetary system in the late 20th and early 21st century (6.2.2). Finally, the section discusses the extent to which shadow money has become systemically relevant by the time when the 2007-9 Financial Crisis set in (6.2.3).

6.2.1 Financial innovation and shadow money creation as a swap of IOUs

The term 'shadow banking' has been coined by Paul McCulley in a speech at Jackson Hole in 2007 to provide an analytical account of the financial structures which, at that point, were at the brink of collapsing (cf. McCulley 2009). According to the authoritative definition of the Financial Stability Board (FSB), shadow banking is to be understood as 'credit intermediation involving entities and activities outside the regular banking system' (FSB 2011: 1). This section looks at the financial innovation that has materialized with the rise of the shadow banking system. It develops the argument that the issuance of ABCPs, overnight repos and MMF shares corresponds to a swap of IOUs and is thus conceptually in line with a Money View understanding of credit money creation.

The dominant view in the IPE literature suggests that the origin of shadow banking is best to be explained by regulatory arbitrage (cf. Nesvetailova 2015) as well as tax and credit rating arbitrage (Bryan et al. 2016). This view treats shadow banking essentially as a *non-monetary* phenomenon. Those IPE contributions tackle both conceptual and empirical aspects of shadow banking. The conceptual studies predominantly analyze the decisions of regulators and financial policy-makers, concomitantly to the strategies of the financial industry, to understand and explain the complex web of 'shadow intermediaries'. Many works focus on the U.S. shadow banking sector (Fein 2013, Gerding 2011, McIntire 2014, Riles 2014, Schwarcz 2012); others take into account the EU (Bieling 2014, Thiemann 2014a, 2014b), the United Kingdom (Sennholz-Weinhardt 2014), China (Elliott et al. 2015) or the 'de-territorialization' of shadow banking, which is reflected in the prominent role of tax havens and off-shore financial centres (Palan and Nesvetailova 2014, Rixen 2013). Conceptual contributions to shadow banking in a broader sense focus on financial innovation (Engelen et al. 2010, Nesvetailova 2014, 2015, Seabrooke and Tsingou 2010) and the process of financialization (Kessler and Wilhelm 2013, Nersisyan and Wray 2010). More empirically oriented contributions to this

strand of the shadow banking literature analyse particular market segments in the shadow banking conglomerate. Securitization, asset-backed securities (ABSs) and ABCPs are particularly addressed by Acharya et al. (2013), Lysandrou and Nesvetailova (2015), Nesvetailova and Sandu (2015) and Thiemann (2012). In-depth analyses of the repo market and collateral intermediation are to be found in Gabor (2012, 2013, 2014a, 2015), Gabor and Ban (2016), Lysandrou (2011), Riles (2011), Singh (2013, 2014a, 2014b) as well as Singh and Stella (2013). Studies on MMFs have been published by Admati and Hellwig (2013), Baba and McCauley (2009), Baklanova (2012), Baklanova and Tanega (2014), Peirce and Greene (2014) and Perlow (2011). IMF (2014) and Harutyunya et al. (2015) present quantitative estimations of the international shadow banking system.

From a Money View perspective, however, shadow banking is a *monetary* phenomenon as one of its key aspects is the creation of substitutes for bank deposits—it is the mere continuation of traditional banking by other means.[64] This notion, or "imaginary" (cf. Gabor 2013), has explicitly been introduced and fleshed out in Pozsar (2014), but the idea also plays a role in Pozsar (2011, 2015), Mehrling (2011, 2012a, 2012b, 2012c, 2013a, 2013b, 2013c, 2015a) and Mehrling et al. 2013). Likewise, Ricks (2011) presents a thorough argument for why the liabilities of shadow banks are functionally equivalent to bank deposits. This idea is further developed and spelled out in Ricks (2012a, 2012b, 2013 and 2016) as well as Claessens et al. (2014), Gabor (2014b), Gabor and Vestergaard (2016), McMillan (2014), Moe (2012, 2014) and Turner (2012). Adrian (2014), in his literature review on the economics of shadow banking, identifies private money creation as one of the key features attributed to shadow banking and points to Gorton and Metrick (2012), Moreira and Savov (2012) as well as Sunderam (2012) as the most relevant papers stressing this point. Gorton (2010) explicitly analyses the quality of repos as a substitute to bank deposits.

The rise of the shadow banking system is connected to financial innovation and the development of new financial instruments that are based on a swap of IOUs of different maturities. Some of those instruments have come to be called 'shadow money' by proponents of treating shadow banking as a monetary phenomenon. While there are different ways of conceptualizing shadow money, this study follows the approach of Mehrling (2011) and Ricks (2011) who argue that there are three relevant financial instruments created in the shadow banking system that function as shadow money: ABCPs, overnight repos and MMF shares. These are issued by different speculative and Ponzi units that in this regard function as 'shadow banks'.[65] ABCPs are the liabilities of Special Purpose Vehicles (SPVs)[66]—entities typically set up by large commercial banks, which use them as off-balance-sheet institutions to conduct banking functions while circumventing capital requirements (Covitz et al. 2009: 6-7). Overnight repos are private debt instruments constructed around the sale and repurchase

[64] Cf. Michell (2016) for an excellent discussion of the antagonism between a monetary and a non-monetary perspective on shadow banking.

[65] Interpretations of the term 'shadow bank' differ in the literature. Lysandrou and Nesvetailova (2015) e.g. restrict the term primarily to SPVs as banks' off-balance sheet entities.

[66] Other terms for SPVs that are legally different but functionally equivalent are 'Structured Purpose Vehicle', 'Special Investment Vehicles', 'ABCP conduits' or 'ABCP programmes'.

of securities. The repo market is run by securities dealers who—as they are willing to buy and sell repos at different prices and maturities—act as market makers (Mehrling 2013b, 2013c). MMF shares are the liabilities of MMFs, which pool the funds of households and institutional investors on the retail money market to invest them in the shadow banking system (ICI 2014: 196). MMFs can be categorized on the basis of their investment strategies: Government MMFs invest at least 99,5% of their assets into cash, government securities or fully collateralized repos, prime MMFs in floating or variable rate debt and commercial papers, and tax-exempt MMFs in obligations of state and local jurisdictions that are exempt from income tax. Figure 6.2—based on Baklanova (2012: 108)—visualizes this typology.

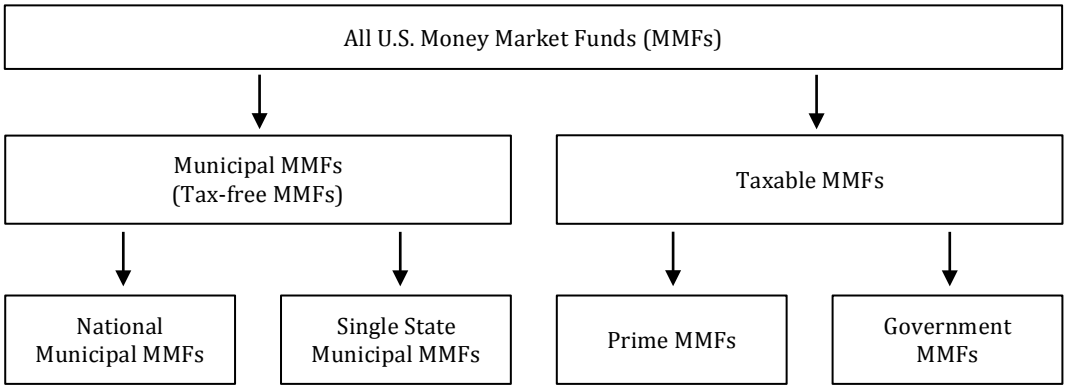

Figure 6.2—Types of U.S. money market funds

Historicall,y ABCPs developed as a financial innovation in the mid-1980s: "ABCP conduits were primarily sponsored by major commercial banks as a means of providing trade receivable financing to their corporate customers" (Bate et al. 2003: 5). In this sense, ABCPs were an important tool for banks' liability management that helped them 'optimize' their credit money issuance under the condition of a starkly regulated deposit banking system (cf. D'Arista and Schlesinger 1993). However, the ABCP market "only became a significant source of funding in the 1990s" (ibid: 16). Figure 6.3—taken from FitchRatings (2001: 2) —shows the quantitative rise in ABCP issuance.

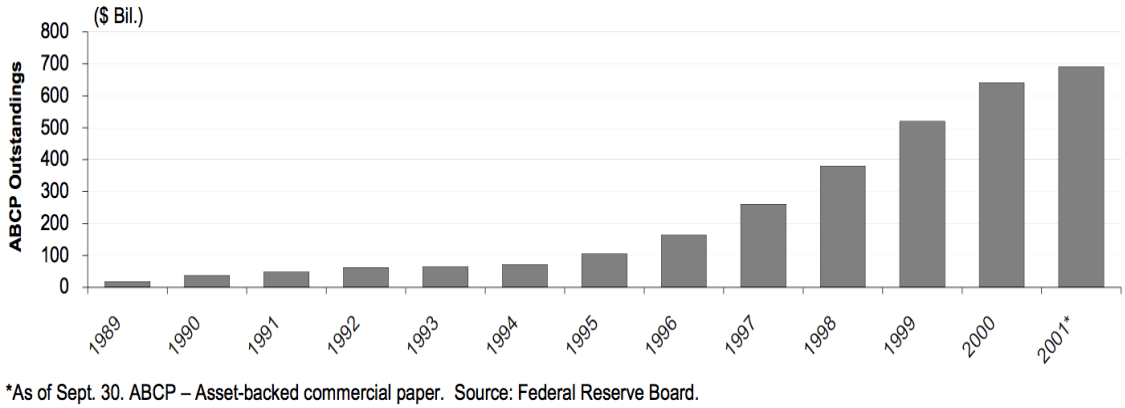

Figure 6.3—Rise of ABCP issuance, 1989-2001

Overnight repos, as a financial instrument used in the inter-dealer repo market, developed as a financial innovation in the 1950s and 1960s but have their roots already in the early 20th century. As to Skyrm (2013), the classical repurchase agreement developed during the First World War and was used between banks and the Federal Reserve. With the passage of the Treasury-Federal Reserve Accord of 1951,

> "the Fed was given the mandate to control inflation and [...] began using Repurchase Agreements to inject cash into the market to control interest rates more actively. At the same time, Repo became a financing tool for securities dealers and money-center banks. The first use of Matched-Sales occurred in 1966 when the Fed needed to drain excess liquidity that resulted from a sudden surge in bank reserves. The Repo market continued to grow and was even given a boost after the Fed exempted Repo from banks' reserve requirement calculations in 1969. At this time, there still were no 'customers' in the market, it was an inter-dealer market primarily used for funding long positions, or for money-center banks to invest cash [...]. Repo was generally just overnight and settled for cash" (ibid).

MMF shares came up as a financial innovation in the in the early 1970s to circumvent Regulation Q, which limited the amount of interest that U.S. commercial banks were allowed to pay on savings accounts:

> "In January 1970 banks were offering only 4.5 per cent interest on depositor's passbook saving accounts, while 3-month US Treasury bills earned eight per cent and the yield on 3-month banks' certificates of deposit was hovering close to nine per cent. The catch was that certificates of deposit were only sold in $100,000 denominations and, therefore, were largely unavailable to investors with smaller cash balances. Henry B.R. Brown and Bruce R. Bent—both are now credited as inventors of money market mutual funds—came up with the idea of how to help small investors to access the market rates only available to wealthier depositors. Brown and Bent decided to pool small cash balances into a larger portfolio, or a mutual fund, to achieve the required investment scale. A prospectus of the Reserve Fund, the first US money market fund, was approved by the US Securities and Exchange Commission in the fall of 1972" (Baklanova 2012: 97-98).

Figure 6.4—based on Claessens et al. (2012)—demonstrates how the creation of ABCPs, overnight repos and MMF shares is systematically connected within the shadow banking system. ABCPs, overnight repos and MMF shares are produced via two main channels of shadow banking (cf. McMillan 2014: 65-79): the 'repo channel' (connected to collateralized lending) and the 'ABCP channel' (operating via securitization of structured assets). MMFs connect both these channels with institutional investors and, to a much lesser extent, households. Taken together, this market-based credit system conducts 'money market funding of capital market lending' (Mehrling et al. 2013: 2). Following the analytical perspective of Pozsar et al. (2012), what a classical commercial bank did on its own singular balance sheet occurs in the shadow banking system on different connected balance sheets "through a daisy-chain of non-bank financial intermediaries in a multi step process" (Pozsar et al. 2012: 10).

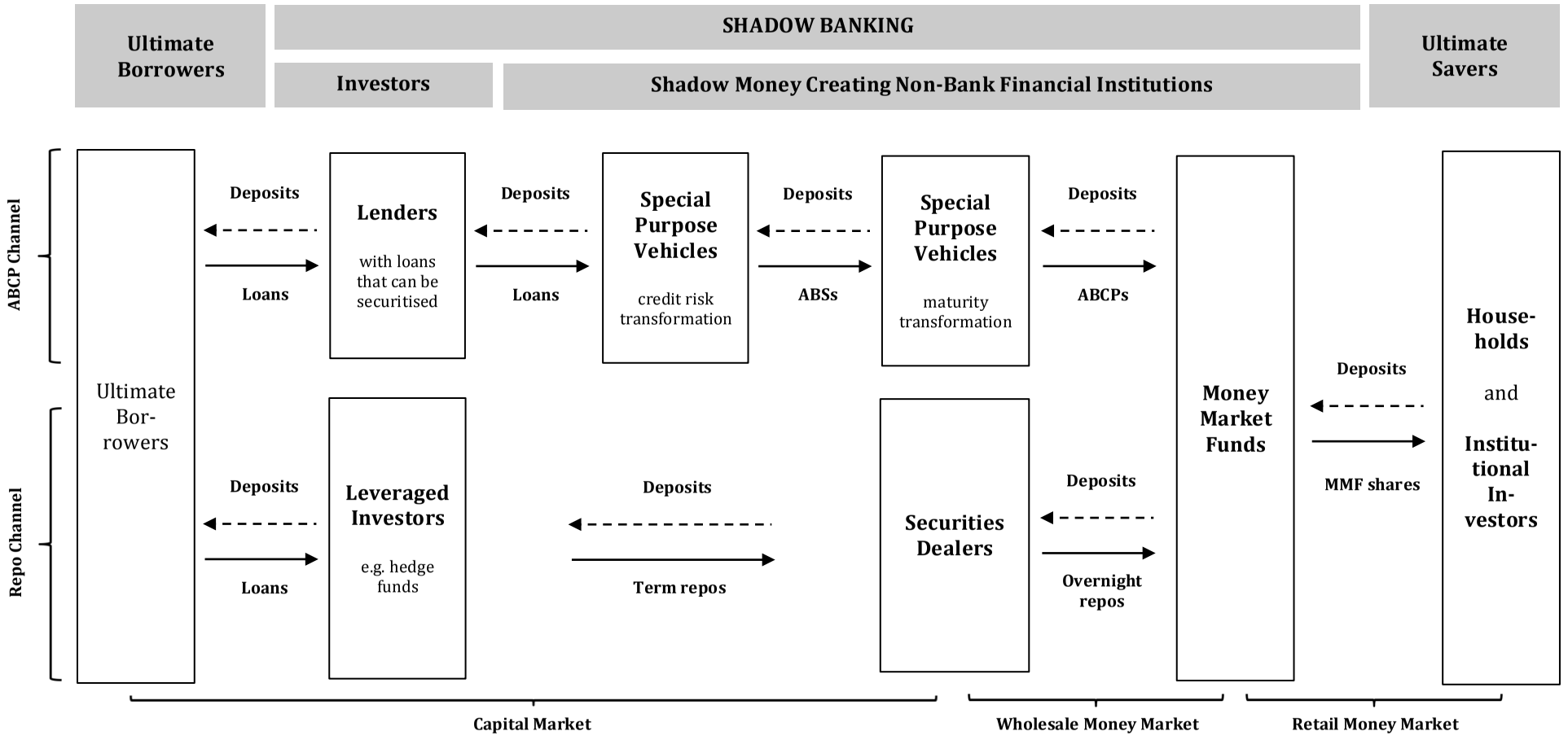

Figure 6.4—Shadow money creation in the stylised shadow banking system

With regard to the balance sheet mechanics involved, as Figure 6.5 demonstrates, the issuance of ABCPs, overnight repos and MMF shares implies swapping IOUs of different maturities (cf. 2.3.1; Mehrling 2015a): SPVs swap ABCPs as short-term IOUs against ABSs as longer-term IOUs (Acharya et al. 2010: 1). Securities dealers swap overnight repos—i.e. repos of the shortest possible maturity—against term repos with longer maturities. Finally, MMFs swap their shares with instantaneous maturity against ABCPs or repos, which have still slightly longer maturities (cf. Jackson 2013: 379) (see Figure 6.5).

	Assets	Liabilities
SPVs	ABSs (long-term IOUs)	ABCPs (short-term IOUs)
Securities Dealers	Term repos (long-term IOUs)	Overnight repos (short-term IOUs)
MMFs	ABCPs and overnight repos (short-term IOUs)	MMF shares (very short-term IOUs)

Figure 6.5—Shadow money created as a swap of IOUs

As a caveat, while Figure 6.5 presents the Money View's key rationale for regarding ABCPs, overnight repos and MMF shares as shadow money, this assessment is far from being uncontested in the shadow money literature. In fact, there is no unique, broadly accepted definition about what constitutes 'shadow money' and what not.

As a first point of disagreemt, some scholars put the view into doubt that repos are actually a credit instrument while pointing to the *legal* structure of repo deal. Accordingly, repo transactions are conventionally portrayed as a two-step sale and repurchase of a security. In the case of overnight repos, the MMF pays deposits today to attain a security ('first leg') and receives back its money the next day with interest ('second leg'):

Today	MMF		Securities Dealer	
– Deposit			+ Deposit	
+ Security			– Security	

Tomorrow	MMF		Securities Dealer	
+ Deposit			– Deposit	
– Security			+ Security	

Figure 6.6—Non-monetary perspective on repo issuance

In this representation, the two transactions are separate from each other and do not formally imply the issuance of an IOU. Following this line of argumentation, it is not obvious why repo transactions should be a form of private credit money creation (cf. Copeland et al. 2010, 2011, 2012, Singh 2013, 2014, Choudhry 2006, as well as Interview 3). Regarding repo issuance as credit money creation

becomes sensible only if we adopt an *economic* perspective on the deal and emphasize what the Securities Dealer does today, namely lending money while promising to repay it tomorrow and thus issuing a repo certificate as an IOU. The security's transfer of ownership is then seen as a mere byproduct of the transaction. Following this approach, which is emphasized e.g. by Mehrling (2011, 2013c), Pozsar (2014), Gorton (2010) and Ricks (2011), we can identify the established balance sheet mechanics for credit money creation as denoted in Figure 6.5 (also see Interviews 5, 6, 7, 8).

A second point of controversy is that scholars bring forth a different selection of shadow money forms than adopted in this study. Pozsar (2014) focuses on repos and MMF shares; others would bring in a broader picture and also regard asset-backed securities as shadow money (Interview 1). Ricks (2016) also considers eurodollars to be shadow money. Gabor and Vestergaard (2016), in turn, single out repos as the quintessential shadow money form and assign a subordinate role to ABCPs and MMF shares. On the one hand, they argue that repos are distinctive because the use of collateral enhances their promise to trade at par. On the other hand, by focusing on repos, they stress the role of commercial banks creating shadow money and of the Treasuries as well as the sovereign bond market in running it (Gabor and Vestergaard 2016: 2-3). Their approach, while in many respects compatible to the analysis of this study, places a different emphasis in its account of the market-based finance system as it is less driven by the theoretical lens of a market-based credit theory on money when it comes to alternative forms of money creation.

As discussed in Chapter 3, in the approach adopted in this study, there are three main criteria for a financial instrument to be considered a private credit money form: First, from a supply side perspective, it must be a short-term IOU that is held by the issuing institution as its liability and that has been created on the basis of a swap of IOUs of different maturities (Mehrling 2015a). Second, from a demand side perspective, this short-term IOU is held as an asset by agents who consider it 'cash', i.e. the most liquid form of an asset capable of doing immediate purchases of commodities or other financial assets (Pozsar 2014). Third, the IOU constitutes a promise to pay higher-ranking money to which it trades at par or quasi-par and in which it is instantaneously or almost instantaneously convertible. The aspect of par clearance vis-à-vis higher-ranking money forms is what ultimately makes the IOU 'money' in the sense of being part of the Money Matrix (cf. Pozsar 2014). In line with the analyses of Mehrling (2011) and Ricks (2011), ABCPs, overnight repos and MMF shares satisfy these criteria. Moreover, it may be argued that term repos, when they are close to maturity or marked to market, also correspond to such understanding of shadow money. In this case, we may think of them as broadly corresponding to the category of overnight repos in the context of this study.

6.2.2 Establishing par clearance vis-à-vis higher-ranking forms of money

From a Money View perspective, to qualify as private credit money, the privately created IOUs created in the shadow banking system need to trade at par or quasi-par with higher-ranking money forms, first and foremost deposits. Hence, it needs to be asked if, how and when such par exchange was established in the case of ABCPs, overnight repos and MMF shares. As to be demonstrated, three factors apply to the three private IOUs and contributed to establishing par vis-à-vis bank deposits: By making them as simple in use as bank deposits, the issuers stabilized the money demand for their liabilities; they made use of specific accounting techniques to induce quasi-par clearance; and they had private backstops in place.

First, ABCPs are IOUs with very short-term maturities. The majority of ABCPs had maturities of one to four days (Covitz et al. 2009: 2). This short-termness made them money-like and virtually trade at par: "In the ABCP market, […] investors expect to be able to access their funds on demand at par value" (Covitz et al. 2009: 2). When an ABCP matures, its holder can choose to keep the funds deposited by rolling them over or liquidate them by not doing so. This makes them as easy and convenient as bank deposits. ABCP-issuing SPVs have private sponsors that guarantee par exchange. As off-balance sheet institutions of commercial banks, SPVs can tap the balance sheet of their 'sponsors', which typically have issued explicit guarantees to back the SPVs in case of default (see Figure 6.7). "ABCP is thought to be liquid because investors can liquidate their positions, as often as every day, with no price impact" (Covitz et al 2009: 7). ABCP issuance is based on "securitization without risk transfer" (Acharya et al. 2009), which implies the sponsors have "to pay off maturing ABCP at par independently of underlying asset values" (Acharya and Schnabl 2010: 40).

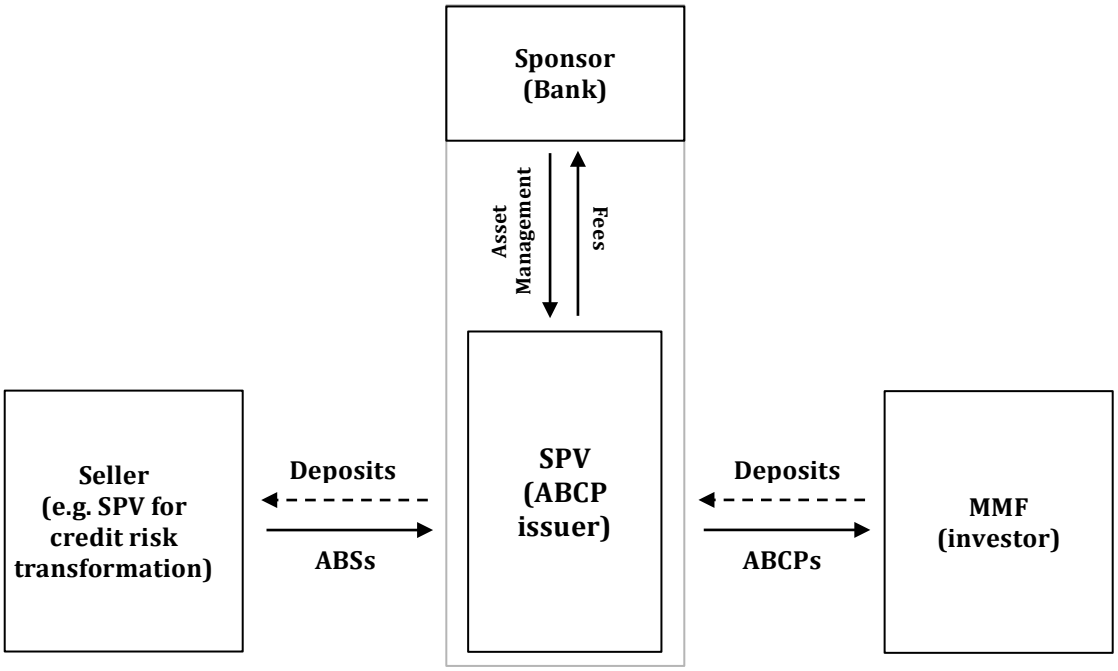

Figure 6.7—Special purpose vehicles in the ABCP markets

Second, overnight repos are offered by securities dealers to MMFs who then 'deposit' their funds by purchasing the IOU and the security. The MMF can decide on the next day whether to roll over the repo for another night or not. The MMF may keep the repo certificate or would even be able to sell it on to a third party on a secondary market, which corresponds to the ability of re-hypothecation (cf. Gorton 2010). The very short-termness of overnight repos reduces their price volatility and uses market forces to induce quasi-par to deposits as higher-ranking money form: Overnight repos are "high-quality, highly liquid, short-term IOUs [… that as] a result of these characteristics […] are subject to negligible price fluctuation" (Ricks 2011: 79). In addition, Gabor and Vestergaard (2016: 2, 22) note that the use of collateral in repo transactions enhances the promise to pay par, and that mark-to-market practices of collateral portfolios help maintain par also for repos with maturity longer than overnight. In the organizational structure of the U.S. repo market, there are two main market segments: the bilateral (or 'delivery-versus-payment') repo market and the tri-party repo market (see Figure 6.8, based on Copeland et al. 2012):

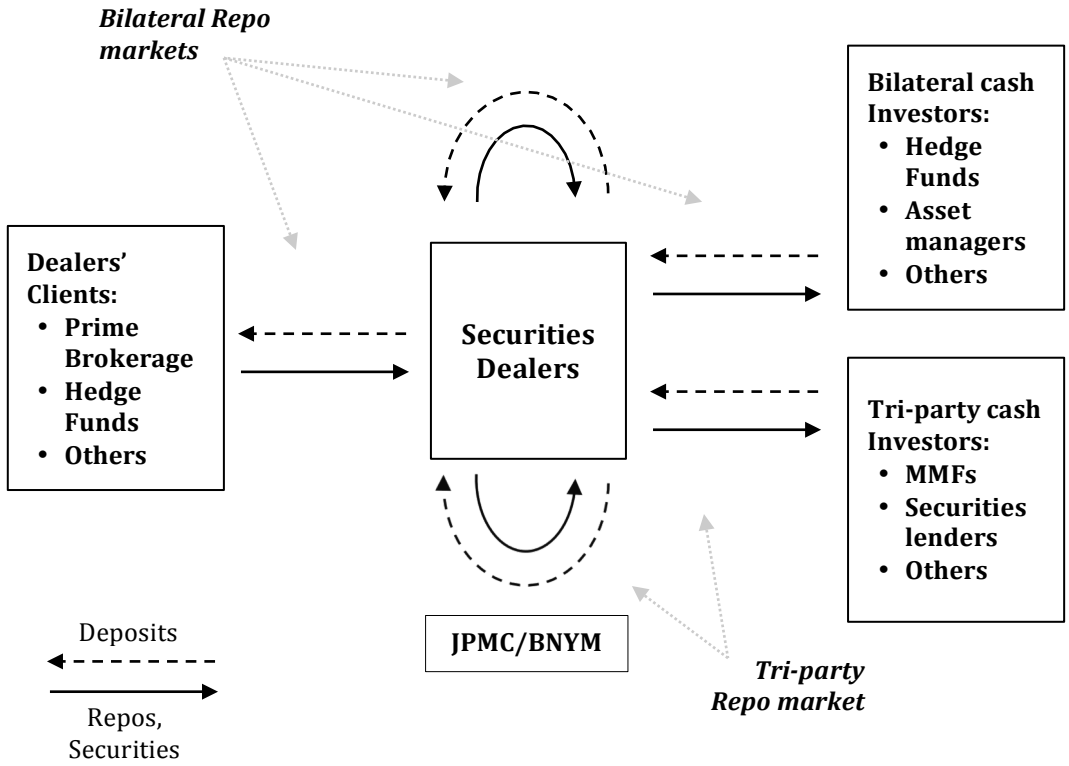

Figure 6.8—Securities dealers in the bilateral and tri-party repo markets

In both market segments, the dealers interact with their counterparties, exchange cash against various forms of collateral and issue IOUs. In the bilateral repo market, the dealer and its counterparty are processing the repo transaction on their own. In the tri-party repo market, they bring in a 'custodian bank' (or 'clearing bank') as third party to facilitate the repo transaction: The custodian bank allows the repo transactions to be settled on its balance sheet and offers custodial and collateral management services (Copeland et al. 2011). As an additional byproduct, the custodian bank provides intra-day credit to the dealers in the period between the settlement of expiring repos and the issuance of new

repos (Copeland et al. 2012: 2). Due to its operational ease and efficiency compared to the bilateral market, the dealer community perceives the tri-party repo market as highly advantageous (Global Investor 2010). This made it possible to design overnight repos "as 'simple as bank deposits', but with the added security of the collateral" (Jones 1997: 28). The tri-party repo market is run by two big custodian banks: JPMorgan Chase (JPMC) and Bank of New York Mellon (BNYM). Participation in tri-party repo is subject to charge; any financial institution that wishes to participate must register with one of the clearing banks in beforehand (Interview 2). Among the financial institutions registered as securities dealers on tri-party repo are all the 'primary dealers' that also serve as counterparties for open market transactions with the Fed. In 2007, prior to the outbreak of the Financial Crisis, this also embraced the 'big five' U.S. investment banks Merrill Lynch, Goldman Sachs, Bear Stearns, Lehman Brothers and JPMorgan. Thus, the tri-party system offered two different mechanisms to provide for private liquidity backstops: on the one hand via the intraday credit of the custodian banks; on the other hand via the institutional linkages within the bigger financial conglomerates.

Third, MMF shares—just as bank deposits—are deposited on the respective accounts and can typically be withdrawn instantaneously. Over time, to provide the same comforts as bank accounts, MMFs introduced cash management options such as check writing, credit and debit cards (Baklanova 2012: 98). This stabilized the money demand for MMF shares. However, the key feature of MMFs to sustain par between their shares and bank deposits were specific accounting rules. As to Baklanova (2012: 100-101),

> "[t]o prevent share prices from moving up and down following dividend distribution, these funds declare dividends daily and accrue and pay out dividends monthly. Typically, money market funds compute their share price using the amortised cost method, but also round the share price to the nearest cent. The overarching rationale behind introduction of these share price computation techniques was the historical observation that the daily market price volatility of typical money market securities is low. This means that high quality short maturity securities comprising money market fund portfolio do not change much in value on day-to-day basis. Therefore, if a money market fund is invested in such low volatility securities, its share price calculated with help of these methods is likely to be very close to that calculated using the securities' market prices. Persuaded by this analysis, in 1977 the US Securities and Exchange Commission approved use of both an amortised cost method and a penny-rounding method for a few funds. Within two years, the Commission allowed these two accounting methods for use in money market funds on a permanent basis."

As to Fink (2011: 253), the promise to maintain a one dollar per share net asset value lay at the core of the MMF's business model. Investors buying MMF shares were guaranteed to be paid back 'one buck on the dollar'. Often, MMF's parent institutions gave implicit guarantees to prevent breaking the buck (Jackson 2013: 379). Figure 6.9 represents how Prime and Governments MMFs are knit into the shadow banking system, taking into account that one third of MMF share holders were retail and two thirds institutional investors (ICI 2014: 198).

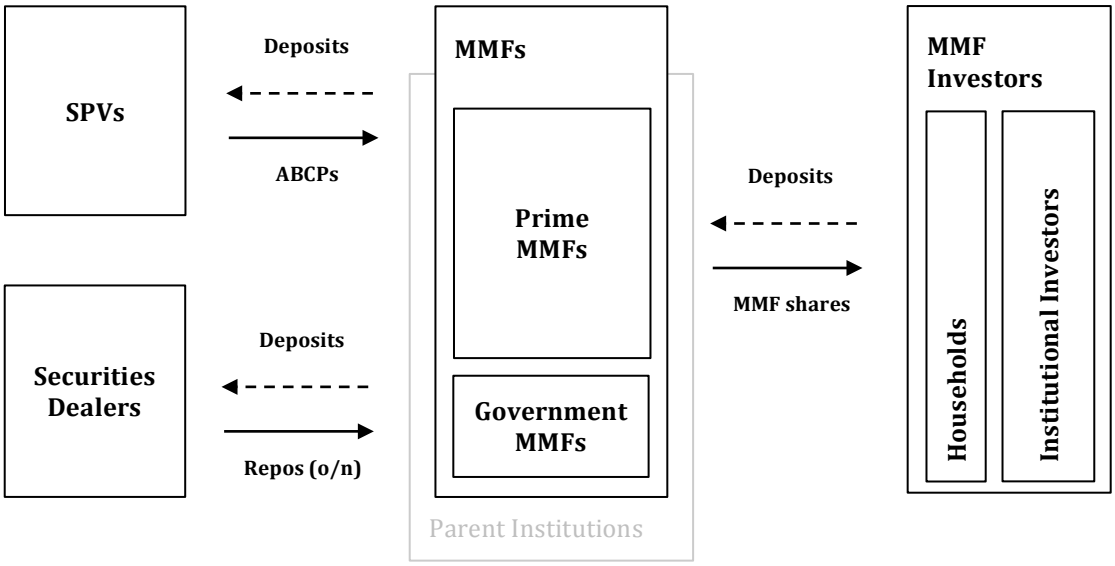

Figure 6.9—Money market funds in the two shadow banking channels

Taken together, ABCPs, overnight repos and MMF shares are held by agents who consider them 'cash', i.e. the most liquid form of an asset capable of doing immediate purchases of commodities or financial assets (Pozsar 2014). From a demand side perspective, this makes them similar to deposits in a functional sense and is one of the key reasons for considering them forms of 'shadow money'. This is not a coincidence as those shadow money forms have been purposefully developed to provide deposit alternatives, especially to 'cash pools' such as pension funds, insurance companies and other institutional investors. According to Pozsar (2015: 29), "[f]or institutional cash pools, money begins where M2 ends". Once ABCPs, overnight repos and MMF shares have established par vis-à-vis bank deposits, we can think of them as a private credit money form and discuss their status within the wider monetary system using the Money Matrix as a heuristic. Given that the commodity money standard had been dropped in 1973 with the breakdown of the Bretton Woods System, the U.S. monetary system prior to the 2007-9 Financial Crisis was made up entirely of credit money forms. Within the monetary system, various forms of public and private credit money co-existed next to each other and were used in different overlapping payment communities.

In the public credit money sphere, currency and central bank deposits (or 'reserves') were issued by the Federal Reserve. Since they are directly created on the balance sheet of the Fed, which today qualifies as a public institution (cf. Chapter 5), they qualify as *pure public money*.[67] Both form what is conventionally

[67] A contested issue is whether short-term debt issued by the Treasury, e.g. treasury bills, may count as public credit money as well. As Pozsar (2014: 12) argues, they are even situated at the top of the hierarchy of money as they are "backed by the government's full faith and credit and authority to tax". While it is not possible to pay with them in the real economy or the 'retail money market', Treasury bills may be thought of as credit money on the 'wholesale money market', where they function as money for a specific payment community. Issued by the Treasury, they are *pure public money.* Pozsar (2014: 8) argues that similar public assets could also be U.S. Treasury note, agency debt and residential mortgage-backed securities. For the sake of simplicity, this study leaves them out of the picture.

referred to as the 'monetary base' or the monetary aggregate M0 (cf. Chapter 1). In fact, both currency and central bank deposits might be thought of as previously accommodated private credit money forms. *Private-public money* is made up of insured bank deposits, based on the insurance limit of the FDIC, which as of 2007 had been capped at $100,000. According to the Fed's definition, they fall under the aggregates M1 and M2.

The private credit money supply, in turn, was made up of uninsured bank deposits—i.e. those individual deposit holdings that were not covered by the FDIC—as well as the three forms of 'shadow money'. If the shadow money forms are issued against public securities, they qualify as *public-private money*. This is true for overnight repos issued against public debt on the 'government desk' and for shares of government MMFs (which from here on also are assumed to refer to municipal MMFs). If the shadow money forms are issued against private securities, they are *pure private money*. This applies for ABCPs, which are issued against commercial paper, overnight repos of the 'credit desk' and the shares of prime MMFs (cf. Pozsar 2014). In terms of the monetary aggregates, retail MMF shares are part of M2 and overnight repos were included in M3, which the Fed ceased to measure in 2006 but is still used e.g. by the ECB (Gorton 2010: 176-177).

Figure 6.10 summarizes these findings and compiles the empirical Money Matrix prior to the accommodation of shadow money:

Public Credit Money Forms	Private Credit Money Forms
(1) Pure Public Money Central Bank liabilities • Currency (Notes, Coins) • Central bank deposits	**(3) Public-private Money** Securities dealers' liabilities • Overnight repos of government desk MMF liabilities • Shares of Government MMFs
(2) Private-public Money Commercial bank liabilities • Insured bank deposits	**(4) Pure Private Money** SPV liabilities • ABCPs Securities dealers' liabilities • Overnight repos of credit desk MMF liabilities • Shares of Prime MMFs Commercial bank liabilites • Uninsured bank deposits

Figure 6.10—The Money Matrix in the early 21st century (empirically)

6.2.3 The systemic relevance of shadow money

This section discusses the status of ABCPs, overnight repos and MMF shares as shadow money forms in terms of their systemic relevance for the U.S. monetary system in the early 21st century, using the criteria of size, interconnectedness, substitutability and complexity.

In terms of the size of shadow money issuance, the volumes in which ABCPs, overnight repos and MMF shares were issued, had been increasing massively over the decades before 2007. While the rise of shadow money issuance had been gradual for most of the time, quantitative development of shadow money balances had become almost exponential in the 2000s. Figure 6.11—taken from Acharya and Schnabl (2010: 39)—shows that after a change in capital regulation in 2004, ABCP issuance increased sharply and reached a peak in July 2007. In early 2007, shortly before the outbreak of the crisis, ABCP was "the largest short-term debt instrument with more than $1.2 trillion outstanding" (ibid: 38). ABCP issuers profited in particular from the changes in accounting rules introduced in reaction to the Enron scandal, which unveiled Enron's fraudulent use of off-balance-sheet vehicles and led to new regulations. "In October 2003, U.S. bank regulators—the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, and the Office of Thrift Supervision—issued an interim ruling that permitted banks sponsoring ABCP conduits to ignore the consolidated conduit assets for the purpose of calculating risk-weighted assets. In July 2004, these agencies issued a final ruling that required banks to hold capital against eligible liquidity enhancement at a 10 percent conversion factor. This ruling implied that assets in conduits required 90 percent less capital than assets on balance sheets. Moreover, this ruling allowed banks to leave conduits off the bank balance sheet" (ibid: 50).

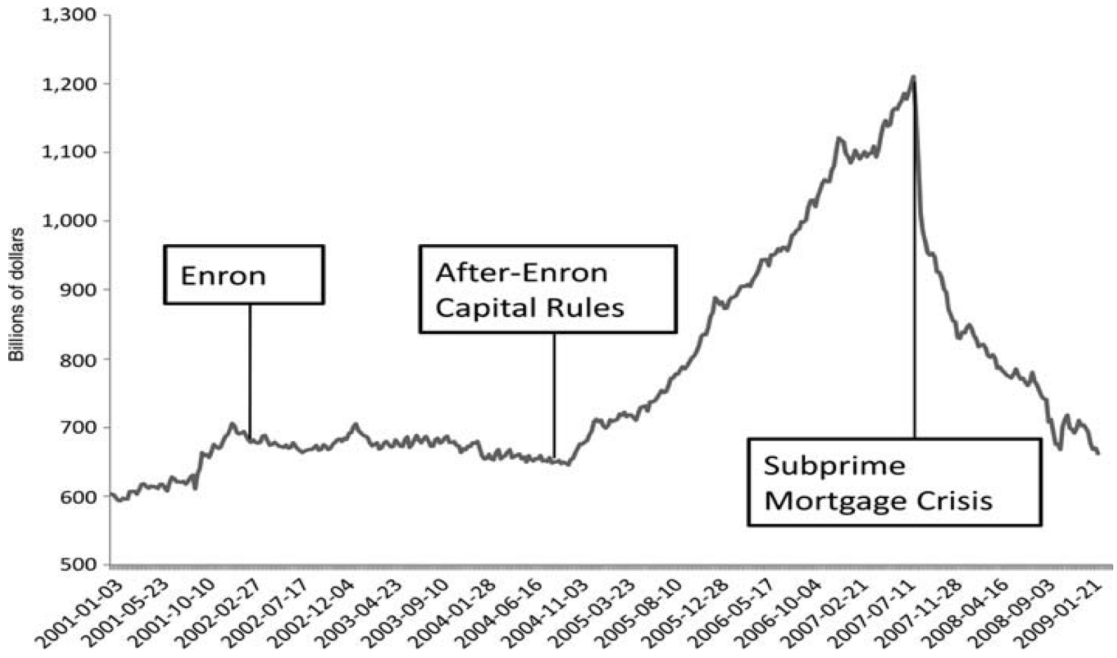

Figure 6.11—Volumes of ABCPs issued, 2001-2009 (in billion USD)

In a similar, yet not equally strong fashion as in the case of ABCPs, Figure 6.12—taken from Task Force (2010)—exhibits a continuous rise in overnight repos issued in the run-up to 2007, and Figure 6.13—taken from Nutting (2013)—sketch the strong increase in MMF shares holding, which was only interrupted by the burst of the dot-com bubble in the early 2000s:

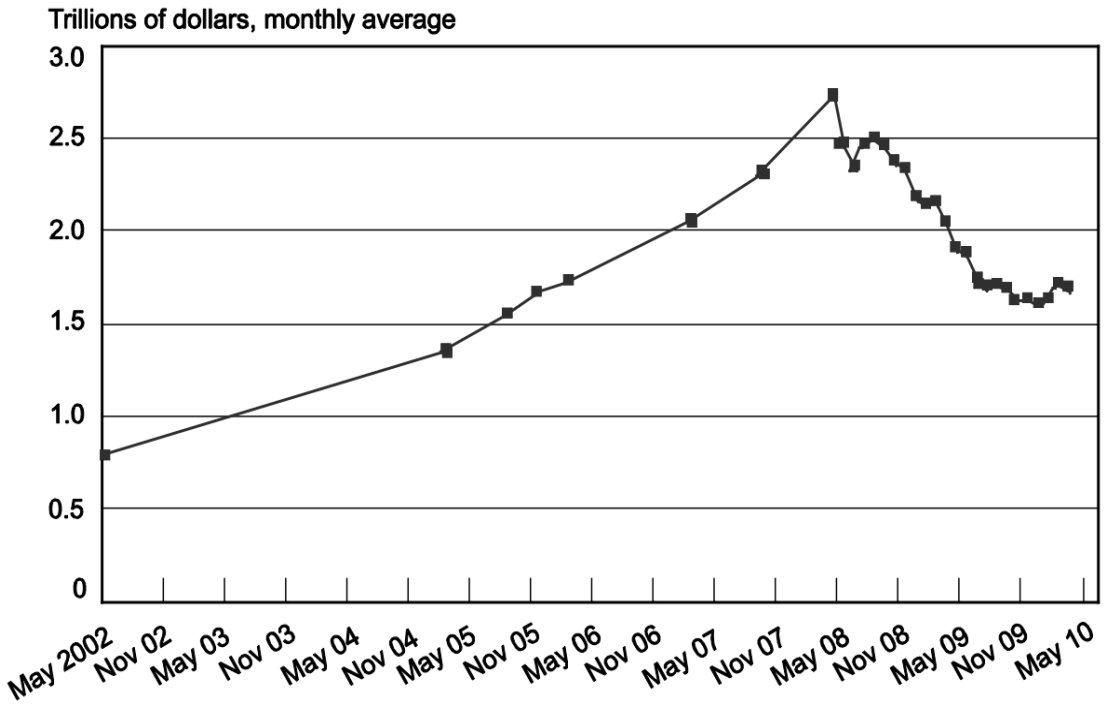

Figure 6.12—Volumes of overnight repos issued, 2002-2010 (in trillions of USD)

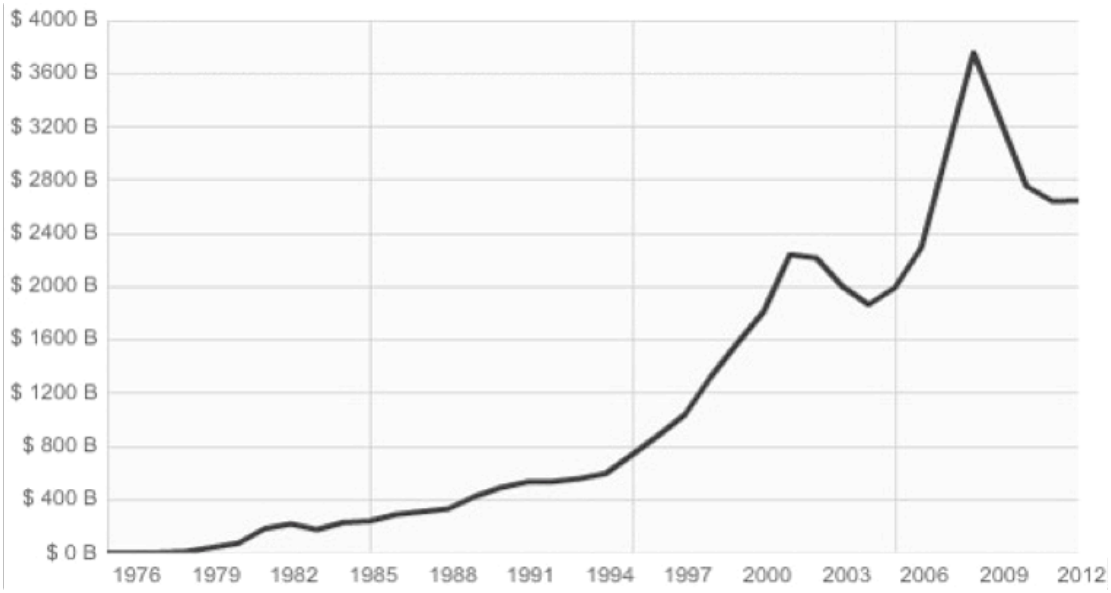

Figure 6.13—Volumes of MMF shares issued, 1975-2012 (in billion USD)

As to the interconnectedness of shadow money, shadow money forms are created by a great number of different issuers—SPVs, securities dealers and MMFs—and held as assets also by a great number of institutions and individuals (in the case of MMFs). This is true both for within and outside the United States. Therefore, shadow money issuance needs to be seen as highly interconnected. This has some implications for their substitutability: Within the 'daisy chain' of the shadow banking system, shadow money forms could be substituted among each other, in particular between the securitization and the collateral intermediation channel, i.e. between repos and ABCPs. However, they could not be fully substituted by higher-ranking money forms, notably deposits. Given the sharp rise in shadow money balances especially throughout the 2000s, no alternative short-term IOUs would have been available into which the balances could have been shifted all at once.

Regarding the complexity, shadow money issuance must be considered as extremely interwoven, opaque and multi-faceted. First, this is due to the international, if not global, entanglement of the shadow banking system. In particular, the SPVs that issued ABCPs were very often located in offshore financial centres, which contributed substantially to the system's opaqueness (cf-Lysandrou and Nesvetailova 2015). Second, as indicated by Figure 6.4 and the famous 'map' of shadow banking presented by Pozsar et al. (2012), shadow money issuance is connected to virtually all parts of the financial system, in ways that were largely uncomprehended at the time (cf. Mehrling et al. 2013, who describe shadow banking as money market funding of capital market lending). Third, the technique of securitization—i.e. slicing up financial instruments and putting them together as a new instrument—has added enormously to the complexity and opacity of shadow money issuance, in particular with regard to overnight repos and ABCPs. Overnight repos stand out in this regard as their functionality as shadow money is connected to the 'two legs' of its operation. With regard to ABCPs, Covitz et al. (2009: 9-10) note that there was very little knowledge and high uncertainty about the underlying assets.

To sum up, the shadow money supply in general appears to have become systemically relevant, in particular due to its massive rise in volume, which made it non-substitutable in an immediate manner. Still, the individual shadow money forms, in particular on the wholesale money market, were substitutable into each other. Hence, the systemic relevance did not necessarily affect each specific shadow money form individually. In this, it is not straightforward how to conceptualize the internal hierarchy among the three shadow money forms. Gabor and Vestergaard (2016: 14) argue that repos had a higher status in the hierarchy because they are collateralized and therefore perceived as safer than ABCPs and MMF shares, which are uncollateralized instruments. This study, however, suggests—in line with the idea of the 'daisy chain' represented in Figure 6.4—to view MMF shares as the most high-ranking shadow money form. On the one hand, with their special accounting rules guaranteeing constant net asset value, MMF shares traded nominally at par. On the other hand, they were not 'only' a wholesale but even a retail instrument and hence the most direct substitute for deposits. As they were also used by households, they may thus be

considered—at least from the perspective of policy-makers—as the most systemically relevant form of shadow money.

Figure 6.14 translates these findings into an account of the hierarchy of money at the peak of the shadow banking system's expansion in early 2007. Accordingly, Federal Reserve IOUs were at the top of the hierarchy, as the primary representation of the U.S. Dollar as the unit of account. In this, the status of Federal Reserve notes may be seen as a consequence of the English bank note accommodation in the 18th century and its subsequent gradual transition into the U.S. monetary system. The next layer in the hierarchy were bank deposits, which traded at par to higher-ranking money due to the public framework for deposit creation that had been installed in conjunction with their accommodation in 1933. The shadow money forms occupy the subsequent layers with their concomitant promises to trade at par or quasi-par. MMF shares as a retail instrument were at the top, followed by repos as collateralized and ABCPs as uncollateralized wholesale instruments.

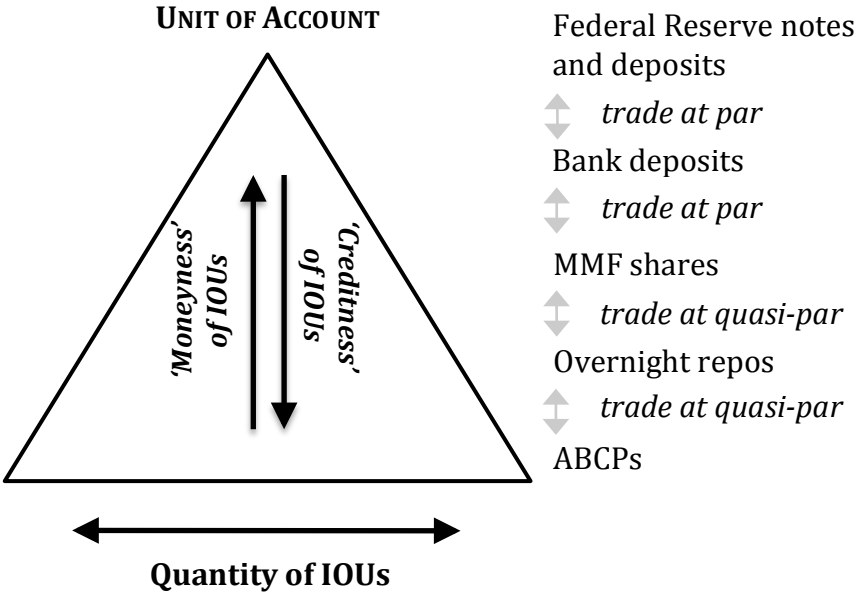

Figure 6.14—The hierarchy of Federal Reserve, bank and shadow bank money

6.3 Phase II: The accommodation of shadow money in the public money supply

This section studies the accommodation of shadow money—or more precisely: overnight repos and MMF shares. It starts by addressing the 2007-9 Financial Crisis, following the interpretation that it was a run on the shadow banking system. After the burst of the U.S. real estate bubble in 2007, the run started in the market for ABCPs but could be calmed down and mitigated as holders of ABCP balances were able to shift to other assets. Only after the near-collapse of Bear Stearns and the failure of Lehman Brothers, a system-wide panic set in because no short-term asset seemed safe any more and also affected MMFs (6.3.1). From March 2008 onwards, the Federal Reserve used its emergency powers to establish innovative liquidity facilities and bail out repo-issuing securities dealers. In September 2008, the Treasury introduced backstops for the MMF industry by announcing an explicit temporary guarantee for MMF shares. Those activities succeeded in calming down the panic (6.3.2). With this action, overnight repos and MMF shares were accommodated and shifted from the private into the public credit money realm. This transformation of the monetary system was the unintentional side-effect of the attempt to rescue the U.S. monetary and financial system and to prevent a complete systemic meltdown, which was an imminent doomsday scenario that circulated within the highest circles of the U.S. administration (6.3.3).

6.3.1 Financial Instability and the runs of 2007 and 2008

In the literature that views shadow banking as a monetary phenomenon, the 2007-9 Financial Crisis is frequently referred to as a run on the shadow banking system that had developed since the 1970s. As the run occurred on the wholesale money market, it was not as visible as bank runs during the Great Depression, with long queues of depositors lining up in front of commercial bank branches. Leaving this aspect aside, however, there were barely any functional differences to previous runs (Gorton 2010). This run occurred in three waves (cf. Table 6.1): The first was associated with the near-failure of Countrywide Securities in August 2007, the second with the shut-down and takeover of Bear Stearns in March 2008, and the third with the bankruptcy of Lehman Brothers in September 2008 (Mehrling 2011: 119-121, Brunnermeier 2009).

1st wave (08/2007)	**2nd wave (03/2008)**	**3rd wave (09/2008)**
Run on ABCP-issuing SPVs (Countrywide Securities)		
Strains on tri-party repo custodian bank (Bank of New York Mellon)	Run on tri-party repo dealer (Bear Stearns)	Run on tri-party repo dealer (Lehman Brothers)
		Run on MMFs (Reserve Primary Fund)

Table 6.1—Three waves of runs on shadow money in the 2007-9 Financial Crisis

The first wave of the runs on shadow money is closely connected with the collapse of the U.S. subprime mortgage market. The bursting of the housing bubble started with the Californian financial firm Countrywide Securities, which funded itself both on the ABCP and the tri-party repo market. In August 2007, Countrywide got into trouble with its business model of originating, securitising and selling mortgages. When Countrywide announced disappointing earnings, a number of ABCP programmes had to extend the maturities of their papers and eventually defaulted:

> "[T]he turmoil [...began] with mounting delinquencies of subprime mortgages triggering a decline in investor confidence in mortgage financial intermediaries and ratings downgrades of structured mortgage securities. Reflecting these concerns, investors became reluctant to roll over ABCP, yields on new issues of ABCP soared, and outstanding ABCP plummeted $190 billion, almost 20 percent, in August, and fell by an additional $160 billion by the end of the year" (Covitz et al. 2009: 2).

Analytically, from a shadow money perspective, if a SPV is not able to issue new ABCPs because its investors are not willing to roll over any more, this can be understood in analogy to a run on bank deposits (ibid: 13). An important factor contributing to the run on SPVs was the lack of transparency concerning the underlying assets they held (ibid: 9-10). Figure 6.15—taken from Covitz et al. (2009: 36)—depicts the percentage of SPVs that were experiencing such a run in 2007.[68]

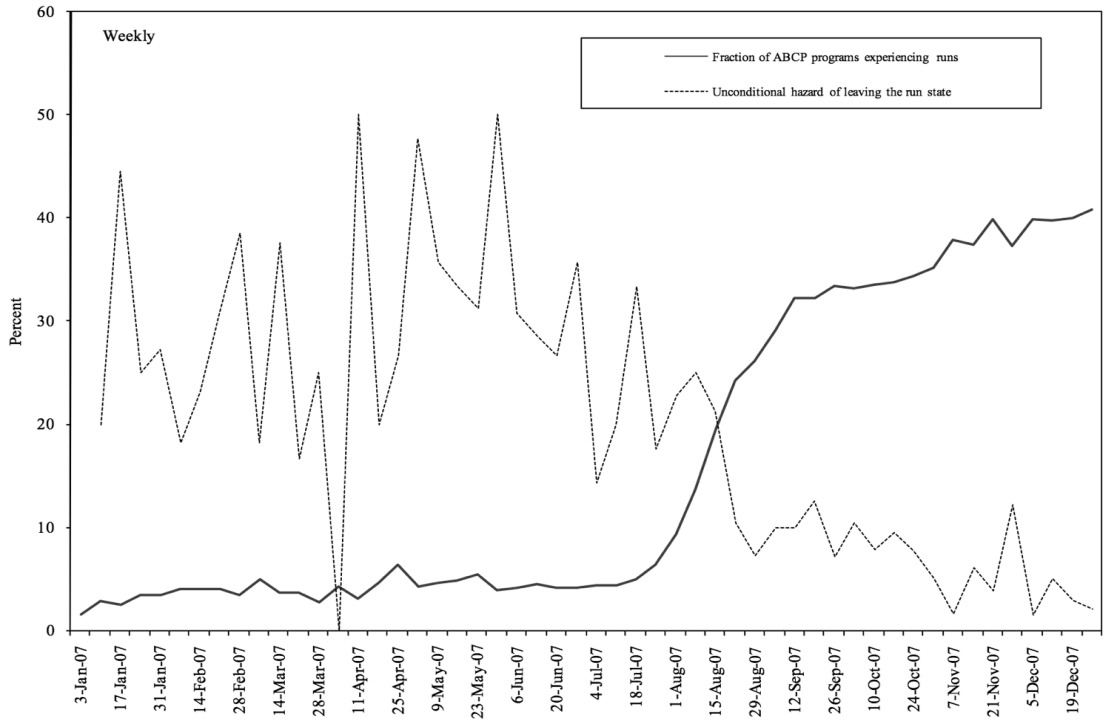

Figure 6.15—Run on ABCP programmes in 2007

[68] A run is defined here as a situation in which the SPV "does not issue paper but has at least 10 percent of paper maturing or when the program continues not issuing paper after experiencing a run in the previous week" (Covitz et al. 2009: 36).

Primarily, the losses that SPVs incurred due to their inability to roll over ABCPs had to be borne by the commercial banks that had set them up as off-balance sheet vehicles. These sponsoring institutions had issued implicit or explicit guarantees. As they were also from other countries than the U.S., the run on ABCPs had an international dimension. The German IKB Deutsche Industriebank and Sachsen Landesbank "had provided credit guarantees more than three times their equity capital in order to issue ABCP of the risk-free variety"; as they could not meet their promises to pay, they faced insolvency (Acharya and Schnabl 2010: 40). Other banks had incurred substantial losses but survived the run on the ABCP market. Among them were e.g. ABN Amro and Citibank whose "credit guarantees to outside investors required them to pay off maturing ABCP at par independently of underlying asset values" (ibid).

To attenuate the rising panic, the Fed clarified in August 2007 that investment-quality ABCPs would be accepted as collateral for its discount window (Covitz et al. 2009: 42-43) and, in line with its traditional role as lender of last resort, reacted with conventional expansionary monetary policy from September (Cecchetti 2008: 13). In parallel, Treasury Secretary Paulson pushed towards the introduction of a market-based plan to cushion the credit crunch on the ABCP market. In October, three major U.S. financial institutions—Citigroup, JPMorgan Chase and Bank of America—followed up and suggested introducing the Master Liquidity Enhancement Conduit (MLEC) as a privately funded liquidity backstop (Covitz et al. 2009: 43). However, the financial industry was not able to agree on joint actions to push through the plan and buried it in December 2007 (Ellis and Rooney 2007).

While the attempted market-based solution turned out ineffective, policy-makers saw themselves forced to intervene more substantially, yet still within the conventional framework of monetary management. The Fed calmed down the run on ABCPs by establishing the Term Auction Facility (TAF) as an extended discount window, which gave additional liquidity support to the commercial banks that sponsored the SPVs and thus had to bear the losses from the run on ABCPs (cf. Armantier et al. 2008: 1-2). In this, TAF was supposed to "remove the stigma associated with discount borrowing, and in that way to get reserves to banks that needed them" (Cecchetti 2008: 14). Effectively, the Fed offered Treasury bills as substitutes for the defaulting ABCPs that the market no longer wanted (Mehrling 2011: 120). In addition, the Fed created reciprocal Swap Lines with the ECB and the Swiss National Bank as an extension of the TAF to other financial systems. The measure was necessary due to the international entanglement of the ABCP market (cf. Cecchetti 2008: 15). The Swap Lines expanded the reach of the Fed's emergency liquidity injections beyond U.S. borders and contributed to cushioning the effects that the run had on the liquidity of non-U.S.-based parent institutions. Later, the Swap Lines were also extended to other major central banks (Mehrling 2015b).

In addition to the run on SPVs, the first wave of the crisis had contagion effects that hit the tri-party repo market (cf. Covitz et al. 2009: 2). On 15 August 2007, BNYM threatened to no longer facilitate Countrywide's tri-party repo transactions. BNYM did not want to grant intra-day credit anymore, as it feared

an immediate default of Countrywind and held it for no longer creditworthy (Paulson 2010). As to Timothy Geithner (2014), then Chairman of the Federal Reserve Bank of New York (FRBNY), the Fed observed that they were at the brink of a panic on the repo market. In this situation, BNYM and Countrywide

> "both urged the Fed to intervene to assume the risk and protect the system. [… BNYM] executives said they'd roll over Countrywide's book if the Fed guaranteed the resulting intraday credit exposure to the firm, indemnifying them against losses if Countrywide failed while they were on the hook. They were basically asking us to stand behind the entire tri-party repo market, because if we backstopped one firm we'd have to backstop them all […]. We thought about it, conferred with Washington, and said no" (ibid: 125).

Ultimately, the Fed facilitated an agreement between both companies, according to which BNYM continued offering its services to Countrywide, while Countrywide upgraded the quality of its collateral (ibid: 122-126). In the end, the Fed managed to solve the issue without having to step in and back the tri-party repo market.

In the second wave of the run on the shadow banking system, Bear Stearns—a major securities dealer in the tri-party repo market—was at the brink of collapse. Again, public officials feared a run on repo: As then Treasury Secretary Paulson (2010: 99) argues, the assessment of the time was that if Bear fell, "all counterparties would be scrambling to collect their loans and collaterals. […] The firms that had already started to pull their money from Bear were simply trying to get out first" (Paulson 2010: 99). Although Bear was not among the largest U.S. financial institutions, it was tightly integrated in the shadow banking sector. With almost four hundred subsidiaries, it had trading positions with five thousand counterparties globally and had borrowed about $80 billion in the tri-party repo market, representing the substantial risk of a run on MMFs, securities dealers and other financial institutions (Geithner 2014: 150).

The strategy of the Fed and the Treasury was two-fold: On the one hand, they organized a take-over of Bear Stearns by JPMorgan Chase (JPMC), which allowed for a continuation of the systemically relevant functions of Bear as a securities dealer under the umbrella of JPMC (Ennis 2011: 389). In March 2008, to save Bear Stearns, the Fed decided to grant a 'back-to-back' loan via JPMC that it would then pass on to Bear (Geithner 2014: 151). This more permanent solution—negotiated from 16 to 24 March and completed on 30 May 2008—was a full takeover of Bear Stearns at a very low price with the Fed granting special financing (JPMC 2008) and taking over asset portfolios that JPMC found too risky to assume entirely on its own (Paulson 2010: 115-116). From a private credit money perspective, rescuing Bear implied making sure that the repos it issued would not collapse and turning JPMC into a private backstop for Bear.

On the other hand, the Fed established emergency liquidity facilities for tri-party dealers: the Term Securities Lending Facility (TSLF) and the Primary Dealer Credit Facility (PDCF). The goal was to prevent the repo market from drying up. As lenders of funds were worried about the value of collateral and the

credit risk of securities dealers, they stopped lending against certain types of collateral, in particular mortgage-backed securities (Geithner 2014: 146), and increased haircuts—i.e. they reduced the amount of deposits they were willing to lend against a given amount of collateral. For dealers, it became more difficult to finance their term repos, which forced them to seek alternative sources of funding or liquidate positions. This turned out difficult. Many dealers were not able to borrow elsewhere or sell their securities at an acceptable price (Fleming et al. 2009: 2-3). The TSLF and PDCF were introduced to avoid that the dealers had to file for bankruptcy due to this liquidity impasse.

In the third wave, the financial crisis reached its peak when in September 2008, Lehman Brothers—another major securities dealer in the tri-party repo market—reportedly was 'only days away' from bankruptcy and threatened to put other financial institutions at risk" (Adrian et al 2009: 4). On 10 September 2008, Lehman announced a $3.93bn loss for the third quarter as it had to write down $5.6bn on toxic mortgages (Junod 2009). Treasury Secretary Paulson tried to find a buyer for Lehman Brothers who—as in the case of Bear Stearns—would take-over the company and act as a private backstop that guarantees Lehman's liabilities. This had become necessary due to a range of fruitless attempts by Lehman to find new investors on its own (Sorkin 2009). On 12 September, Barclays Capital—led by its CEO Bob Diamond—expressed its interest in purchasing Lehman. However, the take-over was turned down due to financial stability concerns by UK regulators (Junod 2009). On 15 September, Lehman filed for bankruptcy (McDonald 2015: 51). In consequence, repo markets froze as repo counterparties became unwilling to lend to each other (Mehrling 2011: 120-121). Figure 6.16—taken from Gorton and Metrick (2012: 429)—depicts the run on repo. It shows the spiking of the panic when Lehman collapsed by plotting the average haircut for the collateral used in repo transactions.

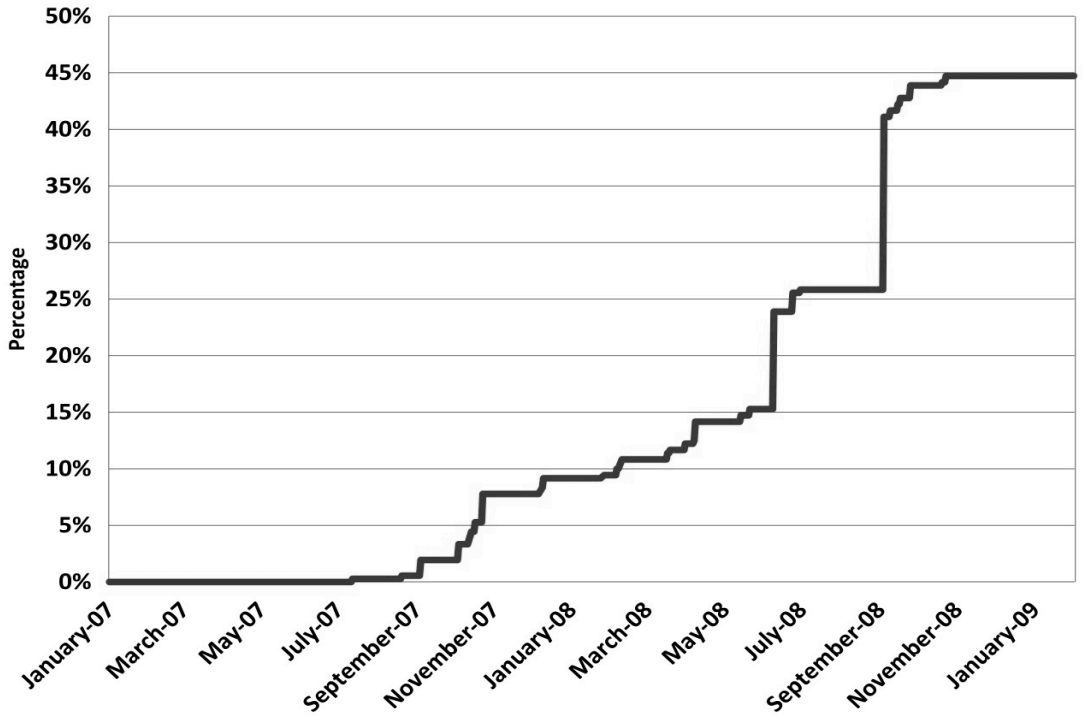

Figure 6.16—Run on repo in terms of average haircuts demanded, 2007-2009

After the collapse of Lehman Brothers, the spreading panic on the financial markets affected also the MMF industry. Investors in MMFs started to convert their shares into bank deposits as higher-ranking money that was covered by the FDIC. As Bernanke (2013: 81) puts it, investors "began to pull out their money, just like a standard bank run". Most MMFs were able to keep up constant net asset value because they had parent institutions as private backstops that supported them with liquidity (Mehrling 2011). However, the Reserve Primary Fund (RPF)—one of the U.S.'s oldest and most traditional ones—was a family enterprise that did not have a parent institution to go to. As Geithner (2014: 195) points out, it "had even added to its stash of Lehman paper over the summer while everyone else was unloading it, which sparked a run on the fund after Lehman fell". On 16 September, the RPF was no longer able to sustain a constant net asset value and, by paying only 97 cents on the dollar, 'broke the buck'. Thus, par clearance was broken and further fueled the run on MMF shares.

Overall, using the analytical language of the Money View, the expansion of the monetary system as a self-referential network of debt claims was about to revert itself during the 2007-9 Financial Crisis and continuously endangered par clearance of the shadow money forms vis-à-vis deposits as higher-ranking money. The financial strains increased substantially throughout the three waves. In the first wave, when SPVs were struggling, par clearance of ABCPs had to be guaranteed by their sponsoring banks. In the second wave, the collapse of a systemically relevant securities dealer could only narrowly be avoided. In the third wave, with Lehman Brothers collapsing and sending shock waves through the entire monetary and financial system, even the retail money market was affected and par clearance of MMF shares was broken. Figure 6.17 depicts the upwards contagion within the hierarchy of money that materialized in 2007 and 2008.

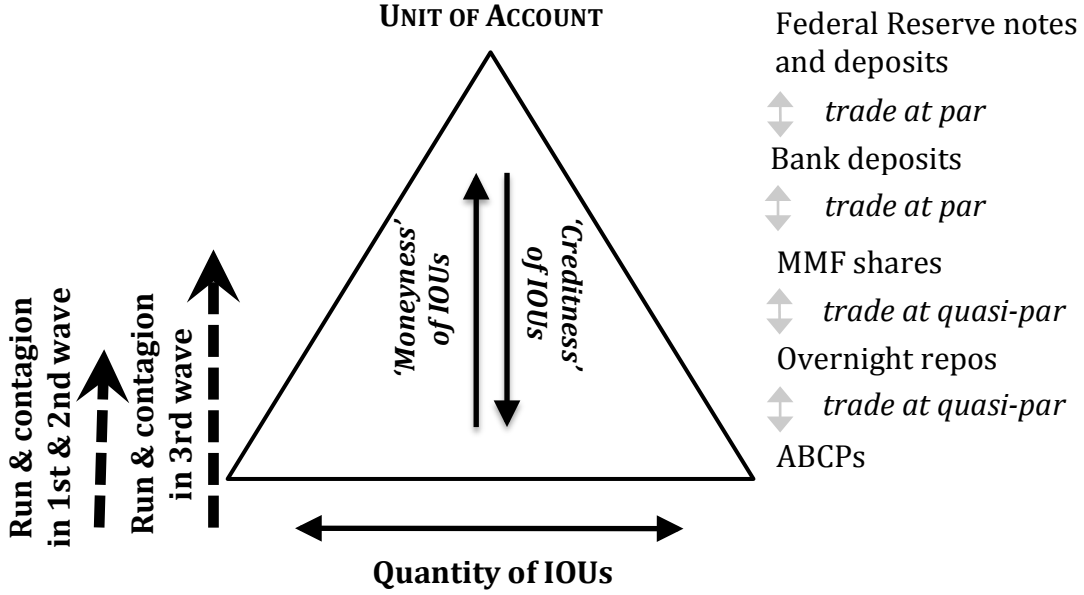

Figure 6.17—The 2007 and 2008 runs with upwards contagion in the hierarchy

6.3.2 PDCF and Treasury Guarantee as public bailout in reaction to the run

On 13 and 14 September, the weekend before Lehman's insolvency, a series of crisis meetings took place at the highest levels of U.S. monetary and fiscal authorities (cf. Junod 2009, McDonald 2015: 43-52). They were led by Timothy Geithner, Chairman of the Federal Reserve Bank of New York, Ben Bernanke, Chairman of the Federal Reserve Board of Governors, and Henry Paulson, Jr., U.S. Secretary of the Treasury (cf. Paulson 2010: 62). While the rescuing attempts for Lehman Brothers did not work out successfully, the executive bodies decided for a number of emergency interventions that amounted to a public bailout for securities dealers and MMFs as struggling speculative and Ponzi units.

The foundation for the bailout of the repo-issuing securities dealers had already been laid in the second wave of the run on the shadow banking system. The creation of the emergency liquidity facilities PDCF and TSLF had been a pivotal change in the crisis intervention strategy compared to the first wave. Geithner points out in his memoirs that in 2007, hawkish governors of regional Federal Reserve banks had impeded him and Ben Bernanke to fight the crisis more aggressively because they were afraid of rising inflation rate and moral hazard problems. In January 2008, Bernanke told Geithner that "he no longer intended to be so deferential to the FOMC's hawks. If they wanted the Fed to stand around inert as the crisis intensified, they could dissent. He wouldn't meet them halfway anymore" (Geithner 2014: 143). To put the emergency liquidity facilities in place, the Fed had to invoke its emergency powers provided in Article 13(3) of the Federal Reserve Act, which give it the right to lend to non-banks in 'unusual and exigent circumstances'. On Sunday, 9 March 2008, Bernanke sent an email to the members of the Federal Reserve Board, in which he strongly advocated the implementation of TSLF on the basis of Article 13(3), despite warnings that it was politically dangerous for the Fed to accept collateral that no one else wanted. On 10 March, the Federal Reserve Board approved the TSLF.

On 11 March 2008, the Fed established the TSLF, which allowed security dealers to borrow Treasury securities for a term of 28 days by pledging other securities as collateral, which were no longer accepted by repo counterparties (Fleming et al 2009: 3). The Treasury securities were allocated to dealers via auctions which should avoid negative signaling effects (Interview 2). The explicit goal was "to promote liquidity in the financing markets for Treasury and other collateral and thus to foster the functioning of financial markets more generally" (Federal Reserve Board 2008a).[69] As to Geithner (2014: 146-157), the TSLF should "provide some relief where it would do the most good. […] We hoped to thaw the frozen markets for those securities [that the private sector would no longer finance, S.M.], since they would now be exchangeable for Treasuries. We also hoped to ease liquidity pressures throughout the system, reaching beyond commercial banks for the first time to the most troubled part of the markets".

[69] Interestingly, the Fed introduced the TSLF in close cooperation with the Bank of Canada, the Bank of England, the European Central Bank and the Swiss National Bank, who took similar actions in their jurisdictions (see Federal Reserve Board 2008a). This is relevant for understanding the dynamics of the international spill-over of decisions to accommodate, which occurred here simultaneously (cf. Chapter 7).

The PDCF, in turn, was a standing backstop facility in which the Fed took the lending side in tri-party repo transactions and bought the dealers' overnight repos against a penalty rate (Ennis 2011: 392). By introducing it on 16 March, "the Fed […] opened the discount window to investment banks for the first time since the Great Depression" (Paulson 2010: 116). The PDCF was designed to reduce the funding pressure on dealers in a crisis situation and inject market liquidity in a distressed environment (Adrian et al. 2009: 4). Thus, the PDCF not only backed the dealers and the liabilities they issued, but also took away the counterparty risk for their clients, cash investors and the clearing banks (Mackenzie 2008). For accessing the PDCF, dealers had to inform their clearing banks, which checked if a sufficient amount of collateral had been pledged and informed the New York Fed. The Fed, in turn, would then transfer a loan for the primary dealer to the clearing bank (Adrian et al. 2009: 5).

The introduction of the TSLF and the PDCF represents a shift in the Fed's crisis intervention framework—driven by functional demand originated in the credit money system—from simply providing lender of last resort liquidity to making markets in certain securities to preserve the par value of the repo liabilities issued against those tradable securities. Table 6.2—based on Fleming et al. (2009: 3-4)—summarizes the main differences between TSLF and PDCF.

Term Securities Lending Facility	**Primary Dealer Credit Facility**
Exchanges securities against securities	Exchanges securities against deposits
Does not affect the dealers' holdings of deposits	Does affect the dealers' holdings of deposits
Auction facility	Standing facility
Available when auctions are conducted	Available on continuous, as-needed basis
Borrowing rates are determined in auctions	Borrowing rates are set by the Fed with a premium
Is more attractive to dealers and does not imply a stigma, as dealers approach the Fed collectively	Is potentially associated with a stigma, so dealers will only reluctantly use it

Table 6.2—Comparison of TSLF and PDCF

In the third wave, with Lehman filing for bankruptcy, it was necessary to combat the panic that spread on the repo market as an indirect consequence of the failure. For this reason, the Fed announced on 14 September 2008 that it would expand the collateral acceptability for the PDCF to a broader set of assets. Until that point, the Fed had only accepted collateral that was also eligible for its open market operations as well as "investment-grade corporate securities, municipal securities, mortgage-backed securities, and asset-backed securities. Collateral that was not priced by the clearing banks was not eligible for pledge under the PDCF" (Adrian et al. 2009: 4-6). From then on, loans via PDCF could include anything that was acceptable in the tri-party repo system, e.g. non-investment grade bonds and stocks (Paulson 2010: 218). As a consequence, the usage of PDCF skyrocketed (Ennis 2011: 392). As Geithner (2014) points out, the emergency intervention likely overstepped the Fed's legal mandate: "We didn't believe we had the legal authority to guarantee Lehman's trading liabilities, even using our 'unusual and exigent' powers under 13(3)" (ibid: 186). Nevertheless, they decided to greatly extend their liquidity programmes in response to the run.

Thus, the Fed effectively bailed out securities dealers by fulfilling the role of whatever counterparty was necessary and granting them all necessary liquidity to tame the run on repo.

Following up on the bailout of securities dealers through the Fed, the Treasury implemented a bailout decision for MMFs. On 19 September 2008, the U.S. Department of Treasury "provided a temporary guarantee that investors would get their money back if they did not pull it out right then" (Bernanke 2013: 82). As to the press release announcing the programme, "the U.S. Treasury will insure the holdings of any publicly offered eligible money market mutual fund—both retail and institutional—that pays a fee to participate in the program" (FRB 2007). The guarantee program should be effective for one year. The necessary sources, summing up to $50 billion, should be mobilized from the Exchange Stabilization Fund ('ESF') (U.S. Treasury 2008)—a pool of reserve assets controlled by the Treasury that has been "created and originally financed by the Gold Reserve Act of 1934 to contribute to exchange rate stability and counter disorderly conditions in the foreign exchange market" (FRB 2007).

Figure 6.18—taken from Bernanke (2013: 82)—depicts the net flows to prime Money Market Funds in the heyday of the financial crisis and thus visualizes the run as well as the impact of the bailout. Daily outflows rose sharply after the Lehman bankruptcy and the Reserve Primary Fund breaking the buck, but got halted with the U.S. Treasury announcing the Temporary Guarantee.

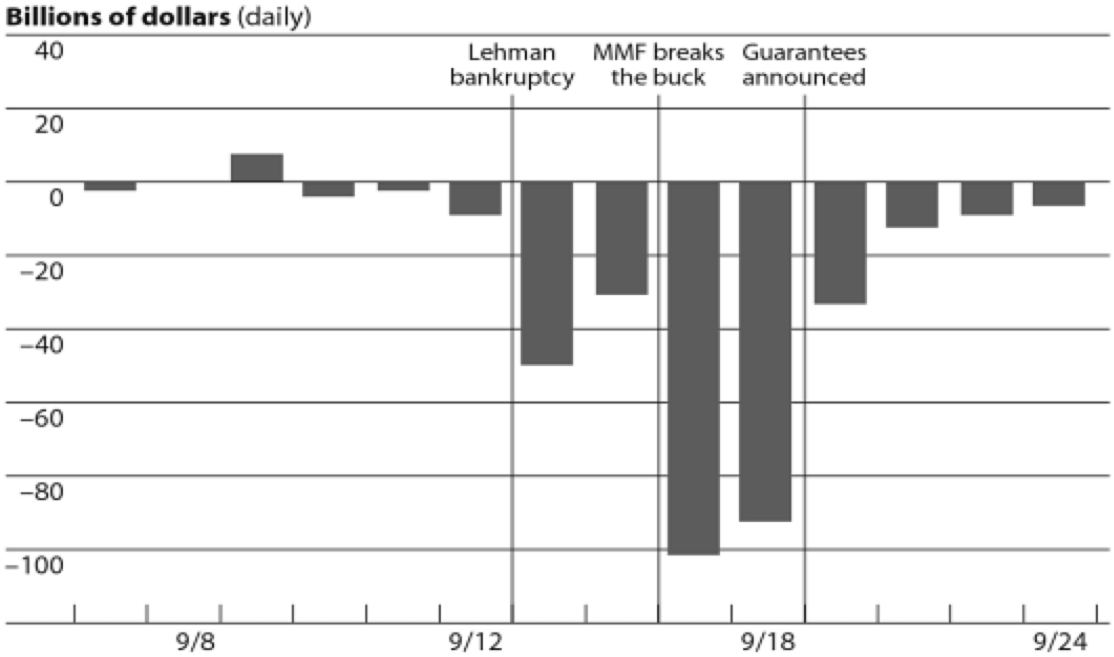

Figure 6.18—Net flows to prime MMFs, 7-24 September 2008 (in billion USD)

As Paulson explains in his memoirs, the decision to introduce the temporary guarantee was made on Thursday 18 September during a call among himself, Tim Geithner, Ben Bernanke and Christopher Cox as well as their members of staff. Afterwards, they met the president in the White House and told him that they "were going to need to get special powers from Congress" (ibid: 255). President Bush hesitated and wanted the Fed to do more, but Bernanke

insisted that it was unavoidable. The day after, the Treasury announced the MMF guarantee programme, which had been mainly developed in overnight sessions by David Nason and Steven Shafran, two members of staff at the Treasury Department. After its public announcement, FDIC chairman Sheila Bair complained about not being involved in the process of developing the programme. She argued that the guarantee would hurt uninsured bank deposits. As solution, she suggested the MMF guarantee should only insure those customer balances that had been in the MMFs before the guarantee was announced. Paulson agreed to this proposal and amended the rules for the temporary guarantee (ibid: 262-263).

In parallel to the Treasury guarantee, the Fed introduced the Asset-backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) on 19 September. With the AMLF, "the Fed created a backstop liquidity program, under which it lent money to banks, which in turn used that money to buy some of the assets of the money market funds. That gave the money market funds the liquidity they needed to pay off their depositors and helped to calm the panic" (Bernanke 2013: 82). Banks were allowed to borrow from the AMLF if the MMF they wanted to purchase ABCPs from experienced "significant redemption pressures" and qualified as an MMF under the SEC Rule 2a-7 (FRBNY 2010).

Why did the highest political authorities decide in favour of the bailout? A factor frequently brought forth to explain the government interventions during the crisis is the proximity of decision-makers to the financial industry (cf. e.g. Tsingou 2015). This is particularly true for Treasury Secretary Henry Paulson, who used to work for Goldman Sachs and took some of his intimates with him when he assumed office (cf. Paulson 2010). Although he repeatedly emphasizes in his memoirs that he tried to fulfill the deeds of the positions he held and kept financial stability as the greater good in mind, it can hardly be neglected that the Wall Street CEOs were his peers with whom he consulted frequently and directly (cf. e.g. Paulson 2010, Junod 2009, Sorkin 2009). In particular, this proximity may have played a role for the public bail-outs of (e.g. Bear Stearns, AIG) and the Troubled Asset Relief Program (TARP), which was used to re-capitalize banks, given that the Treasury plaid the dominant role in developing and implementing those policies.

However, with regard to the emergency liquidity facilities, the argument that the top-level staff's close personal ties to the financial industry explains the decision to accommodate repos is not very convincing. Neither Ben Bernanke nor Timothy Geithner had been working for the financial industry in beforehand: Bernanke had made his career in academia, Geithner in public service (Geithner 2014). Therefore, this study contends that the key rationale for the decisive intervention was the fear of a spill-over from the crisis on the wholesale to the retail money market in which also households would be affected—the doomsday scenario of a systemic meltdown (Interview 1, 6). This is the tone set in the autobiographies of the three protagonists in the bailout decision (cf. Bernanke 2015, Geithner 2014, Paulson 2010). A particular role was played the historical experience of the Great Depression, which had incentivised them to intervene decisively early on in the crisis (Bernanke 2013, Geithner 2014).

6.3.3 Accommodating repos and MMF shares as systemic transformation

The 2007-9 Financial Crisis has not only received extensive scholarly attention in IPE, economics and beyond (cf. Chapter 1) but also sparked intensive political reprocessing, e.g. through the Financial Crisis Inquiry Commission (FCIC 2011). The crisis is widely regarded as a watershed moment and frequently put in the context of 1929, while stressing similarities and differences between the 'Great Depression' and the 'Great Recession' (cf. e.g. Eichengreen 2015). From the perspective of this study, in conjunction with the literature that adopts a monetary angle on shadow banking, there is an additional key parallel between the two 'centenary events': Both entailed an accommodation of systemically relevant private credit money.

Accordingly, the activities of the Fed and the Treasury in 2008 extended core aspects of the public framework for deposit creation, which give deposits the status of *private-public money*, and applied it to overnight repos and MMF shares. This framework had been established in 1933 with the Emergency Banking Act and the Glass-Steagall Act (cf. Chapter 5). With their coordinated decision to guarantee MMF shares and backstop repos, the Fed and the Treasury assumed full responsibility for both shadow money forms to sustain par and thus dragged them from the private into the public credit money realm. ABCPs, in contrast, had been largely driven out of the market already in the first wave. As Figure 6.19 highlights, the bailouts effectively accommodated overnight repos and MMF shares in the second and the third wave of the run on the shadow banking system, while ABCPs were demonetized in the first wave.

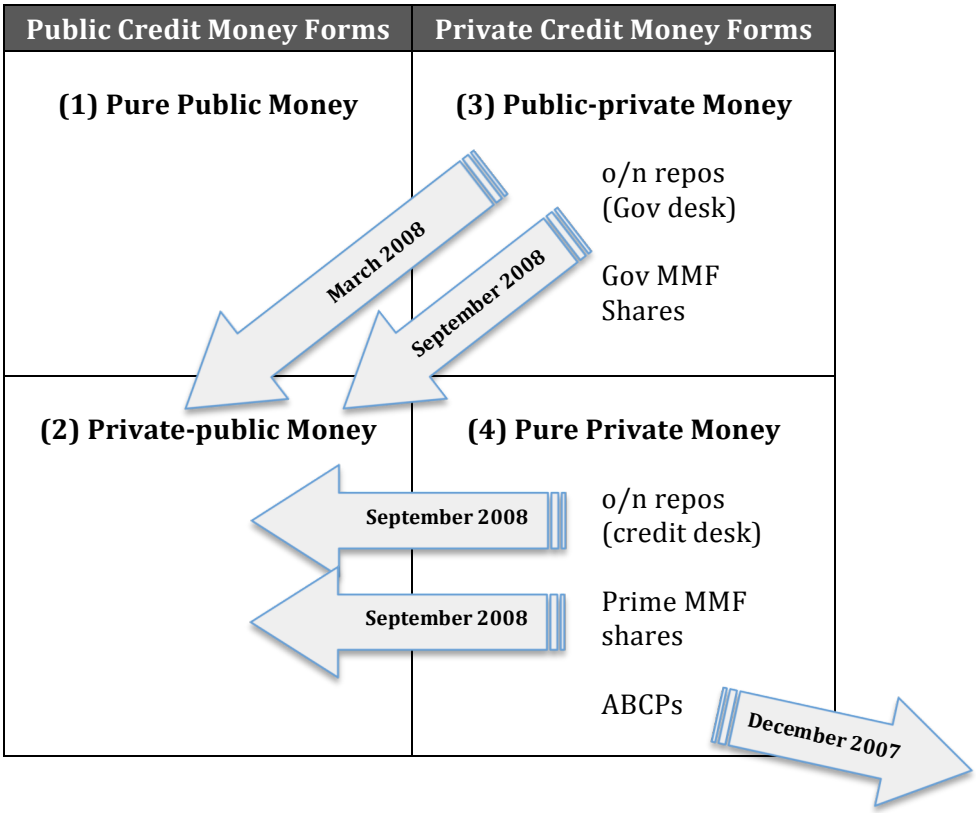

Figure 6.19—Shadow money accommodation via Fed and Treasury interventions

This section details said findings about the three shadow money forms and presents the argument that the public interventions amounted to a substantive, albeit unintentional, transformation of the monetary system.

In the first wave, when the ABCP market was affected, the crisis was not yet perceived as severe as in 2008 after Bear Stearns and Lehman Brothers:

> "The holders of ABCP were worried about the underlying collateral, but the parents of the shadow banks apparently were not (yet), since they were willing to take it back onto their own balance sheets; and the market was not worried about the parents (yet), since it was willing to lend to them. Thus, in the first stage of the crisis, the traditional banking system was willing and able to act as private lender of last resort to the shadow banking system" (Mehrling 2011: 119).

The dropout of ABCPs could be compensated with other source of funding. SPVs could be funded by their parent institutions, and investors, i.e. MMFs, still had other options to invest in, in particular the other channel of the shadow banking system. Thus, the run on ABCPs was compensated both by an expansion of repo funding and traditional deposit banking (Mehrling 2011: 119). Figure 6.20 makes evident that the issuance of ABCP declined sharply in the last months of 2007. As the crisis proceeded in 2008, the ABCP market had effectively been dried out. After the collapse of Lehman, public authorities adopted a range of measures to support the securitization channel of shadow banking, but ABCPs had already lost their relevance at that point (Interview 5, Mehrling 2011). Among those measures were emergency liquidity facilities such as the Money Market Investor Funding Facility (MMIFF), the Commercial Paper Funding Facility (CPFF) as well as the Term Asset-Backed Securities Loan Facility (TALF), see e.g. FOMC (2008), FRBNY (2008), FRBNY (2009a, 2009b).

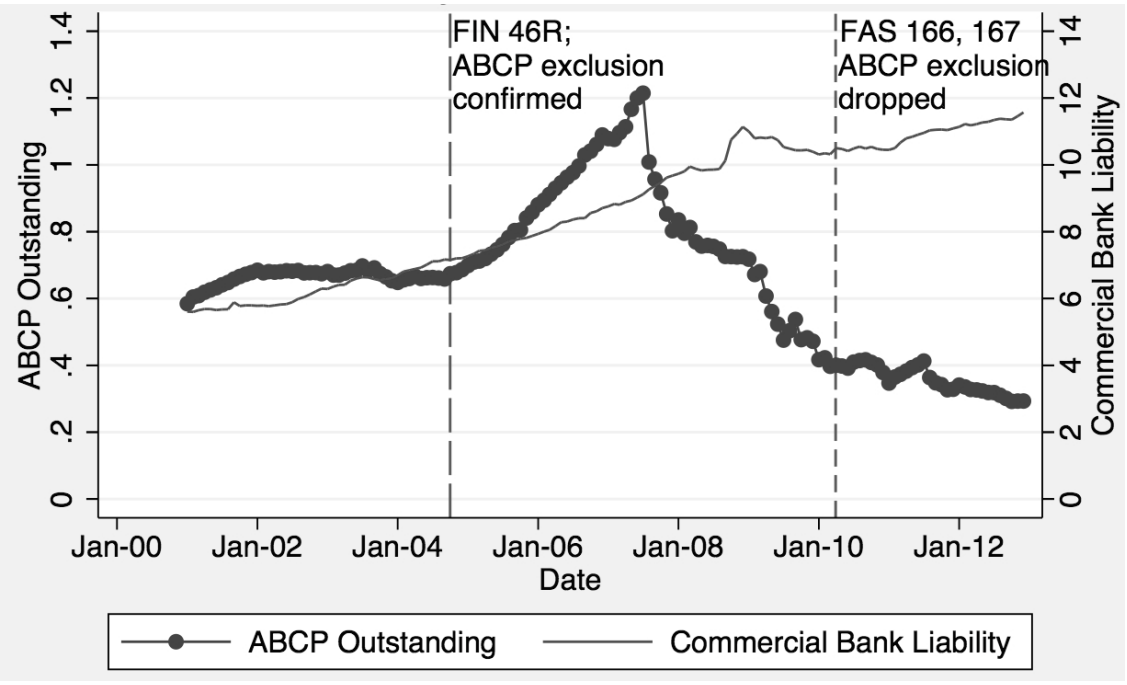

Figure 6.20—ABCPs vs bank liabilities, 2000-2012 (in trillion USD)

Figure 6.21—based on Covitz et al. (2009: 34)—visualizes how the ABCP market was hit by the financial crisis and which effect the TAF's introduction had. The run on ABCPs was offset by the SPVs' sponsors that functioned as private backstops for the shadow money form. TAF was used by the Fed to cushion the effects on commercial banks. The TAF contributed to a liquidation of ABCPs: Banks had to look for an alternative source of funding instead of ABCPs, and TAF provided it as a 'robustified' discount window (Interview 5), which helped drying out the market and allowed investors to shift to other assets. Crucially, however, the Fed did *not* backstop ABCP-issuing SPVs directly and hence did *not* accommodate ABCP in the public money supply.

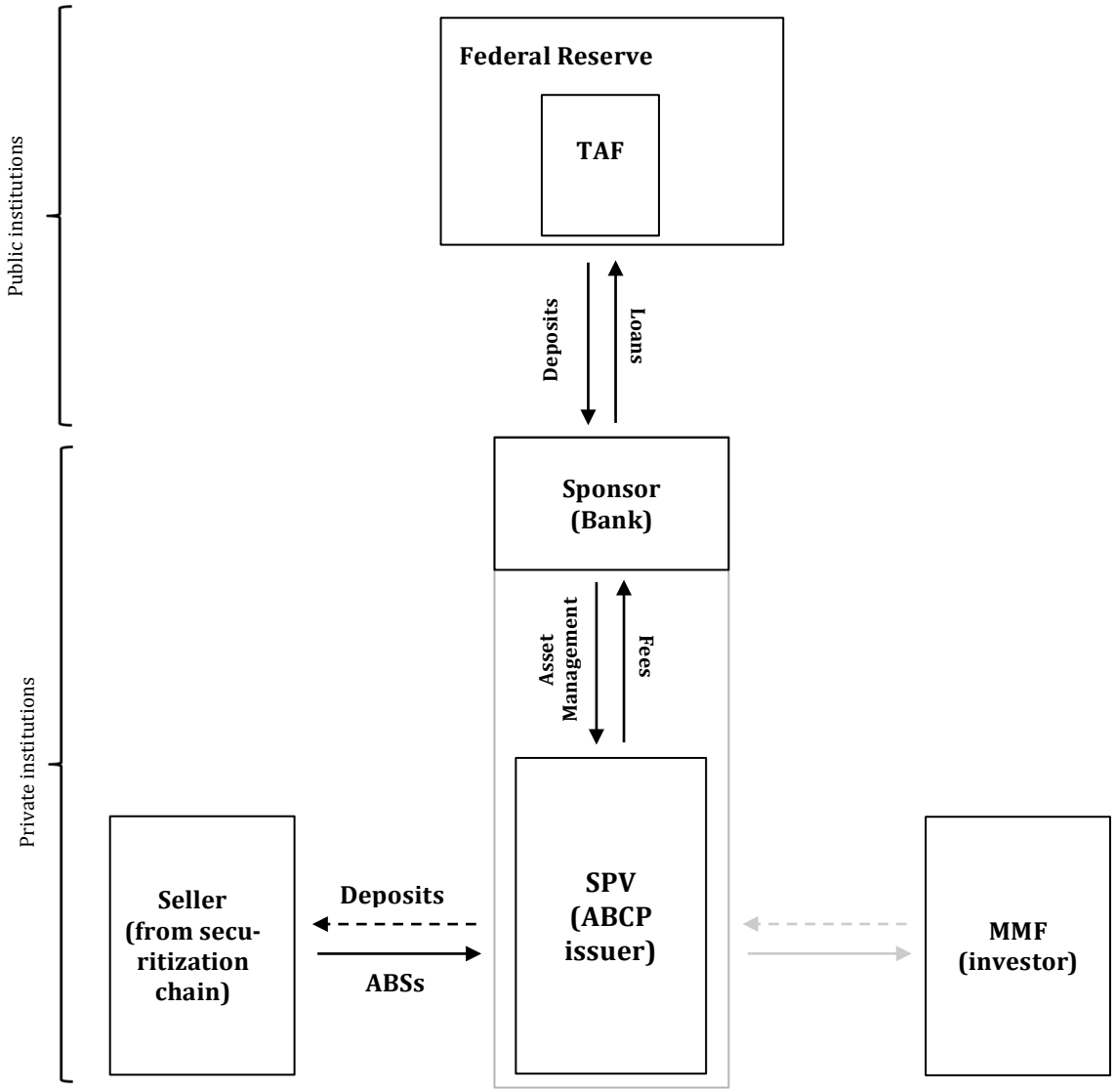

Figure 6.21—Impact of the public intervention on the ABCP market

The case of overnight repos, however, is different. Figure 6.22—based on Copeland et al. (2012)—shows that with the introduction of the PDCF and the TSLF as innovative liquidity facilities, the Fed granted dealers access to its balance sheet and stood ready to guarantee the repos that dealers had issued as IOUs. If necessary, dealers could first exchange their bad collateral at the TSLF

against good one and then use the good one to borrow deposits from the PDCF. This substantially affected the market structure of tri-party repo. By letting dealers tap its balance sheet, the Fed became—in the words of Mehrling (2011)—the 'Dealer of Last Resort'. Hence, the establishment of PDCF and TSLF accommodated overnight repos into the public credit money supply: The PDCF effectively turned overnight repos into a *private-public money* form. When the PDCF was first established in March 2008, it had relatively high quality standards for the collateral it accepted. Arguably, this transformed merely those overnight repos into private-public money that had high-quality collateral in beforehand, i.e. those issued by Dealers' government desk. When the collateral standards were lowered in September 2008, also the overnight repos issued by Dealers' credit desks became *public-private money*.

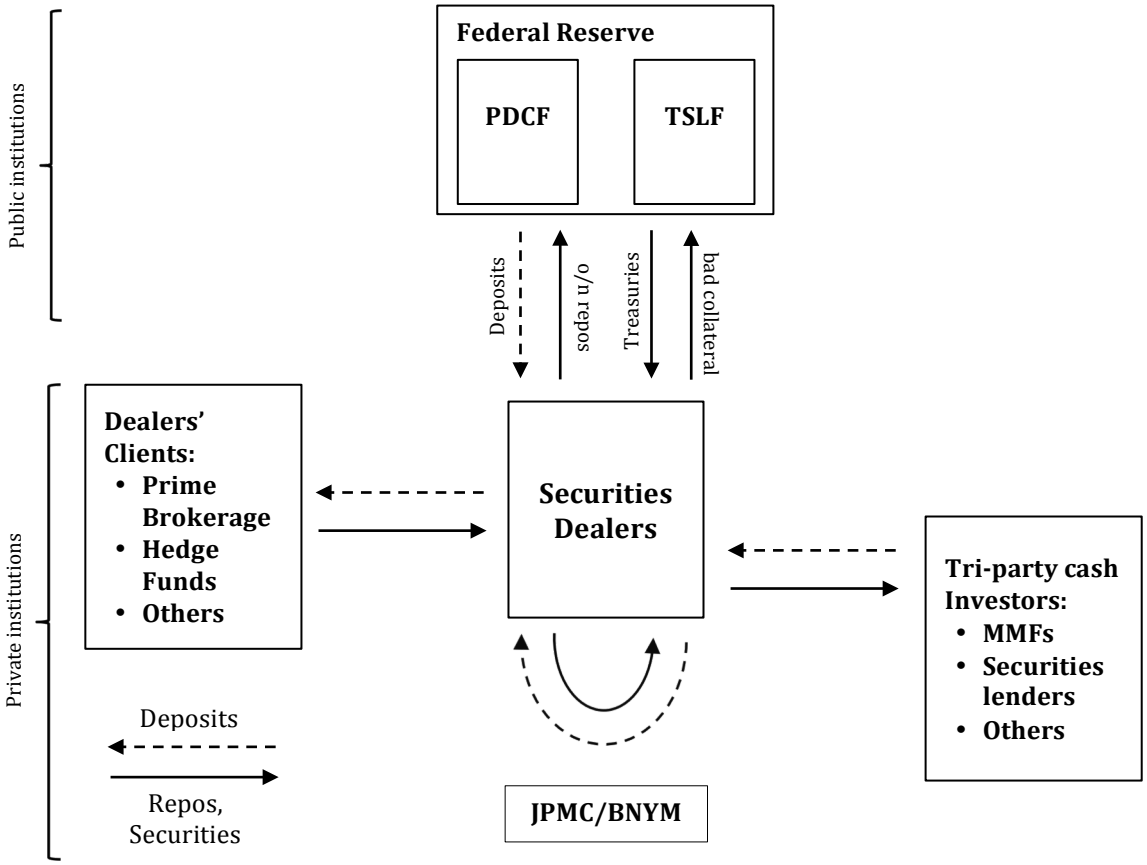

Figure 6.22—Impact of the public intervention on the tri-party repo market

The accommodation of overnight repos was possible due to the additional authority the Fed could claim to have in 'unusual and exigent circumstances', based on the Article 13(3). Those powers were the legal basis for the Fed's activity both in the cases of Bear and Lehman (Paulson 2010: 241). In this, the accommodation was clearly driven by technocrats. Consultation with the president or Congress were kept to a very low level, and rather occurred *ex post*. Treasury Secretary Paulson received enormous emergency powers from Congress to introduce the Troubled Asset Relief Programme (TARP), but this was after the liquidity facilities had been put in place (Paulson 2010). Crucial for the

accommodation was that Article 13(3) allowed Bernanke and Geithner to act in a timely manner. The technocratic nature of the accommodation was structurally embedded in the design of the Fed. In this, the accommodation of overnight repos was not directly intended. Instead, the primary objective was saving the struggling repo issuers as speculative and Ponzi units (Interview 6). Yet, the accommodation occurred because the apparent threat of a systemic collapse was so imminent that the technocratic actors were willing and able to do whatever it takes to prevent a systemic meltdown (Paulson 2010; Geithner 2014). In this case, they created a discount window for securities dealers and made it possible for them to tap the Fed's balance sheet.

As concerns the accommodation of MMF shares, the Temporary Guarantee and the AMLF were announced on the same day, both measures were closely coordinated (Paulson 2010). Driven by the Treasury, the Guarantee Programme required the president's consent—in contrast to the Federal Reserve's liquidity facilities, which did not require such approval given the central bank's independence. The AMLF was legitimized with Article 13 (3) of the Federal Reserve Act. The Temporary Guarantee was a rescue measure taken at the brink of financial collapse when policy-makers did not see any other alternative (Paulson 2010). The Treasury's press release states:

> "Concerns about the net asset value of money market funds falling below $1 have exacerbated global financial market turmoil and caused severe liquidity strains in world markets. In turn, these pressures have caused a spike in some short-term interest and funding rates, and significantly heightened volatility in exchange markets. Absent the provision of such financing, there is a substantial risk of further heightened global instability. Maintenance of the standard $1 net asset value for money market mutual funds is important to investors. If the net asset value for a fund falls below $1, this undermines investor confidence. The program provides support to investors in funds that participate in the program and those funds will not 'break the buck'. This action should enhance market confidence and alleviate investors' concerns about the ability for money market mutual funds to absorb a loss. Investors in money market mutual funds with a net asset value that falls below $1 would be notified that their fund triggered the insurance program." (U.S. Treasury 2008).

As Geithner (2014: 195) points out, the option was on the table to introduce a public liquidity backstop for MMFs by the Fed but the proposal was scrapped:

> "The Reserve Fund asked the New York Fed for help to avoid breaking the buck, but my team said no. We didn't think we could stop the run, and agreeing to their request would have amounted to an implied backstop for the entire $3.5 trillion money market industry. The Fed didn't have the legal authority to guarantee money market funds and protect their investors from losses" (Geithner 2014: 195).

The fact that the intervention by Sheila Bair was accepted underlines the assumption that the accommodation of MMF shares was unintended. The decision-makers did not take into account how their decisions would affects the monetary system (Interview 5).

Figure 6.23 highlights the impact of the Treasury's temporary guarantee and the AMLF on the MMF market. The Guarantee Program paralleled the logic of deposit insurance. As Bernanke (2013: 83) puts it: "This was an absolutely classic bank run and a classic response: providing liquidity to help the institution being run provide cash to its investors, and providing guarantees. That successfully ended the run." For this reason, it is adequate to say that MMF shares were a form of *public-private money* while the Guarantee Program was in place. While Prime money funds were mainly subject to the run, the Temporary Guarantee affected all MMF types. The AMLF, in contrast, did not grant MMFs as shadow banks access to the Fed's balance sheet. The funds it supplied in support for MMFs were distributed via banks. Hence, the Fed's facilities in this case did not contribute to the accommodation of MMF shares in the public money supply.

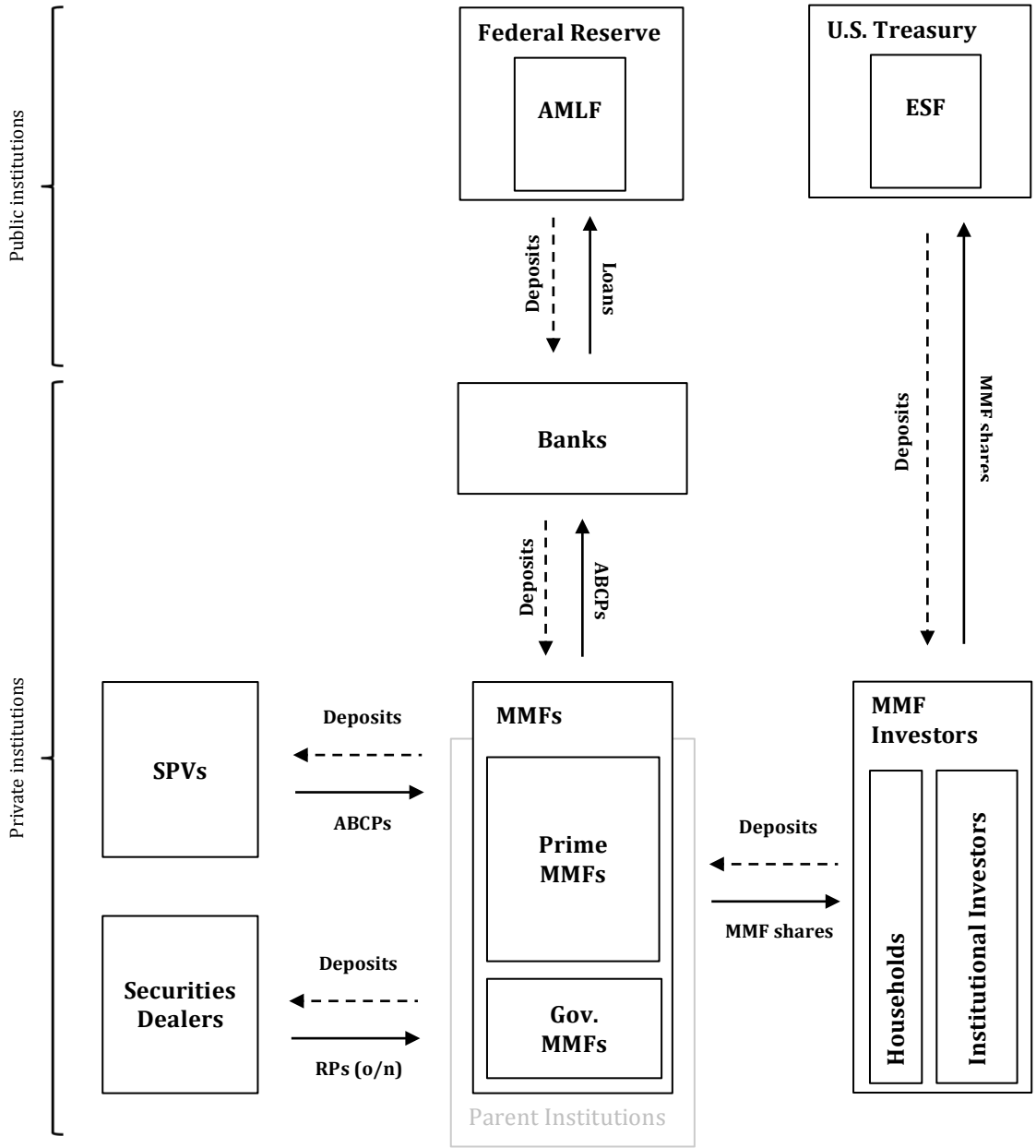

Figure 6.23—Impact of the public intervention on the MMF Market

In sum, Figure 6.24 shows how the interventions by the Federal Reserve and the Treasury brought in *ad hoc* public guarantees that overnight repos and MMF shares sustain par clearance vis-à-vis higher ranking money forms and accordingly transformed public-private setup of the monetary system.

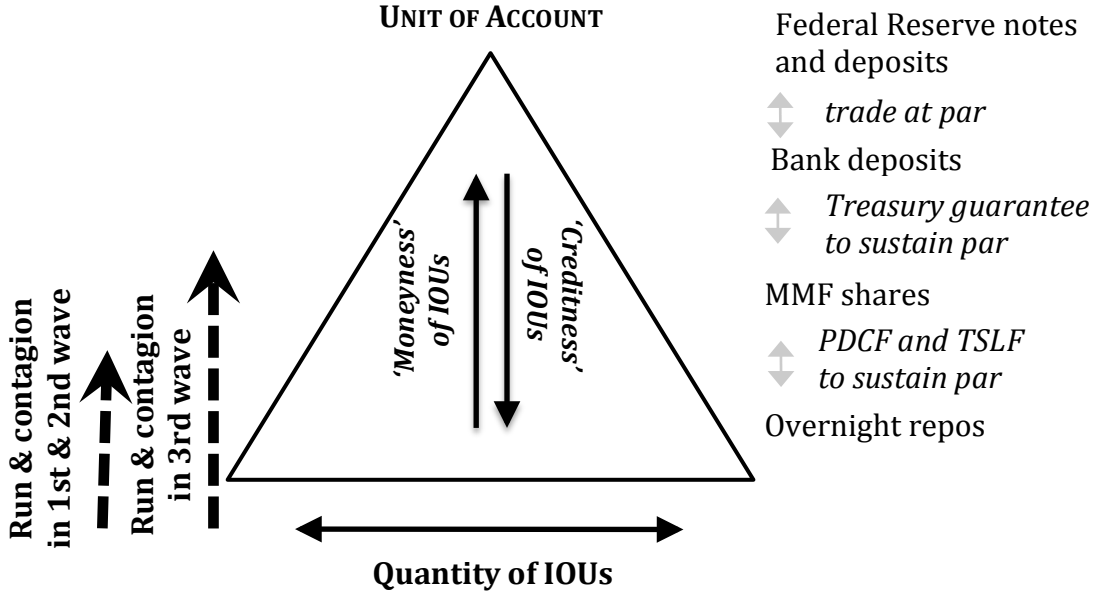

Figure 6.24—Accommodation to guarantee par for repos and MMF shares

From the functionalist logic adopted in this study, the accommodation of overnight repos and MMF shares is the consequence of the rise of the shadow banking system that started in the 1970s and brought along new forms of private credit money, which eventually attained systemic relevance. In that sense, following the introductory quote to this chapter, the 2007-9 was a crisis of the entire market-based credit system—a systemic event that exceeded the scope of some partial market segments such as those for subprime mortgages or some isolated aspects of the shadow banking 'daisy chain'. While individual financial innovations, market events and decisions of policy-makers had their share in actually bringing about the outcome of shadow money accommodation, the underlying root cause for it is the monetary system's ability to create private credit money out of nothing by swapping IOUs of different maturities. Sooner or later, this had to lead to a run on the private credit money forms and bring along the built-in necessity that, to avoid the collapse of the debt house of cards, public authorities have to backstop the private credit money system. The accommodation of overnight repos and MMF shares in 2008 was an unintended side-effect of the attempt to rescue the financial system by bailing out major financial institutions. The decision had been adopted at the highest levels of political and administrative authorities. The political willingness was derived from a doomsday scenario that was feared among politicians and technocrats, which ultimately led them to exercise the state's infrastructural power.

6.4 Conclusion

This chapter has traced the rise of ABCPs, overnight repos and MMF shares as private credit money forms or 'shadow money' with a focus on the U.S. from the 1970s, followed by the accommodation of overnight repos and MMF shares in the 2007-9 Financial Crisis via the Fed's PDCF and TSLF as well as the Treasury's temporary guarantee. This political intervention unintentionally transformed the U.S. monetary system by shifting the delineation between public and private credit money within the hybridity of the self-referential credit money system.

The chapter has applied the two-phase model of private credit money accommodation on the U.S. context in the late 20th and early 21st century as the centre of the world's financial system. It demonstrated how SPVs, securities dealers and MMFs as speculative and Ponzi units or 'shadow banks' rose sharply in quantity and systemic relevance with the concomitant processes of financial liberalization and globalization. In the 2007-9 Financial Crisis, with the three-wave run on the shadow banking system, the expansion of the credit money system reverted itself. In the first wave, the preferred market-based intervention was still sufficient to tame the run. In the second and the third wave, the Fed and the Treasury saw themselves forced to bail out securities dealers and MMFs, the still remaining shadow banks that faced an existential struggle, following the functionalist logic embedded in the credit money system which allows money creation *ex nihilo*.

What happened to the accommodated shadow money forms after the intervention? Were the accommodation and the concomitant transformation of the monetary system permanent? How did it affect the setup of the money supply as we know it today?

The backstops for MMF shares and repos had only been established for a limited period of time after the collapse of Lehman. The Temporary Guarantee Programme was in place from September 2008 to September 2009. The PDCF and the TSLF, after several prolongations, were finally shut down on 1 February 2010 (Federal Reserve 2010b). Since the heyday of the crisis, two divergent processes have been taking place: On the one hand, as the result of regulatory reforms between 2009 and 2014, the status of ABCPs and Prime MMF shares as shadow money has been abrogated. Both instruments no longer trade at par to bank deposits, hence their function as deposits substitutes for institutional investors is gone. Overnight repos and Government MMF shares, in turn, have been consolidated as shadow money under public control. Thus, the process of extending the public-private framework for deposit creation on shadow money, which had been started during the crisis, has found continuation in the post-crisis regulatory process between 2009 and 2014.

In the ABCP market, regulatory changes were introduced regarding accounting standards after the crisis that led to a strong decrease in ABCP issuance. In 2010, the "favorable risk capital treatment" has been dropped. With this decision, regulators reversed the decision taken in 2003, which had made it possible for sponsoring banks to exclude ABCPs from their risk-weight asset

base and had thus facilitated the rise of ABCP as shadow money. Hence, banks are not only forced to consolidate the ABCP-issuing SPVs onto their balance sheets, but also have to keep risk capital for the SPVs (Chen 2015: 8-10, 51). The removal of preferential accounting rules made ABCPs not only lose their status as shadow money *de facto*, but also by regulation (Interview 6).

For MMF shares, the SEC introduced a substantial distinction between Prime MMFs, which predominantly invest in private assets with floating or variable rates, as well as Government and Tax-exempt MMFs, which invest almost exclusively in public debt. The regulatory change for MMFs occurred in two main steps: the Amendments to Rule 2a-7 of the 1940 Investment Company Act in 2010 and 2014. In 2010, the SEC introduced five moderate new rules aimed at limiting the risk-taking of MMFs (SEC 2010: 10060). After the 2010 Amendment, debates emerged about whether the changes were sufficient (Lynch 2013). In November 2012, the Financial Stability Oversight Council (FSOC) suggested on the basis of its authority granted by the Dodd-Frank-Act that the SEC should implement further reforms. In June 2013, the SEC published two alternative proposals: One suggested that all non-government MMFs should introduce a floating net asset value (NAV) and thus abandon the guarantee to trade their shares at par. The other foresaw the introduction of a two percent withdrawal fee for Prime MMFs if their five-day liquidity dropped below 15 percent of its total assets (SIFMA 2015). In 2014, the SEC adopted both options—floating NAV and withdrawal fees (SEC 2014)—and made Prime MMF shares lose the status of shadow money.

In contrast to the de-monetisation of ABCPs and Prime MMF shares, Government MMF shares and overnight repos sustain par vis-à-vis bank deposits. An apparent consequence of the explicit emergency backstops' expiration would be to assume that public authorities no longer adopt responsibility for par clearance of Government MMF shares and overnight repos. However, as indicated in a number of interviews, scholars, regulators and market participants are of the opinion that the backstops are still implicitly in place and could be re-enacted by the Fed and the Treasury any time if necessary (Interviews 1, 4, 6 7). While the Dodd-Frank-Act—the main political response to the 2007-9 Financial Crisis—makes it more difficult for the Fed to invoke its Article 13 (3) emergency powers, there is still the possibility to do so. The Fed could not implement measures on the basis of those powers again as a purely technocratic decision but would require political permission; still, everybody expects that in times of extreme financial strain, it will very quickly receive such permission (Interview 1). As to MacDonald (1996: 8-11), implicit guarantee schemes—though not legally equivalent—are comparable to explicit ones as they have the same economic and functional effects. While an explicit guarantee scheme would be established by a law that lays out in detail who is entitled to what under which circumstances, an implicit guarantee scheme allows public authorities to decide about protection on a case by case basis, leaves flexibility and reduces administrative costs. This applies to the Treasury's guarantee for MMF shares as well as the PDCF and the TSLF. Therefore, government MMF shares and overnight repos may be considered as still implicitly backstopped.

Moreover, the Fed's Reverse Repo Facility (RRP) is an institutional innovation that functions as an explicit permanent backstop for overnight repos. The Fed established the RRP in 2013 as a novel tool to regain control over the federal funds rate at the zero lower bound. It is an overnight, risk-free instrument to which not only banks but also MMFs and securities dealers have access. A transaction via RRP 'is economically similar to the Federal Reserve borrowing from a counterparty, with the loan secured by collateral from the Federal Reserve's security portfolio (Frost et al. 2015: 6). Primarily, RRP was intended to be a monetary policy tool. An alternative, albeit contested (Interview 1), interpretation is that the RRP represents the continuation of the Fed's dealer of last resort function—with the Fed acting as an alternative dealer that tri-party repo counterparties could turn to (cf. Figure 6.25). As to McCulley and Pozsar (2014), RRP "gives shadow banks an account at the Fed, similar to the reserve accounts that deposit-taking institutions keep there" In December 2015, after some experimenting, the Fed turned the RRP into a full-allotment facility (Boesler and Condon 2015) and made the backstop unlimited.

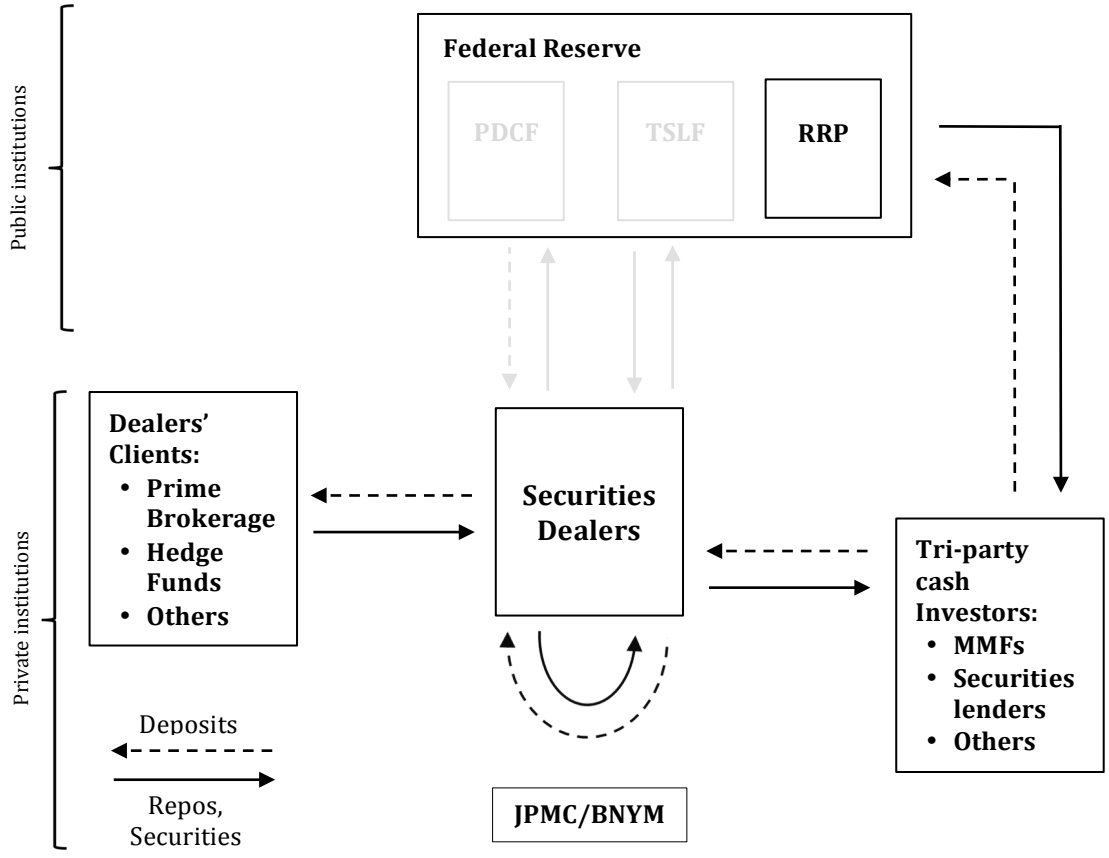

Figure 6.25—Implicit backstops for overnight repos and RRP

In post-crisis regulation, there were considerations to set much tighter standards for the issuance of Government MMF shares and overnight repos, but the actual regulatory changes implemented remained rather marginal: For overnight repos, on the one hand, some new regulations have been passed, most importantly the introduction of the Supplementary Leverage Ratio which forces securities dealers to keep a minimum ratio of capital to total assets of five

percent (Duffie 2016). Still, more far-reaching reforms—e.g. to reduce the possibility of fire sales, to control the setting of haircuts or to manage collateral constraints—did not materialize although the FSB had made repo regulation a priority in their post-crisis reform agenda (Gabor 2016). For MMFs, on the other hand, the Group of Thirty—a private body of financial experts—called for prudential regulation and supervision next to explicit government insurance and access to central bank liquidity if they wanted to issue shares trading at par to deposits (Fink 2011: 254). In 2012, Mary Schapiro—Chair of the SEC from January 2009 to December 2012—proposed to make MMFs more bank-like by introducing capital buffers. However, the FSOC with its intervention forced Schapiro to drop the proposal (Lynch 2013). As a consequence of the SEC's 2014 decision, Government MMF shares remain functionally equivalent to deposits as they keep their constant net-asset value, but are regulated differently. Finally, Ricks (2016) has brought forth his r-currency proposal, which would make the issuance of the remaining shadow money forms dependent on public licensing and thus turn them into *pure public money.* He thus effectively calls for a version of the 1844 Bank Charter Act or the 1933 Chicago Plan applied on today's shadow money supply.

Figure 6.26 demonstrates the effect that the post-crisis regulatory reforms had on the remaining shadow money forms which defines the status quo of the monetary system today. The decisive step towards this status quo of today's empirical setup of the money supply were the emergency interventions of the Federal Reserve and the Treasury that, by accommodating overnight repos and MMF shares, induced a profound transformation of the monetary system.

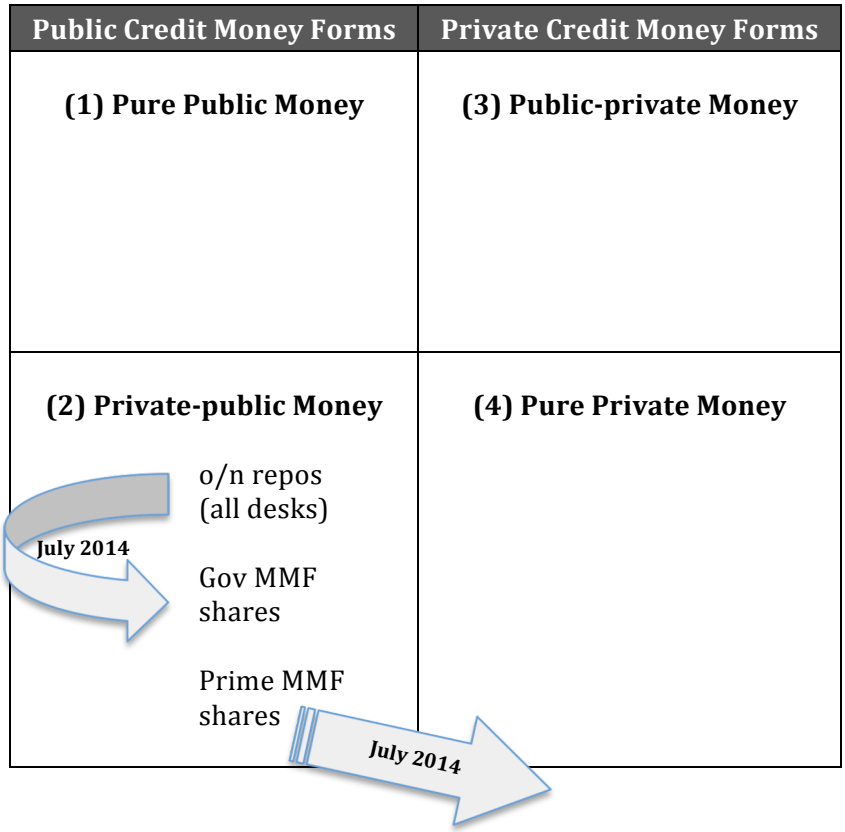

Figure 6.26—Re-regulating the shadow money supply in 2014

Chapter 7
Discussion: Accommodation Theory in the Framework of IPE

> "In a parliamentary debate on Sir Robert Peel's Bank Act of 1844 and 1845, Gladstone remarked that not even love has made so many fools of men as the pondering over the nature of money. He spoke of Britons to Britons. The Dutch, on the contrary, who, from times of yore, have had, Petty's doubts notwithstanding, 'angelic wits' for money speculation have never lost their wits in speculation about money" (Marx 1859 [1904]: 73).

7.1 Introduction and plan of the chapter

This chapter summarizes and compares the findings of the theoretical and empirical parts of this study, discusses their role as a contribution to the field of IPE, elaborates on implications of the approach based on analyticism and functionalism, and sketches venues for future research.

The primary objective of this study has been to identify, flesh out and empiricize private credit money accommodation as a historically repeating political-economic phenomenon that has an impact on the transformation of the monetary system and can provide a genealogy of the way in which the contemporary credit money supply is set up. As Chapter 1 has argued, the absence of both private money and credit money, conceptually speaking, is a significant gap in the IPE body of literature on money and the monetary system's transformation—especially bearing in mind that accommodation of private credit money as a form of state intervention is a phenomenon *par excellence* for IPE to study as it represents a very peculiar overlap of politics and economics. The gap in the IPE literature has pointed to the need of "pondering over the nature of money". As depicted in the introductory quote taken from Karl Marx's *Contribution to the Critique of Political Economy*, such pondering is not unknown to the British intellectual tradition, and therefore may be legitimate, or at least forgiven, in the field of British IPE. Chapter 2 has pondered accordingly and developed the notion of the monetary system as a self-referential network of expanding, yet instable debt claims—an assessment that lies at the heart of the functionalist accommodation theory developed in Chapter 3.

Following up on the previous theoretical and empirical chapters about private credit money accommodation, this chapter presents a discussion as well as a critical reflection of their main findings and results. The specific setup of the study—in line with the research paradigm of 'analyticism' in the Weberian tradition (Jackson 2011)—has brought along very specific 'degrees of freedom' regarding some typical issues in contemporary social science research—e.g. posing relatively broad research questions, choosing the conceptual framework of a market-based credit theory of money, building an ideal-typical theory and conducting the empirical research by developing an analytical narrative. This has

allowed to approach the monetary system's transformation from a somewhat unconventional—if not: idiosyncratic—angle and may have yielded some innovative insights that advance our understanding of institutional change in the monetary system, both in the past and today. They prepare the ground for follow-up research, using either the theoretical or the conceptual work of this study as a starting point. Still, within a framework of mind-world monism and essentially qualitative, narrative research, they are likely to be confronted with charges of being subjective and hardly generalizable. However, in line with Jackson's ideal for a pluralism of research paradigms (ibid: 210), this chapter argues that those issues may be remedied by approaching the matters again from a different methodological angle.

The chapter is organized as follows:

Section 7.2 provides a comparative summary of the empirical findings in the three case studies about the accommodation of bank notes, bank deposits and shadow money. By discussing its similarities and differences, it highlights empirical variations of the ideal type and stresses what is distinctive about each instance of accommodation.

Section 7.3 points out the contribution the study makes to the field of IPE with regard to describing and explaining the transformation of the monetary system. It highlights three main aspects: presenting a historical genealogy of the monetary system, bringing in innovative tools for the conceptual apparatus and developing a distinct functionalist explanatory approach.

Section 7.4 discusses a number of implications of the analyticist research paradigm and the functionalist explanatory approach that affect the status of the accommodation theory developed in this study. These issues refer to negative case as well as a possible underappreciation of the role of the state when it comes to establishing new forms of private credit money.

Section 7.5, in turn, presents venues for a further research agenda for IPE. Building on this study, the follow-up processes after the accommodation of private credit money may be scrutinized more in detail, especially regarding the re-regulation of the monetary system, international spill-overs as well as new mechanisms for monetary governance. Building on the Money View framework, in turn, other empirical objects of analysis may be addressed such as the International Monetary System or the European Monetary Union.

Section 7.6 concludes.

7.2 Comparative summary of the findings

As argued in Chapter 3, the ideal-typical response to the two research questions guiding this study can be given as follows:

RQ1: How does private credit money accommodation affect the transformation of the monetary system? *Private credit money accommodation transforms the public money supply by shifting the delineation between public and private credit money. It is preceded by a long period of financial stability during which private profit-oriented institutions conduct financial innovation. They develop novel short-term IOUs, which eventually become private credit money as they establish par clearance vis-à-vis higher-ranking money forms and attain systemic relevance as they grow in size, interconnectedness, non-substitutability and complexity. The private credit money form is accommodated at a very specific moment in time that coincides with a 'Minsky moment', i.e. a systemic financial crisis, when public balance sheets are used to create backstops against the illiquidity and insolvency of the defaulting institutions that have issued the systemically relevant credit money form.*

RQ2: Why is private credit money accommodated in the public money supply? *Private credit money accommodation is driven by the very own properties of the monetary system itself, notably its ability to create credit money out of nothing. As a self-referential network of expanding, yet instable debt claims, the monetary system's ability to bring forth new forms of private credit money sooner or later leads to an imminent threat of implosion. This creates the necessity for political authorities to bail out the struggling institutions that issue the systemically relevant private credit money form. As private agency dominates during the rise of the systemically relevant private credit money form, public actors only react* ex post *to the technical necessities in a crisis to prevent a systemic meltdown. The accommodation—i.e. the transformation of the monetary system that induces a change in the public-private setup of the money supply while exercising the state's infrastructural power—is the unintentional side-effect of those bail-outs, decided upon on the highest level of government under extreme time pressure and uncertainty while fearing a doomsday scenario for the financial system and the wider political economy.*

These findings—as Chapters 4-6 have demonstrated—are reflected in all three cases under scrutiny in this study. They are the historical manifestations of the ideal-typical process, yet with empirical variations.

The rise of bank notes as a private credit money form began with the Bank of England's foundation in 1693. From the 1750s onwards—during the Industrial Revolution—the use of country bank notes became more wide-spread. They are thus the private credit money form of the Industrial Revolution, created in the technological and political context of the 17th and 18th century. Bank deposits had historically been developed even before bank notes, but were barely used in transactions. They only gradually emerged as a private credit money form in the mid-19th century, after the accommodation of bank notes. Despite the prevalence of central banks as private institutions, deposit creation

was not publicly backstopped. In terms of their complexity, global interconnectedness and technological implications, both bank notes and bank deposits are substantially different than the shadow money forms of the late 20th and early 21st century. ABCPs, overnight repos and MMF shares developed in the 1970s in the context of financial liberalization. The issuing institutions found advanced ways to make them directly compete with bank deposits, among others by using innovative accounting rules to induce par clearance.

All types of private credit money that were later accommodated—i.e. Bank of England notes, bank deposits, overnight repos and MMF shares—had become an indispensable part of the money supply at the point in time when a systemic crisis emerged with a run on the issuing institutions. They all existed next to other, more insecure forms of private credit money, namely country bank notes, trust deposits and ABCPs. The emergence of the runs was typically connected to those lower-ranking forms of shadow money and led to an upwards contagion within the hierarchy. However, while bank notes were accommodated before the run fundamentally affected the Bank of England as the key issuer of the systemically relevant credit money form, bank deposits only were accommodated after many runs had taken place and par vis-à-vis higher-ranking money was broken over and over again. Overnight repos and MMF shares, in turn, were accommodated at the very peak of the run.

The bank note accommodation occurred in February 1797 when the convertibility of Bank of England notes into gold was suspended. Instead, a liquidity backstop was established via the legal proclamation that Bank of England notes were a promise to pay nothing else but themselves, and a solvency backstop was created via the government's guarantee to accept an unlimited amount of Bank of England notes for tax payments. In this, the 'paper credit' (Thornton 1802) of the Bank of England—which at that time was a private institution—was shifted from the private to the public credit money realm. Crucially, Bank of England notes were made equivalent to the fictional unit of account and turned into its primary representation. This accommodation via legal proclamation differs from the accommodation of bank deposits and shadow money. In those cases, public authorities guaranteed par clearance vis-à-vis higher-ranking forms of money but did not turn them into the highest-ranking form of money.

Accordingly, the accommodation of bank deposits in the U.S. occurred in March 1933, at the peak of the multi-wave banking crisis during the Great Depression when runs on commercial banks took place all over the country. To calm down that systemic crisis, newly elected President Franklin D. Roosevelt adopted unprecedented measures, declared a National Banking Holiday and, by passing the Emergency Banking Act and holding his First Fireside Chat in March 1933, announced an implicit 100 percent government guarantee for bank deposits. This, in effect, created a public solvency backstop for deposits. In addition to putting the Federal Reserve System under federal control and massively extending its lender-of-last-resort responsibilities, this amounted to an accommodation of bank deposits which guaranteed par clearance vis-à-vis bank notes.

The accommodation of shadow money materialized in the U.S. during the 2007-9 Financial Crisis when the Fed and the U.S. Treasury in a coordinated action established novel liquidity and solvency backstops for those financial instruments. The PDCF and the TSLF created a discount window for overnight repos whose issuers—so-called Securities Dealers—could then directly tap the Fed's balance sheet. In addition, the Temporary Guarantee Program for MMF shares was an explicit 100 percent government guarantee for MMF shares. Those actions were taken after failures of Bear Stearns and Lehman Brothers in March and September 2008, which led to a system-wide run on the shadow banking system, and established guarantees for par clearance vis-à-vis deposits.

The decisions that accommodated the respective credit money forms were all taken at the highest level of executive authority, yet with variations in the respective historical contexts. In all three cases, they were connected to enormous time pressure, taken in the presence of a doomsday scenario and materialized as unintended side-effect of bailing out the issuing institutions.

In line with this assessment, firstly, the decision to stop the convertibility of Bank of England notes was taken via an Order of the Privy Council at an improvised meeting during a nation-wide bank run and was implemented overnight. As the Privy Council feared that the Bank of England could face bankruptcy in the middle of a war against the arch-enemy France, it was willing to take unprecedented measures to rescue the domestic monetary and financial system. Prime Minister Pitt was in the lead for deciding to bail out the Bank of England. The accommodation of the systemically relevant Bank of England notes was the unintentional side-effect.

The decision to announce the deposit guarantee and fundamentally alter the Federal Reserve System was taken only days after President Roosevelt had taken over office when the scale of banks defaulting had reached the level of an unparalleled systemic crisis. The bank runs of the Great Depression materialized in a secular decline of confidence in deposits and continuous attempts to permanently convert them into higher-ranking money forms. While the idea of public deposit insurance had been debated repeatedly in beforehand, it could only be implemented under improvised circumstances and after the EBA had granted President Roosevelt quasi-dictatorial powers. He was able to bypass Congress, which had a long history of objecting to deposit insurance. All aspects of the implicit deposit guarantee came from the administration. Some were based on the formal powers the administration had implemented in the EBA, whilst others were just due to the government's informal authority.

The decision to establish the Fed's emergency facilities and the Treasury's temporal guarantee in the 2007-9 Financial Crisis was taken during conference calls among Ben Bernanke, Timothy Geithner and Hank Paulson with only a few high-level members of staff involved. The Fed was only able to establish its innovative facilities by invoking its emergency powers, which it had never used before in its history. In the run, a complete systemic meltdown could only be avoided by publicly backing the defaulting institutions and in this, as a side-effect, integrating shadow money in the public money supply.

This comparative summary demonstrates that, in sum, each case of accommodation has its distinctive properties with which it diverges from the ideal type and, despite common features, is a unique event in its own right. The function performed by accommodation occurs in different forms and contexts: Case I differs from the cases II and III insofar as the accommodation materialized at the top of the hierarchy. The public guarantee to maintain par clearance of bank notes thus refers to the connection between the credit money form and the unit of account. In the cases of bank deposits and shadow money, this guarantee relates to the connection of the respective credit money form with higher-ranking money and thus take place within the existing hierarchy of money. Case II is distinctive because the public intervention here came very late and only after years of erosion in the credit money system. Case III, in turn, differs from the other cases not only in that two rather different credit money forms have been accommodated and that the process of post-crisis regulation is still ongoing. More importantly, with the accommodation of repos, public authorities have assumed responsibility for guaranteeing par clearance of a *collateralized* debt instrument. This brings along two very different notions of how to interpret its 'accommodated' state. On the one hand, it relates to the aspect that securities dealers as issuers of repo credit money receive a backstop for their funding liquidity, which paralles the other cases of bank notes, bank deposits and MMF shares; this is what the case study in Chapter 6 has focused on. On the other hand, accommodation in the repo case can also refer to public authorities assuming responsibility to safeguard the market liquidity of the underlying collateral. This is an interpretation of repo as shadow money that comes from the analytical perspective of Gabor and Vestergaard (2016) who stress the key role of collateralized lending in the repo case. This second aspect puts a nuance to what it means that a credit money form has been accommodated, which has not been accounted for in the ideal typical model of Chapter 3 and points to the limitations of this ideal type.

7.3 Accommodation theory as contribution to IPE

This study about the political economy of private credit money accommodation as a historically repeating mechanism that transforms the monetary system contributes to the IPE literature in various facets. This section highlights three of them.

First, applied on bank notes, bank deposits and shadow money as the relevant cases, the accommodation theory provides a historical genealogy of the credit money system and contributes to explaining the institutional setup of today's monetary system—a seemingly opaque amalgam of credit instruments issued by both public and private financial institutions. Figure 7.1—taken from Murau (2017)—depicts today's Money Matrix since 2014. Accordingly, today's public money supply is made up of central bank liabilities (i.e. currency and central bank deposits), commercial bank liabilities (i.e. insured bank deposits), securities dealers' liabilities (i.e. repos of the government and the credit desk) and MMF liabilities (i.e. Prime Money Market Fund shares). As can be argued on the basis of this study, this very setup of the contemporary public money supply is the result of past processes of private credit money accommodation. Bank notes, bank deposits, repurchase agreements and Money Market Fund shares first emerged as forms of private credit money. Then, in a systemic crisis, public authorities—by exercising the state's infrastructural power—shifted them in the public credit money realm by setting up an *ad hoc* public framework to sustain their par clearance vis-à-vis higher-ranking money forms.

Public Credit Money Forms	Private Credit Money Forms
(1) Pure Public Money Central Bank liabilities • Currency (Notes, Coins) • Central bank deposits	**(3) Public-private Money**
(2) Private-public Money Commercial bank liabilities • Insured bank deposits Securities dealers' liabilities • RPs (o/n) of government desk • RPs (o/n) of credit desk MMF liabilities • Shares of Government MMFs	**(4) Pure Private Money** Commercial bank liabilites • Uninsured bank deposits

Figure 7.1—The contemporary empirical Money Matrix

Second, being based on the analytical language of the Money View, the accommodation theory brings in innovations to the conceptual apparatus of IPE with regard to money and the monetary system. Following the logic of a market-based credit theory of money, the theory goes beyond simple notions of 'fiat money' according to which the money supply is simply under the control of the state and money is declared to be money due to the simple exercise of state power. Instead, the study theorizes that today's public money—which may *appear* to the observer as 'fiat money'—is accommodated former private credit money. Moreover, the approach adopted in this study suggests thinking of 'state money' or 'public money' not as 'outside money' but as a form of 'public inside money'. The money issued by the central bank is therefore still credit, but a debt that does not have to be repaid. Within the hybrid setup of the monetary system, '*public* inside money' co-exists next to '*private* inside money'. As the empirical chapters have demonstrated, private money creation is and has been an integral part of the way in which the monetary system operates. It is not just an anomaly at some historical stages of the monetary system but the very heart of the matter. The money supply is essentially a hybrid. While political actors repeatedly attempt to constrain or abrogate private credit money creation, private issuing institutions usually find ways to create private money substitutes, either by circumventing restrictions for existing private credit money forms or by innovating new private IOUs outside the regulatory scope which may eventually become private credit money themselves. Kindleberger describes this process as a *perpetuum mobile*. Within this framework, we may think of central banking as both the direct management of this '*public* inside money' and the indirect management of '*private* inside money'. In sum, the study contributes to the IPE literature its notion of the modern monetary system as a self-referential network of expanding, yet instable, debt claims.

Finally, the study develops a distinct functionalist explanatory approach and feeds it into IPE's body of literature on institutional change in the monetary system. The underlying logic of the accommodation is derived from the inherent ability embedded in the credit money system to create money out of thin air. The monetary system is perceived as a self-referential network of expanding, yet instable debt claims that has been called into being with the English financial revolution and extended its scope ever since. Bearing in mind that the rise of the—initially private (!)—credit money system coincided with the emergence of capitalism as a socioeconomic formation in the context of England's Industrial Revolution, its property of being both expansionary and instable may be framed, in Marxian terms, as one of capitalism's 'inherent contradictions'. The debt network is inevitably prone to expand and to contract. To avoid its implosion in a systemic financial crisis, policy-makers are confronted with the technical necessity to contribute to the system's self-preservation and do whatever it takes to bail out the issuers of private credit money. Thus, the political economy of private credit money accommodation follows a functionalist logic that has manifested itself in bank notes, bank deposits and shadow money. It may be positioned as a fifth explanatory strand in the IPE discourse next to realism, liberalism, constructivism and structuralism (cf. Chapter 1).

7.4 Implications of analyticism and functionalism

Working within the analyticist research paradigm and adopting a functionalist understanding of the mechanics of the credit money system, the study has been able to generate a range of theoretical and empirical insights about the political economy of private credit money accommodation. Still, the use of analyticism and functionalism brings along some implications and limitations. In particular, this refers to the role of negative cases and more autonomous state agency. Taking the results of this study as a reference point, these aspects may be addressed by conducting complementary research that uses a modified research paradigm or chimes in with an alternative explanatory approach.

First, with regard to its case selection, the study has only taken into account those instances in which private credit money has actually been accommodated in the public money supply. It leaves out negative cases, in which a run on private credit money has taken place but an accommodation did not materialize. This refers to crises connected to one of the private credit money forms under scrutiny in this study (e.g. previous runs on bank notes and bank deposits before 1797 and 1933, respectively) as well as to crises of other credit instruments that functioned as private money substitutes, even if they may not have fully satisfied the Money View criteria to count as 'private credit money'. Kindleberger (1973 [2005]: 64-66) lists an extensive number of instances in which private credit money was created. For example, he refers to bills of exchange as substitutes for silver in the triangular trade between the United States, China, and the United Kingdom; clearing house certificates in London and New York in the mid-19th century; the French *reportage* system that provided credit through a system of delayed payments for stock exchange transactions; negotiable certificates of deposits, which developed after World War II in the U.S. and resembled Austrian *Cassenscheine*, an instrument invented in the 1870s.

Omitting such negative cases from the case selection is due to the analyticist research paradigm that this study has adopted. Following a Weberian tradition, it is tailored towards carving out private credit money accommodation as an ideal-typical phenomenon. Using analytical narratives and configurational types of causation, it has sketched the path that led to a specific outcome—namely, the accommodation of bank notes, bank deposits and shadow money as historical forms of private credit money. This has been conducive to generating insights about private credit money accommodation as a repeating phenomenon that fundamentally transforms the setup of the monetary system. Moreover, it has uncovered similar patterns in all the three cases studied that deliver an explanation for why this happened.

From a 'neopositivist' perspective (cf. Jackson 2011), an approach that ignores the use of negative cases and thus has no variation across the cases entails a selection bias. Accordingly, the case study design does systematically take into account similar cases in which a private credit money form came into a crisis and became subject to a run, yet without an accommodation that followed suit. This hampers the significance and the generalizability of the explanation that has been established for the accommodation phenomenon. Neo-positivists

may raise the objection that the accommodation theory follows the *post hoc ergo propter hoc* rationale and is, at its very essence, a tautological argument. Such criticism, however, can be remedied. A complementary analysis could seize the concept of private credit money accommodation that has been developed in the analyticist paradigm, go beyond the small 'N' case design, compile a data set on crises of (systemically relevant) private credit money forms and, by isolating possible causal factors, study systematically which factors may be identified as responsible for the (non)accommodation. The findings brought forth in this study may be used as hypotheses that are to be tested.

Second, an implication of the accommodation theory with its focus on market dynamics is that it places little emphasis on the role of the state in the pre-accommodation phase. On the one hand, the focus on market forces in phase I of the accommodation model is due to the choice of a market-based credit theory of money as conceptual lens and may be objected from a Chartalist point of view. As Chapter 2 has argued, the antagonism between market- and state-based monetary theory—exemplified by the opposition of the Money View and Modern Monetary Theory—permeates the history of monetary thought and is not so much an empirical question but rather a matter to be discussed *a priori*, on the level of monetary theory. The functionalist accommodation theory has purposefully adopted the standpoint of the former and relies axiomatically on the reader's acceptance of this lens.

On the other hand, with its functionalist explanatory approach, the study has not systematically investigated into other potential factors that may contribute to the rise of private credit money such as economic ideas or the role of lobbying by powerful financial interests. Critical readers who wish to stress the 'political' in the IPE discipline may contend that public actors have empirically supported the rise of private credit money forms in a much more substantial fashion than presented in phase I of the accommodation model. For example, it may be argued that in the case of shadow money, regulatory decisions have driven the expansion of tri-party repo, notably by the SEC, the Fed or the legal system (cf. e.g. Garbade 2006). Such decisions certainly have played a role, and maybe were even critical for the emergence of new private credit money forms to materialize in the very specific way that we determine *ex post* (cf. Chapter 6). Further work will be needed to investigate how the functionalist logic suggested in this study interacts with other explanatory approaches. An argument that may be brought forth to defend the functionalist reasoning against other explanatory approaches (cf. Chapter 1) is that if the actual regulatory decisions had been made differently, private profit-driven companies would nevertheless have found a way to come up with new IOUs, which eventually adopt the role of private credit money and further extend the self-referential debt network. Hence, despite public facilitation in setting up new private credit money forms, the underlying motive comes from private interests in profit-making and private agency.

7.5 Venues for further research

By developing the functionalist political economic theory of private credit money accommodation, this study has laid the foundation for a future research agenda in IPE. Follow-up work on the political economy of private credit money may use Chapter 3, the two-phase accommodation model, as a starting point and carve out processes that take place in a third phase (7.4.1). Moreover, Chapter 2 on the Money View as a conceptual lens for IPE, offers the potential for further empirical research targeting other objects of analysis (7.4.2).

7.5.1 Studying the post-accommodation phase

The accommodation of a credit money form in the public money supply is a crisis phenomenon. Once it has been completed as *ad hoc* backstops against illiquidity and insolvency have been established, different follow-up processes set in that may be studied in more detail, amounting to a third phase of the accommodation model. Such a third phase could involve systematizing elements such as the re-regulation of the public money supply, the development of new tools for monetary governance and the international spill-over of the accommodation from the centre to the periphery.

A first aspect to be studied is the process of re-regulating the monetary system after an accommodation. While each empirical chapter of this study has pointed out some major events in monetary history that affected the accommodated credit money form, it was beyond the scope of this study to systematize and model how the re-regulation process takes place in detail. Accordingly, the regulatory process for bank notes in England took several decades, centred around various parliamentary committees and debates on monetary theories, and finally resulted in the 1844 Bank Charter Act, which established a note issuing monopoly for the Bank of England and banned country bank notes. In the case of bank deposits, the main regulatory decisions were taken only months after the accommodation by passing the 1933 Bank Charter Act, which established the Federal Deposit Insurance Corporation and separated commercial banking from investment banking. While this act was perceived as merely preliminary by many observers and many hoped that by implementing the Chicago Plan, a similar step would be taken for deposits as with notes in 1844, this never materialized. As concerns shadow money, the regulatory process may still be regarded as ongoing although major steps have been made already by U.S. regulatory agencies, e.g. the Securities and Exchange Commission.

In terms of the Money Matrix, as Figure 7.2 demonstrates, four different outcomes can potentially emerge as the result of this regulatory process:

1. The credit money form becomes *pure public money* by putting the issuing institution(s) under public control.
2. The credit money form remains *private public money* by keeping the liquidity and solvency backstops for the private issuing institution(s) and enacting rules for regulation and supervision.

3. The credit money form becomes *public-private money* or *pure private money* again by removing the liquidity and solvency backstops for the issuing institution(s) while par is sustained. The accommodation is then reversed.
4. If the credit money forms breaks par vis-à-vis higher-ranking forms of money, it loses its status as money substitute (i.e. is "de-monetised"), becomes just as any other private IOU and drops out of the Money Matrix.

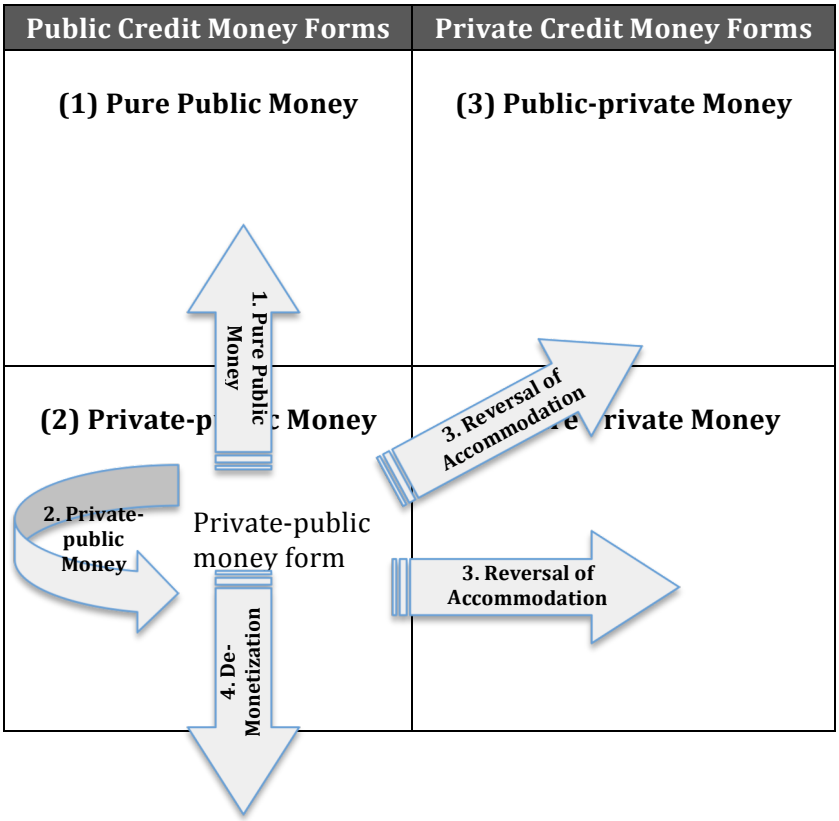

Figure 7.2—Regulation of the credit money form after the accommodation

The regulatory process involves political deliberations that may take place over varying time horizons and incorporate a variety of actors and interest groups in various political arenas (parliament, regulatory bodies, expert committees, public debates etc.). In this, it remains an open question what the decisive factors are that determine which outcome ultimately eventuates. Follow-up research to this study may inquire into this mechanism that goes beyond the functionalist logic of the immediate crisis response by the highest political authorities. From the stance of liberal IPE theories, for example, it will be worthwhile inquiring into the interest groups involved that will undertake lobbying efforts to steer the regulatory process in their preferred direction and seek to influence decision-makers in the competent political arenas ('liberal discourse'). Constructivists, in turn, may wish to focus on the role ideas and monetary theories play in the aftermath of an accommodation. Among scholars, journalists, business and finance practitioners, politicians and intellectuals, a struggle is likely to emerge about the adequate way of conceptualizing the credit money form. Those debates may be framed as an 'ideational discourse'.

A second avenue for research on post-accommodation processes is the development of new theories and tools for monetary governance. Since the accommodation implies that a formerly private IOU is dragged under the control of public authorities, they have the opportunity to develop new strategies to exercise power over the issuance of those credit money forms. In particular, it stands to reason to ask how the accommodation affects the theory and practice of central banking and monetary policy. With regard to bank notes, it became the dominant idea for monetary governance in the mid-19th century that they should only be issued by the Bank of England and no longer be a private debt certificate denominated in gold as unit of account but a gold certificate issued in a fixed relationship to the actual amount of gold held in the Bank of England's vault. In the case of bank deposits, the accommodation coincided with theories about the 'deposit multiplier', which suggested that the commercial banks' deposit creation is a function of central bank behaviour. This became a guiding idea for modern monetary policy theory. With regard to shadow money, debates about how to organize monetary governance are still in their infancy but are likely to become topical in the near future. In the repo case, for example, we may expect conflicts between the public authorities' function to provide funding liquidity to securities dealers in a classical lender of last resort manner and to secure market liquidity for the underlying collateral, not the least as these interventions are likely to have pro-cyclical effects on the credit money system.

A third process to be researched is how the re-design of the public money supply spills over from the apex of the international monetary system, where the accommodation took place, to peripheral monetary jurisdictions. That such an international spill-over is likely to take place has only been hinted at but not fleshed out in this study. The accommodation of bank notes was adopted by numerous European countries throughout the 19th century, and the U.S. followed suit with the National Banking System, established during the Civil War. Publicly backstopping bank deposits with publicly organized insurance schemes became the norm throughout the 20th century; most European countries created explicit insurance schemes whereas others—most notably the United Kingdom—relied on implicit schemes for a long time. The accommodation of shadow money spilled over directly to other jurisdictions due to the international entanglement of the shadow banking system. In particular, the Federal Reserve's policies had immediate impact on the other key financial systems, not the least due to the central bank swap lines called into being during the crisis. This element of policy diffusion may be the subject of further analysis from various perspectives, e.g. the international financial governance literature. While this study has focused on the national level in order to theorize the mechanism through which accommodation happens, future research could explore how, when and if the accommodation travels internationally. In this, it stands to reason to assume that there is no automatism involved for the accommodation to transgress through the international financial system. However, since the regulations in the apex have major implications for peripheral segments of the international payments system, it seems plausible that the periphery will sooner or later comply with the institutional innovations. This may either occur due to explicit legislative decisions or it will be implemented by administrative bodies.

7.5.2 Applying the Money View lens on other topics relevant to IPE

An additional starting point for further research is the elaboration of the Money View into a conceptual lens for IPE brought forth in Chapter 2. Its insights as a market-based credit theory of money as well as its analytical toolkit may be applied on other objects of analysis. IPE scholarship, as Chapter 1 has argued, is largely subject to the Essentialist and the Chartalist bias. This implies, on the one hand, that IPE implicitly tends to apply the logic of a monetary theory of credit, which e.g. oversimplifies the relation between money and credit and thus misses elementary aspects of the 'financial plumbing' in the monetary system. On the other hand, IPE rather follows a state-based monetary theory, which often leads to a one-sided representation of the role as well as the power of state authority in the monetary system. The Money View, in turn, offers a coherent conceptual framework to broaden the notions of money and finance in IPE and to go more into depth with regard to the actual financial plumbing. Two topics stand out to be approached from a distinct IPE-Money View perspective: the International Monetary System (IMS) and the European Monetary Union (EMU).

First, it is a common perspective in IPE that since the collapse of the Bretton Woods System, the IMS has lacked proper system-like qualities. The typical rationale is that under Bretton Woods, there was a politically agreed upon exchange rate arrangement between the participating states which was enforced by specifically mandated international organizations, first and foremost the IMF, and held up by central banks that followed the rules of the game. The US-Dollar was explicitly singled out to be the international reserve currency that was tied to the 'real economy' due to its convertibility into gold at a pre-determined rate. This system was in place for roughly three decades until it was unilaterally suspended by the Nixon Administration without being replaced by anything remotely similar. Instead, the era of Generalized Floating set in, which lacks any kind of centralized political monetary planning on a global level. Today, in rather prototypical manner, the IMS under the conditions of Generalized Floating and financial globalization is referred to as a "non-system" (Mateos y Lago et al. 2009) or an "international monetary non-order" (Bibow 2008).

Against that notion, a Money View perspective could make the point that the IMS does indeed have system-like properties. However, in order to see them, we have to go beyond the Essentialist and the Chartalist biases. This means acknowledging that today's IMS is a credit money system (Mehrling 2016) and that international money creation occurs predominantly by private institutions, not the state. In fact, the contemporary IMS has been crucially shaped by private credit money creation that occurs in the US-Dollar as the unit of account, yet outside the US's monetary jurisdiction in what may be called the 'offshore dollar realm'. Thus, we do have an international monetary *system* which has gradually developed over the last decades and predominantly relies on private dollar-denominated offshore credit money creation. The rise of the offshore dollar realm began with the emergence of the eurodollar market (Burn 2006) and is being backstopped by what has become to be called the Global Financial Safety Net (Denbee et al. 2016), which since the 2007-9 Financial Crisis comprises the C6 Swap Lines as a key element (Broz 2015, Mehrling 2015).

Second, the Money View could address topical questions about the EMU. The ongoing crisis of the EMU has been portrayed by scholars, among others, as a sovereign debt crisis, a banking crisis and a current account crisis (cf. Frieden and Walter 2017). While the Eurocrisis has provoked notable reforms in EMU governance, the IPE literature widely acknowledges that the EMU's institutional design is still unfinished and has caused the economic divergences in the currency bloc visible in many policy fields today (Matthijs and Blyth 2015). However, IPE scholars have not systematically addressed one key intricacy of the EMU's governance architecture: the failure to harmonize private credit money creation on a European level (cf. Murau 2016). The inherent hybridity of credit money systems has only insufficiently been recognized in the theory underlying European monetary integration and plays a merely implicit role in contemporary debates. In the EMU, only the key *public* credit money forms—currency and central bank deposits—have been fully integrated on a supranational level with the Treaty of Maastricht. Privately created bank deposits and shadow money remain in an ambiguous position between national and supranational regulation.

On the one hand, with the Treaty of Maastricht, the public-private partnership for bank deposit creation remained scattered across various layers of the EU's multi-level governance system. The liquidity backstops were made supranational via the ECB's discount window. The solvency backstops and bank supervision remained national, while regulatory competences were spread across national, European and, through the Basel Accords, international levels (Goldbach 2015). In 2009, the Eurocrisis revealed the shortcomings of this setup when it became obvious that, in absence of a supranational deposit protection framework, euro-denominated deposits in deficit countries traded at par to those in surplus countries but had a different risk structure. In 2010, the deposits stopped to flow across the EMU and concentrated in surplus countries. After the crisis, the EU reacted with calls for completing the Single Rulebook for bank regulation and Banking Union. It is an open question how those measures affect the EMU's private credit money system. If successful, they could imply an upload of the public-private framework for deposit creation to a European level.

On the other hand, the EMU's key shadow money form since the EMU's start had been repos. Despite ambitious plans to create a liquid European repo market, repo issuance remained nationally fragmented in absence of supranational public debt as homogenous collateral. As a remedy, the ECB declared all sovereign bonds in the Eurozone to be equal collateral (Gabor 2016). When the 2007-9 Financial Crisis spilled over to Europe, it fragmented the EMU's repo market and showed that the ECB's basket, in which all EMU members' public debt was equal repo collateral, was a fair weather construct. The ECB first behaved procyclically in the crisis and failed to relax the strains on repo (Gabor and Ban 2016). In this context, the EU's post-crisis plan for Capital Market Union may be viewed as an attempt to revamp the repo market and compensate for the EMU's struggling deposit banking system (Valiante 2016). In absence of EMU Treasury bonds, the strategy leans again towards using securitized private debt as collateral (Hübner 2016). The impact of those processes on the EMU's shadow money supply and its overall governance architecture remains to be studied in greater depth.

7.6 Conclusion

This chapter has discussed various dimensions of the way in which this study contributes to IPE. First and foremost, it presents a theoretical and empirical analysis of how private credit money affects the transformation of the monetary system and thus remedies the gap elaborated upon in Chapter 1. At the same time, its arguments and findings are consequences of its analyticist research paradigm and the functionalist explanatory approach. They may be confirmed, refined or contested by conducting complementary studies that adopt an alternative research paradigm or a different explanatory model. Moreover, the accommodation phenomenon is a point of departure for studying its national and international implications over a longer period in a third 'post-accommodation' phase, whilst the conceptual apparatus of the Money View allows addressing other fields of empirical enquiry.

A major element applied in this study to come up with its contribution to IPE scholarship was the "pondering about the nature of money" which has led to choosing the Money View as a conceptual framework. Marx—following up on his reference to Gladstone's speech in Parliament cited in the introductory quote—makes a remark that stresses the relevance of a monetary theory of credit for understanding the role of money in the capitalist political economy:

> "The main difficulty in the analysis of money is overcome as soon as the evolution of money from commodity is understood. This point once granted, it only remains to comprehend clearly the particular forms of money, which is to some extent made difficult by the fact that all bourgeois relations, being gilt or silver plated, have the appearance of money relations, and money, therefore, seems to possess an endless variety of forms, which have nothing in common with it" (Marx 1859 [1904]: 73).

He argues further that for his analytical entry point, credit money is logically subordinate

> "In the following investigation only those forms of money are treated of which directly grow out of the exchange of commodities; the forms which belong to a higher stage of production, as e. g., credit money will not be discussed here. For the sake of simplicity gold is assumed throughout as the money commodity" (ibid: 73-74).

In this respect, this study has chosen an alternative route and, with the accommodation theory based on the Money View framework, has developed a contribution to our understanding of the 'evolution' of money in the capitalist political economy that follows the credit theory of money logic. While credit money is seen as the capitalist core institution, commodity money rather plays the role of a pre-modern relict. It shall be upon the reader to decide whether this intellectual enterprise has yielded some valuable insights or if it was just as foolish as pondering over the true nature of love.

Conclusion

> "When I was young I thought that money was the most important thing in life; now that I am old I know that it is" (Oscar Wilde).

This study has set out to theorize and empirically analyze the political-economic phenomenon of private credit money accommodation.

The study has identified it as a gap within the IPE literature that it has not brought forth a theory of the monetary system's transformation which takes both the logics of private money and of credit money seriously and views this system's properties as a driving force for institutional change. This is because the vast majority of IPE studies on the transformation of the monetary system has two biases: On the one hand, they neglect to take into account the full implications of the insights from the studies that have argued how capitalist money is, and has been, in its essence debt—not commodities, a mere legal creature, or a social construction as suggested by the term 'fiat money' ('Essentialist bias'). On the other hand, they tacitly assume that money by default is a creature of the state and rarely acknowledge the existence and the systemic relevance of private money creation beyond the purview of the state. In this, they underemphasize the role of private agency, notably within a credit leverage cycle, for changes in the monetary system ('Chartalist bias') (Chapter 1).

In order to have an appropriate conceptual toolkit to overcome the Essentialist and the Chartalist biases and to theorize the role of private credit money for the monetary system's transformation, the study has developed an account of the current Money View literature, which has tailored the Money View into a conceptual lens that is applicable in the context of IPE. The core characteristic of the Money View, which makes it suitable to study private credit money accommodation, is that it is a market-based credit theory of money. *A priori*, this allows developing an account of autonomous private money creation beyond the control of the state and systematically addressing the complex relationship of the two categories of 'money' and 'credit', which often involves conceptual confusion when analyzing modern credit money systems (Chapter 2).

Based on the Money View as a conceptual lens, the study has developed a two-phase model of private credit money accommodation. It uses the Money View language, while bringing in a Minskian and Kindlebergerian understanding of financial innovation and financial instability. The model allows combining the two dimensions of private credit money accommodation: On the one hand, it is a moment of genuine political decision-making, of political primacy that can be circumscribed with the concept of infrastructural power, in a world mainly driven by market processes and the activities of profit-oriented financial corporations. On the other hand, it is a process, given that the seeds for the accommodation decisions have been planted years and decades in beforehand, and the direct and indirect consequences occupy policy-makers, regulators,

scholars and the wider public for the years and decades to come. The overall root cause for the monetary system to transform in line with the accommodation theory is the very own properties of the credit money system itself. In the monetary system as a self-referential network of expanding, yet instable debt claims, the ability to create credit money *ex nihilo* sooner or later brings the system to a point at which it has overpromised and requires the state as *deus ex machina* to prevent its implosion. By placing these properties of the monetary system centre stage, the theory adopts a functionalist understanding on the political economy of private credit money accommodation (Chapter 3).

The model of private credit accommodation has sought to carve out the abstract properties of the phenomenon in general terms, and to deliver a sufficiently abstract argument for *how* and *why* the political decision to accommodate private credit money is taken. The subsequent Chapters 4-6, in turn, have empiricized the phenomenon and, while they reflect the general properties of the accommodation both as momentum and the process, they also provide insights into the idiosyncratic nature of each of the instances. Not the least, it is due to this idiosyncratic nature of the phenomenon and the unpredictability of political processes that the two historical cases of bank note and bank deposit accommodation, which may be regarded as completed, have yielded different results regarding the status in today's monetary system: Bank notes are regulated as *pure public money*, whereas deposits remained *private-public money*. It remains to be seen how the contemporary, ongoing process of regulating the accommodated shadow money forms and developing new monetary governance tools for them will eventually play out. From the point of view adopted in this study, the question of how to deal with shadow money is one of the major construction sites for international financial regulation of our time (Chapter 7).

The fundamental motivation to conduct this study was to provide a theoretically grounded, historically informed analysis of the monetary system's transformation which can make a small contribution to better understanding the specific situation and challenges that Western political economies are confronted with in the era after the 2007-9 Financial Crisis. Most notably, the study sought to respond to its problématique, i.e. the lack of understanding how the rise and the crisis of shadow money can be reconciled with the IPE literature on the transformation of the monetary system.

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Interviews

Interview 1: Interview with an official of the Federal Reserve Bank of New York, 5 June 2015, New York.
Interview 2: Interview with Adam Copeland, Research Officer in the Money and Payments Studies function of the Federal Reseve Bank of New York, 5 June 2015, New York.
Interview 3: Interview with Manmohan Singh, Senior Financial Economist at the International Monetary Fund, 8 June 2015, Washington D.C.
Interview 4: Interview with an official of the Federal Reserve Board, 8 June 2015, Washington D.C.
Interview 5: Interview with Perry Mehrling, Professor of Economics at Barnard College of Columbia University, 1 July 2015, Martha's Vineyard.
Interview 6: Interview with a former member of staff at the U.S. Department of Treasury, 24 July 2015, New York .
Interview 7: Interview with an official of the Federal Reserve Bank of New York, 24 July 2015, New York.
Interview 8: Interview with Morgan Ricks, Assistant Professor at Vanderbilt Law School, Nashville, TN, 20 August 2015, online interview.