

Narratives on the Future of Banks

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List of Abbreviations

AI	Artificial Intelligence
API	Application Programming Interfaces
AT	Agency Theory
ATM	Automated Teller Machine
BDA	Big Data Analytics
CAPM	Capital Asset Pricing Model
CBDC	Central Bank Digital Currency
CRM	Customer Relationship Management
DeFi	Decentralized Finance
ed. / eds.	Editor / Editors
e. g.	exempli gratia
ECB	European Central Bank
et al.	et alia
etc.	et cetera
EU	European Union
GE	General Equilibrium
HGB	German Commercial Code [Handelsgesetzbuch]
i. e.	id est
ICBC	Industrial and Commercial Bank of China
IMF	International Monetary Fund
IoT	Internet of Things
IPO	Initial Public Offering
IT	Information Technology

MBHC	Multibank Holding Company
NIE	New Institutional Economics
NPL	Non-Performing Loans
OIE	Old Institutional Economics
p.	Page
P2P	Peer-to-Peer Lending
pp.	Pages
RBO	Regional Banking Organizations
RePEc	Research Papers in Economics
ROE	Return on Equity
SME	Small and Medium-Sized Enterprises
TC	Transaction Costs
TCT	Transaction Cost Theory
UK	United Kingdom
US	United States
USA	United States of America
USD	US Dollar
VAR	Vector Autoregression
VECM	Vector Error Correction Model
vs.	versus

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“I understood that, when he didn’t have an answer, William proposed many to himself, very different one from another. I remained puzzled.

“But then . . . ” I venture to remark, “you are still far from the solution. . . ”

“I am very close to one,” William said, “but I don’t know which.”

“Therefore you don’t have a single answer to your questions?”

“Adso, if I did I would teach theology in Paris.”

“In Paris do they always have the true answer?”

“Never,” William said, “but they are very sure of their errors.”

“And you,” I said with childish impertinence, “never commit errors?”

“Often,” he answered. “But instead of conceiving only one, I imagine many, so I become the slave of none.”

I had the impression that William was not at all interested in the truth, which is nothing but the adjustment between the thing and the intellect. On the contrary, he amused himself by imagining how many possibilities were possible.” (Eco 1984, pp. 305-306)¹

¹ It is unfortunate that I am not the first to commence my thesis with these lines from Umberto Eco’s novel *The Name of the Rose* (see Kastrop 1993), but I hope I will not be the last.

A. Introduction

A.1. Economic Problem and Research Motivation

Banks fulfil a pivotal role within the economic system. They not only serve as central intermediaries in capital flows, but also play a crucial role in ensuring the stability and functionality of modern economies. This role has become all the more apparent in the aftermath of the global financial crisis of 2007/2008. The crisis events and subsequent measures to stabilise the banking system have demonstrated the importance of maintaining oversight of this fragile system and its activities. In parallel, the banking sector has been undergoing a transformation for some time, which also encompasses new challengers (Boot 2017; Guttman 2018). In view of its systemic importance and the ongoing transformation process, the question of the future of banks inevitably arises – a question that is highly relevant not only for the banking sector itself, but also for society and academia.

Nevertheless, analysing the future in economics is anything but trivial.² After all, future scenarios can only ever be verified in retrospect. This inherent uncertainty carries the risk of scientific forecasts being perceived as mere speculation or even charlatanry. However, addressing the future is an omnipresent necessity. Dealing with the future often takes the form of forecasts. In recent times, predictions have increasingly been linked to narratives in relation to an open future: “Forecasts are instruments that help create imaginaries of future states of the world; they are narratives that describe imagined futures. As

² This phenomenon can be observed by studying the way in which humanity has addressed the issue throughout history (Minois 1998).

such, they instill confidence in conditions of uncertainty. By making claims about a future that does not yet exist, they help actors make decisions about it” (Beckert 2016, p. 242). Forecasts are used to form shared fictional expectations, which, even in the case of seemingly objective predictions, have a narrative form which parallels literary fictions (Beckert 2016, pp. 217, 69).

For science, this results in a responsibility to critically scrutinise existing assumptions and expectations of narratives. Such reflection not only enables identifying of abstruse speculation, but also contributes to clarification and the fight against fake news.³ Narratives have the capacity to engender substantial inherent dynamism, given that they are not solely descriptive, but they also have a performative effect on decision-making through the formation of expectations (Beckert 2016, pp. 217–221).⁴ The performative nature of economic theories themselves has been impressively demonstrated by Callon (1998) in the field of finance. He concludes that “economics, in the broad sense of the term, performs, shapes and formats the economy, rather than observing how it functions [...]” (Callon 1998, p. 2).

In the banking environment, too, narratives can have a constructive or destructive performative effect. A classic example of a destructive narrative is the phenomenon of bank runs, which are triggered by negative narratives and undermine trust in banks. This phenomenon was illustrated to great public effect in the films *American Madness* (1932) and *It’s A Wonderful Life* (1946). Narratives about the future of banks exist in a variety of forms. In addition to the prominent example of Bill Gates’ statement “Banking is necessary, banks are not,” such narratives are analysed in detail as part of the literature review in Section B. Some economists recognise the relevance of narratives and are therefore calling for: “We need to incorporate the contagion of narratives into

³ Scientific knowledge is characterised by the ability to create justified beliefs – a definition of knowledge that is often described as ‘justified true belief’ (Brandom 1994, p. 201).

⁴ Evidence of the correlation between economic theory and narratives can also be found in McCloskey’s work: “An economist expositing a result creates an ‘authorial audience’ (an imagined group of readers who know this is fiction) and at the same time a ‘narrative audience’ (an imagined group of readers who do not know it is fiction). As the critic Peter Rabinowitz explains, ‘the narrative audience of ‘Goldilocks’ believes in talking bears.’ The ‘authorial’ audience realizes it is fiction.” (McCloskey 1998, p. 18).

economic theory. Otherwise, we remain blind to a very real, very palpable, very important mechanism for economic change, as well as a crucial element for economic forecasting. If we do not understand the epidemics of popular narratives, we do not fully understand changes in the economy and in economic behaviour” (Shiller 2019, p. xi).

Narratives are always based on theoretical considerations, whether consciously or unconsciously.⁵ The objective of this thesis is not to make an additional prediction about the future of banks. Instead, the objective is to analyse the extent to which existing narratives can be substantiated by economic theories. The work aims to reveal potential implications that economic theories have for the future images of banks. It also aims to analyse existing narratives and to make visible on which economic theories they are based and which theoretical assumptions they (re)produce. The study will also examine which narratives have to be followed if certain economic theories are advocated, and how the underlying assumptions shape the banks’ future images. This will be done specifically for the economic categories of market, institutions and money. So, it is essential to acknowledge from the outset that the endeavour to reveal the implications of economic theory for thinking about the future of banks is a conceptual rather than an empirical analysis.

The relevance of this research objective is multifaceted. For banks and practitioners, the analysis of narratives is of strategic importance. In increasingly turbulent times characterised by fake news, it is essential for banks to understand the narratives that characterise their sector so that they can respond to the associated expectations in a targeted manner. For society, the clarification of potential uncertainties can contribute to financial stability and help preventing crises in the financial system. From a scientific viewpoint, the analysis of narratives offers novel perspectives on the performative effect of theories and the significance of expectations for economic action. Furthermore, it

⁵ Those who are unwilling to agree that all narratives are rooted in (a developed) theory must still concede that all narratives are based on considerations or on certain (implicit or explicit) assumptions, which may unconsciously dominate the narrator’s perspective.

facilitates the identification of the performative channel. Narratives function within this performative channel by generating fictional expectations, establishing causal relationships and providing orientation. When these narratives are shared by epistemic communities or thought collectives, they have the potential to not only disrupt established trust but also to profoundly influence reality, even in the absence of a tangible economic basis.⁶

A.2. Methodological Background and Scientific Problem

A.2.1. The Relevance of (Unrealistic) Assumptions

In addition to the economic problem, there tends to be a more scientific (or rather scientific-theoretical) problem that lies in working with theories. This problem is not merely of secondary relevance but is of a fundamental, methodological, and conceptual nature. It is inseparable from the economic problem and equally important, as the way in which economic theories, concepts, and assumptions are handled directly shapes our understanding of economic phenomena. It is concerned with the significance and implications of (unrealistic) assumptions for thinking by means of theories. Theories make different knowledge claims, whereby implicit (tacit) knowledge always plays a role (Polanyi 1966). This can, in certain instances, impede comprehension and interpretation of outcomes. In this sense, theories are based on thought patterns that must first be made explicit. This idea is central to Brandom's (1994) so-called inferentialism, 'making it explicit.' Inferentialism is an approach in the theory of science and the philosophy of language that substantiates meaning in an inferential structure. The standpoint is antithetical to the representationalist perspective, which delineates meanings through the relationship of individual

⁶ An example of this is Mario Draghi's "whatever it takes" speech in 2012. With just two sentences, Draghi calmed the financial markets during the sovereign debt crisis, even though the fundamental data of the affected countries remained unchanged (Beckert 2016, pp. 82, 89, 256-257).

terms to the objects they represent.⁷ This tradition of thought has found little application in economics thus far. In today's journal system, a detailed exploration of this approach would likely be dismissed as impractical. However, a closer look is worthwhile, particularly because it helps make the approaches of Sections C and D more comprehensible. For this reason, inferentialism will be examined in greater detail at this point.

In economics, there is no uniform perspective on the role of assumptions. However, the debate is largely shaped by Friedman's (1953) claim that unrealistic assumptions may still be considered legitimate.⁸ In this context, a distinction must be established between abstractions and idealisations⁹ (O'Neill 1996, p. 40-42), wherein the latter could be problematic (Runde 1997, p. 20).¹⁰

A question of some significance here is whether science should provide explanations or simply reasonable forecasts. Since this work explicitly deals with the (narratives on the) future of banks, the question of how to categorise science along explanations and forecasts is not entirely irrelevant. Friedman can be interpreted as an instrumentalist, saying that only the ability to forecast

⁷ In representationalism, terms are explained directly in relation to what they represent; in contrast, inferentialism assumes that the propositional content of a statement is determined by the inferential links and the content-related consequences that can be drawn from the statement (Brandom 1994, pp. xii, xix; 2000, pp. 12-13, 24-25, 45-47).

⁸ The debate surrounding Friedman see Hübenbecker (2020).

⁹ Idealisations can be further categorised in 'limit types' and 'operating in isolation' (Runde 1997).

"One way of thinking about the distinction between abstraction and idealization is that whereas abstraction involves looking at the same real phenomenon from different points of view, idealization typically involves transforming that phenomenon or one or more of its aspects into something that exists only in the realm of ideas. But this way of putting it, while perhaps not overly contentious so far as limit types are concerned, must be qualified in the case of isolation" (Runde 1997, p. 20).

¹⁰ This perspective is also shared by Mäki (2009), who advocates for a de-idealisation process and draws parallels with other scientific disciplines: "[A] need for de-isolation or re-isolation may arise when there is reason to believe that previous isolations violate the ontic unity in the world: they impose divisions where the world is indivisible. Just as biologists will fail in representing a system such as the human organism if they consistently exclude the brain or the heart from their theory, economists might fail in representing an economic system for certain explanatory purposes – such as for explaining the performance of a developing economy – if the isolations they employ exclude the role of institutions. Sticking to such ontologically ungrounded isolations would be tantamount to dealing with models that are nothing but fictional substitute systems" (Mäki 2009, p. 85). This perspective is consistent with a radical political economy in which the exclusion of only unimportant aspects is permissible (Sawyer 1989, pp. 27–28).

is of importance (Caldwell 1980, p. 368). However, this view has also come under enormous pressure, with unrealistic assumptions leading to incorrect predictions: “Unrealistic assumptions (in the sense of false assumptions) will always result in false predictions, except, perhaps, in the case of assumptions concerning unobservables” (Hausman 1992, p. 19).¹¹

This is important for this thesis because, whether for explanations or forecasts, unrealistic assumptions can always be used to construct a normative ideal, which in turn can serve as an implication for further action, for example policy recommendations.¹² This project explores potential explanations for narratives about the future of banks. Assuming a structural equality thesis [Strukturgleichheitsthese] between explaining and predicting or forecasting (Schurz 1988, pp. 23–24; 2014, p. 226), it is possible to apply a deductive-nomological explanatory scheme. Nevertheless, the emphasis in this context will be on ‘non-nomological’ (non-law-like) phenomena, that is to say, a considerably more pragmatic concept of explanation. This is arguably most analogous to a deductive-hypothetical model (if-then statements).¹³

A.2.2. The Problems with Unrealistic Assumptions

The debate about unrealistic assumptions cannot be settled in this thesis, but, in the sense of inferentialism, a (new) argument can be provided: the assumptions should be of a realistic nature, which can also apply to narratives. The following example shows how absurd it may be to apply unrealistic assumptions according to a formal-logical inference procedure:

¹¹ This view was already expressed by well-known authorities shortly after the publication of Friedman’s essay: “it is important that crucial assumptions be reasonably realistic” (Solow 1956, p. 65).

¹² This phenomenon is elucidated in Section C of this thesis, among other things, on the basis of the harmonious market aspiring to equilibrium, which quasi represents the state of nature, which occupies a prominent position in the new institutional economics (NIE) and accordingly also characterises the future prospects.

¹³ This should be seen in the light of the awareness that there are no laws in the social sciences that correspond to the natural scientific sense: “The rules do not immediately compel us, as natural ones do. Their compulsion is rather mediated by our attitude toward those rules. What makes us act as we do is not the rule or norm itself but our acknowledgment of it” (Brandom 1994, p. 31).

All humans can fly (i.e. jump from the 10th floor and land safely).

Socrates is a human being.

Socrates can fly (and jump from the 10th floor and land safely).

Such conclusions can also be drawn using a conditional:

If all humans can fly, then you can jump from the 10th floor and land safely.

Socrates is a human being.

Socrates can jump from the 10th floor and land safely.

The conclusion is undoubtedly (formally) valid, but no one would think of calling it true, so no one would make a truth claim for the statement ‘Socrates can fly.’ The implications of such a statement would also be disastrous, as Socrates (whoever he is) could be knocked off a building if he accepts or agrees with this statement, in the false certainty that he will arrive safely at the bottom.¹⁴

The conditional is therefore an important operator, because: “It permits the formulation, as explicit claims, of the inferential commitments that otherwise remain implicit” (Brandom 1994, S. 126). Unrealistic assumptions thus make it possible to serve as reasons for beliefs in assertions and thus as justification. Actors’ assertions have inferential consequences and communicative consequences on the part of the listeners. This makes the actors accountable (Brandom 1994, p. 173). However, reasoning is not limited to mastering a logical schema (Brandom 1994, p. 116). Rather, the aim is, in the sense of inferentialism: “[...] to understand ourselves as judges and agents, as concept-users who can reason both theoretically and practically” (Brandom 1994, p. 7).

This is important for this thesis because (especially in Sections C and D) it

¹⁴ With regard to forecasts, the following passage may illustrate the absurdity: “One could propose a theory that would explain that the sky is blue by assuming the existence of giants who paint it blue every night while we are sleeping. Taken to an extreme, Friedman’s logic would say that the assumption of giants is irrelevant as long as the theory makes the correct prediction, that the sky is blue, which it does. Simon would argue, however, that one can’t just test the correctness of the conclusion. Rather, to accept such a theory, one would also have to observe the giants in action” (Beinhocker 2006, pp. 49–50).

is analysed which derivation, explanation and justification connections exist between the economic theories under consideration and the implications for thinking about the future of banks. In this respect, scientific theories assert a claim to knowledge or truth. Knowledge is defined as a justified true, belief (Brandom 1994, p. 201), which is an intentional state.¹⁵

A.2.3. The Normative Dimensions of Theory and Practice

The practice of asserting always has normative significance: first, because making an assertion implies a commitment to its truth; and second, because asserting something also entails the expectation that the belief being asserted is rationally justifiable, since it presupposes that the belief is supported by reasons that can be evaluated and assessed (Brandom 1994, pp. 17, 166, 231-232). However, beliefs do not fall from the sky, but result from a social, discursive (i.e. concept-using) practice, in which participants in the discourse constantly judge each other (i.e. adopt normative attitudes and evaluate the normative status (i.e. commitment, entitlement or incompatibility) of their counterparts) (Brandom 1994, pp. xiii-xv, 160; 2000, p. 2). It is therefore about making explicit norms that are embedded implicitly in practices (Brandom 1994, p. xiv, xviii). The question here is: How can the correctness of the practice be understood without reference to (explicit) rules? The answer essentially lies in the fact that (implicit) norms are in the eye of the beholder and that these have to do with acceptance in practice (Brandom 1994, p. 25).¹⁶ Rules are therefore not infinitely explicable, but must be considered against the background of a social dimension in the practice of recognising and at-

¹⁵ “Being in an intentional state or performing an intentional action accordingly has a normative significance. It counts as undertaking (acquiring) an obligation or commitment; the content of the commitment is determined by the rules that are the concepts in terms of which the act or state is articulated” (Brandom 1994, pp. 8-9).

¹⁶ To understand this better, imagine a child who keeps asking, ‘Why is it like this?’ The adult will be able to give the child an explanation (i.e. reasons) a few times, but at some point they will reach the limit of their explanations, namely when they themselves can no longer give an answer to the child’s enervating ‘why.’ Then the adult is likely to say something like ‘because that’s the way we do it’ or ‘because that’s the way we’ve always done it,’ which illustrates precisely this aspect of inferentialism: we recognise something in and through practice.

tributing beliefs (Stekeler-Weithofer 2020, p. 23-24). This has already been shown in a broad sense for mathematics by Gödel (Stekeler-Weithofer 2008*b*, p. 73).

Nevertheless, the following of theories or the drawing of conclusions using theories must be understood as rule-based (i.e. normative). The concept of normativity does not arise solely from the existence of explicit rules that are to be followed, as this would result in an infinite regress. Instead, normativity is inherently embedded in the implicit norms that govern practical action (Brandom 1994, p. 45).¹⁷

Here it is important to emphasise the preservation of the rational choice perspective for this thesis: “Contradiction, correct inference, correct judgment are all normative notions, not natural ones. The laws of nature do not forbid the making of contradictory judgments. Such judgments are forbidden in a normative sense. It is incorrect to endorse incompatible contents: rationally incorrect, incorrect according to rules of reason, prescriptions governing what is proper in the way of inferring and judging” (Brandom 1994, p. 12). It is therefore a ‘rational ought’ (Brandom 1994, p. 37, 48). Brandom uses the example of an individual who believes that rain is anticipated and who would prefer to remain dry. In this scenario, the individual would be better off standing under a tree (Brandom 1994, p. 5, 25). Similarly, it could be argued that someone who believes that too much regulation of banks leads to welfare losses is of the opinion or is in favour of deregulation.

It is important for this thesis, to acknowledge the significance of normative pragmatics. Since the theories move in a normative space (because they are rule-led), the deductions from the theories for thinking about the future of banks are based on a rational ought, and the rules therefore cannot be revealed down to a final rule. Instead, the thought patterns follow a norm implicit in

¹⁷ “As natural beings, we act according to rules. As rational beings, we act according to our conceptions of rules” (Brandom 1994, p. 72). Brandom continues: “[...] that we are the ones who act not only according to rules but according to a conception of them is the claim that we are not merely subject to norms but sensitive to them” (Brandom 1994, p. 33).

practice. In this context, reasoning or judging is understood as doing or action (Brandom 1994, p. 91).¹⁸ In this context we can speak of the primacy of the propositional over the concept, or of sentences over singular terms, whereby the propositional content refers to the truth value of a statement. In other words, it becomes clear that meaning is not fixed in isolation but emerges through use in assertions and justifications. In this thesis, for instance, it is not possible to define the term *bank* in advance; it results from its derivational contexts as a conclusion (see Section D).

A.2.4. The Semantic Foundations in Inferential Reasoning

Language is characterised by two distinct yet interconnected dimensions: the normative dimension and the semantic dimension. The significance of language lies in its inherent meaning, underscoring the necessity for a dual focus, not only on pragmatics, i.e. the study of practice, but also on semantics, i.e. the study of the corresponding content (Brandom 1994, p. 91). This means that both actions and their judgments of correctness must be considered. Consequently, inferential semantics emerges as a crucial complement to normative pragmatics.¹⁹

The meaning of an expression is determined by its inferential role, i.e., by the rules that govern its use in reasoning. These rules define which inferences can be drawn and how statements function in arguments. Without such rules, expressions would lack meaning, as their significance arises precisely from their role within inferential structures. Consequently, without inferential connections, genuine understanding would not be possible (Schubert 2012,

¹⁸ Judgement is in this sense understood as a classificatory use of concepts and not as an isolated assessment (Brandom 1994, p. 86). A simple example of such an inferential structure of a conceptual classification would be to infer from ‘this is red’ or ‘this is green’ to ‘this is coloured’. In contrast to the responsive classification of measuring instruments (e.g. thermometer), understanding and comprehension is also important here, i.e. following Sellars, the ability to “*practically* master the inferences” (Brandom 1994, p. 91, emphasis added).

¹⁹ “The project is the rectification of concepts: clarifying them by explicating their contents. It is saying what their inferential role is: what follows from the applicability of each concept and what its applicability follows from” (Brandom 1994, p. 109).

pp. 75–76).

This is important for this thesis because it looks in a broad sense at the implications of certain terms or concepts (such as market, institutions, money, but also uncertainty, power, etc.) and what can be inferred from them in terms of the theories. This results in a theory of the meaning of concepts in the sense of semantic holism (Esfeld 2002).

As argued above, inferences comprise premises and conclusions that are invariably embedded within a network of propositions (Brandom 1994, pp. 5, 89–90, 93). A distinction can be made between formal and material inferences. Formal inferences are not interested in the content of their statements, but only in the correct logical form (Brandom 1994, pp. 97–98; Schubert 2012, p. 160). In contrast, material inferences are based on the respective semantic content. Brandom repeatedly mentions an example of this phenomenon, namely the inference from ‘Pittsburgh is west of Philadelphia’ to ‘Philadelphia is east of Pittsburgh.’ The inference is correct because of its content, and the understanding of the terms follows from the acceptance of the inference (Brandom 1994, pp. 97–98).

In the broadest sense, this also applies to the unrealistic assumptions that can be found in both theories and narratives. If these are used in the sense of formal (and thus not content-orientated) inferences, then the unrealistic content that is present in the premises is only transferred to the conclusion and made explicit there. In the sense of inferentialism, this is highly problematic (see also the example of *Socrates can fly*), because only material inferences are interested in the content of a statement and thematise correctness of content. If it is at all possible to consider unrealistic assumptions in terms of material inferences, these would merely legitimise conclusions that make no sense.

Again, this is important for this thesis, as it underscores the necessity to comprehend economic theories through the lens of a theory of the meaning of concepts (i.e. an inferential semantics). This framework is used to analyse derivational relations, which pertain to an accurate utilisation of concepts in

inferences. Furthermore, it is crucial to acknowledge that the implicit rules that govern these inferences are intricately intertwined with the concept of material truths, which may be subject to individual agreement or disagreement. In this respect, the concepts in derivational relations can always stand both as premises and as conclusions, provided that such inferences are deemed rational. The attribution of meanings to concepts is the underlying factor that results in the standing of concepts within contexts of derivation. Expectations are formed through the utilisation of concepts.²⁰

In addressing the issue of narratives concerning the future of banks, it is crucial to recognise that reasoning, in the sense of theories, (1) is rule-guided. This is due to the fact that, otherwise, it would be arbitrary; (2) cannot be explicated in terms of a final rule, rather these rules are implicitly followed in practice; (3) furthermore, it is normatively significant in the sense of being committed to further assertions that follow from the inferences; and (4) it constitutes meaning, because the meaning of expressions is determined by their role in inferential links. The point is to explicate the assumptions implicit in the practice of traditions of thought in order to reveal the implications for thinking about the future of banks.

A.3. State of Research and Research Questions

In order to reflect the state of research on narratives about the future of banks, a scoping literature review was conducted (which can be found in Section B).

²⁰ “Expressions come to mean what they mean by being used as they are in practice, and intentional states and attitudes have the contents they do in virtue of the role they play in the behavioral economy of those to whom they are attributed” (Brandom 1994, p. 134). This is not a circular explanation because normative pragmatics and inferential semantics shed light on different aspects of linguistic behaviour and complement each other. Normative pragmatics describes how speakers and listeners commit themselves to certain behaviours and acquire entitlements through linguistic actions. Inferential semantics explains how these behaviours create meaning. Normative pragmatics provides the constitutive framework within which inferential relations create meaning. Inferential semantics is thus dependent on normative pragmatics, without there being a circular dependency, because both levels answer different questions: the one about how linguistic actions are normatively regulated, the other about how meanings emerge from these normative rules (see also Brandom 1994, pp. 134, 188).

This review was limited to academic literature from journals, edited volumes and so-called grey literature. Publications in the form of monographs have not been included. The scientific problem identified here has not been recognised, namely the importance of assumptions for thinking about the future of banks. In particular, the aspect of performativity has also not yet taken into account, i.e. the fact that forecasts can have a certain impact because other participants behave in accordance with the resulting image of the future. There is no discourse among scientists on the subject of the future of banks. The admittedly scarce literature on the subject to date has not been taken into account, i.e. there are no cross-citations.

This is also the research gap that this thesis aims to fill. This thesis advocates that it is essential to change the perspective, to look at theories, and to see how theories shape our thinking about the future of banks. It aims at taking a step forward in revealing the implications hidden in economic theory for thinking about the future of banks.

This is done in an inferential way. The theories are thought through to their conclusions using their basic assumptions, drawing inferences that are more or less obvious. There is the hope that this may also be a way of explaining or better understanding existing narratives.

The main challenge consist in that it becomes difficult to set a starting point. Also there is the question of how such a project can be broken down into logically comprehensible parts. It is moreover necessary to answer the question of which categories should be analysed in and by economic theories.

Here we could speak like Faust (modified from Goethe (1941, pp. 50–51)):

'Tis written: "In the Beginning was the *Bank*."

Here am I balked: who, now, can pierce this plank?

The Bank?—impossible so high to cite it;

And otherwise must I invite it.

If by the Spirit I am now awake

Then thus: "In the Beginning was the *State*."

This first line let me weigh completely,
 Lest my impatient pen proceed too fleetly.
 Is it the State which works, creates, indeed?
 “In the Beginning was the *Money*,” I read.
 Yet, as I write, a warning is suggested,
 That I the sense may not have fairly tested.
 The Spirit aids me: now I see the light!
 “In the Beginning was the *Market*,” I write.

However, two more serious explanations can be offered of how to begin in addition to this admittedly arbitrary motivation: a pragmatic one (1) and a scientific-theoretical-philosophical one (2).

(1)

Based on a game metaphor,²¹ a first categorisation can be made: Banks are institutions in a strategically interactive sense that have a relationship with other institutions and operate in markets or in an institutional environment. This process encompasses both a structural level, the playing field, and an actor level, the players. The first research question to be addressed is therefore: “How does thinking about markets and institutions influences thinking about the future of banks?” (see Section C).

Players also try to achieve a game goal, in this case by making money. They achieve this by trading. For banks, these are primarily money and credit. This is a product level.²² The second research question is therefore: “How does thinking about money influence thinking about the future of banks?” (see Section D).

As players, banks have to abide by the rules of the game, which are set by other players, including governmental entities and regulatory authorities.

²¹ The inspiration for this comes from Toulmin (1981, p. 21), who asks what the purpose of games is in order to work out the relationship between explanation and prediction.

²² Of course, banks also trade in risk, as Baecker (1991) rightly points out, which means that risk could also be located at the product level. Since, in the logic pursued here, risk is only a consequence of money and potential crises, risk should be dealt with in a regulatory context. Finally, the risk is valued in some form, according to monetary measures. Information should also be placed in a subordinate relationship here.

These entities impose limitations on the actions of the banks, or alternatively, they define and regulate the framework for action.²³ This is the level of the rules of the game. The third research question is therefore: “How does thinking about the state and regulation influence thinking about the future of banks?”

However, there are other external factors that can change or influence the rules and structures of the game. These are factors that are largely beyond the control of any one player. They include technology and economic development. These are dimensions in which the rules of the game might change. The fourth research question is therefore: “How does thinking about technology and economic development influence thinking about the future of banks?”

While these four questions offer a comprehensive way of thinking about banks, this thesis focuses only on the first two, leaving state and regulation as well as technology and economic development aside. This is because the proposed shift in perspective is not merely the basis for a single research project (a thesis), but rather the foundation for an entire research program. Methodologically, it aims to sensitize economic science to an area that has received little attention: focusing more on inferential structures and critically examining economic theories, concepts, and terminology before drawing conclusions at the empirical level that appear to be based on seemingly objective facts.

(2)

The scientific-theoretical-philosophical motivation for the explanation of the beginning is based on classical German philosophy (or German idealism) and takes inspiration from Hegel’s thought, treating it as a conceptual resource.

A preliminary approach would be to consider not so much the current behaviours and actions of (future) banks, but rather our own attitudes and cognition towards future developments in the banking industry.²⁴ After all, we may

²³ States are, of course, also players and belong to the level of actors, but they can also be associated with the parents, who make sure that the children play the game properly, but who intervene now and then to take sides.

²⁴ Kant’s basic idea of his Copernican Revolution is that we should not worry about how things behave around us, but how we behave towards things (Goy 2015, p. 1326).

not be able to grasp what the future of banks will really be. Instead, we should endeavour to criticise the possibilities of thinking about the future of banks.²⁵ However, by critically examining the cognitive conditions of ourselves of how we perceive the future of banks, we would remain within the realm of skepticism rather than deriving the fundamental categories themselves.²⁶

Following the spirit of Hegel, three possible starting points can be identified as inappropriate: A dogmatic beginning by means of axioms that are not further justified; a sceptical beginning that leads to an infinite regress; and a circular pseudo-justification beginning in which the conclusion is supposed to prove the premises, but these are prerequisites for the conclusion (Stekeler-Weithofer 2020, pp. 43–45). It is proposed that a presuppositionless theory of (pure) thinking about thinking is required. Therefore, the beginning must necessarily begin indeterminately as an absolute, i.e. as an abstract beginning, must not presuppose anything and must not be mediated by anything (like a preceding critique).²⁷ This can be seen as foreground logic, which is committed to pure thinking and according to it, the beginning is immediate and indeterminate. There is also a background logic, which is carried out as an external logical reflection. According to it, the beginning is mediated and determined (Koch 2018, p. 49). It is therefore evident that the beginning itself already incorporates both moments. It is both unmediated and mediated si-

²⁵ Before we examine things – according to Kant, we cannot grasp the thing in itself anyway – Kant wants to examine the possibility of experience, in the sense of a critique of the possibilities of thinking. This is a return to the subjective conditions of cognition (Goy 2015, p. 1326). It is from this critique that Kant then derives the categories/forms of thought that we can use for cognition, and according to which our cognition is based.

²⁶ Hegel criticises Kant for this, among other things, because he does not break with the philosophy of certain principles. Although Kant criticises the possibility of experience, he takes the categories *prima facie* for granted and does not subject the derivation of the categories to a critique (Werner 1986, § 1). For Kant, dogmatism was representation without preceding critique. For Hegel, a critique that merely precedes representation is dogmatic because it does not critique the representation itself (Werner 1986, p. 194). That brings Hegel back to the problem of the beginning.

²⁷ Hegel wants to arrive at pure thinking about theory, in the sense of a theory without presuppositions: “Der Anfang der Philosophie muß entweder ein Vermitteltes oder Unmittelbares seyn, und es ist leicht zu zeigen, daß es weder das Eine noch das Andre seyn könne; somit findet die eine oder die andre Weise des Anfangens ihre Widerlegung” (Hegel 1985, p. 53). In the broadest sense, Hegel’s fundamental question from his ‘Science of Logic’ can be seen as the starting point for how the beginning (of science) can be made without relying on prior knowledge (Werner 1986, §§ 1-3).

multaneously, and this interplay drives the further development of thought.²⁸ In this sense, the beginning represents a contradiction that is sublimated²⁹ in the process of exposition and critique. The methodological approach follows the idea of “critique as knowledge and knowledge as critique,” or rather, the analysis is conducted as an immanent critique (Werner 1986, pp. 20-24).³⁰

In economics, such a (direct, unmediated) beginning can occur in the consideration of the perfect market, as is typically assumed in both neoclassical economics and finance.³¹ The market is an abstract thing or phenomenon that does not require any further explanation in the neoclassical sense. In the orthodoxy, it is regarded as the starting point of analysis per se, as a kind of natural state, even as the beginning of thought in general, as Section C on new institutional economics (NIE) shows. This starts with abstract microeconomic analysis in general (see Varian 2016), and extends to specific areas of finance (think of the role of markets in models such as the Capital Asset Pricing Model (CAPM)).

However, it is first necessary to provide content to what is to be understood by the economic category of the market. In this respect, the apparently presuppositionless market is a point of departure that is deeply worthy of explanation (i.e. interpretation) and therefore also worthy of criticism right at the begin-

²⁸ In this context, the term *dialectic* inevitably emerges in the discourse surrounding this theoretical framework. According to Gabriel (2012, p. 139, author’s translation), dialectic refers to the “explication of the presuppositions of a theory in order to examine the consistency of the presuppositions of the theory with the executed theory.” However, this term will be largely eschewed in this thesis due to its overuse and the resulting inflation of its meaning.

²⁹ Sublimat [aufheben] has the multiple meanings of ‘annulling,’ ‘preserving,’ and ‘transforming’ or ‘overcoming’ (Werner 1986, pp. 125-126; Drüe et al. 2016, p. 94; Burbidge 2020, p. 167). This is also linked to the inseparability of content and method, or forms of thought and content of thought (Werner 1986, pp. 42, 45). In this context, reference should be made to the scheme for dealing with narratives in Section C. In this scheme, the form of thought and the content of thought are separated solely for the purpose of illustration. In the analysis, however, the form of thought and the content of thought must always be combined.

³⁰ In a nutshell Werner (1986) summarises this as follows: “The ‘Science of Logic’ is a critique of its own beginning as a justification of itself.” (Werner 1986, p. 21, author’s translation).

³¹ In Hegel’s science of logic, the beginning is in *pure being*, then continues through the category of *nothing*, and then on through *becoming*. (Hegel 1985, p. 68).

ning. Exactly this is where Section C begins. Here, the beginning of thought (in the sense of orthodoxy) is enacted – or rather, established – which then engages with the category of the institution. This process emphasises the dual nature of ‘positing’ or ‘setting’: something is posited (as one might establish a definition) only to be critically engaged with it afterwards, in the sense of breaking free from or transcending that initial positing in order to gain new insights.³²

The category of money, which is modelled on the Hegelian category of becoming, can then be regarded as the flux that sets markets and institutions in motion (see Section D).³³ Nevertheless, the Hegelian analogy must not be taken to extremes, as a thorough examination of Hegel’s thought requires significant effort, which may act as a deterrent to a wider readership.

The holistic perspective that emerges through the development of categories such as market and money is by no means a closed, static, or eternal given. Rather, in the spirit of Hegelian philosophy, the ‘logical space’ structured by these categories acknowledges the inevitable contradictions inherent in the ultimately metaphysical nature of theory formation and transforms them into a dynamic process (Koch 2014, pp. 4-5). This processuality is characterised by the sequential development of categories, which undergo a progressive increase in complexity with each subsequent step. This means that observing the narratives on the future of banks must necessarily be thought dynamically, which is why, among other things, exchanging with scholars and reflecting at a meta level is necessary. The point is not simply to step out of common considerations on a subject like a dogmatist or a sceptic, “but [to] explicate

³² The juxtaposition of market and institution is complex. On the one hand, it can be argued that markets themselves are institutions, i.e. that they are included in the category itself. On the other hand, it can also be argued that institutions act on or in markets, which gives the category of market a dominant position. What markets and institutions are, what their characteristics are, and how we relate them conceptually is therefore by no means trivial.

³³ The category of money is also extremely multifaceted. On the one hand, money is a means of flow, but at the same time, in its function of hoarding, it is the opposite of flow/movement/becoming. There is also a contradiction in money as commodity and non-commodity. Moreover, in the seed of interest, money contains a Promethean power that can create more of itself without limit.

*empractical*³⁴ norms and forms of ought and can, of judgement and reasoning in common understanding and action” (Stekeler-Weithofer 2020, pp. 43-45, emphasis added, author’s translation). This perspective aligns with inferentialism, as outlined in Section A.2., given that norms of judgment and reasoning do not exist in isolation but rather emerge through their role in a network of inferences, thereby influencing what is considered correct or justified within the context of shared understanding and action.

A.4. Outline and Structure of Analysis

The research questions were addressed in two contributions, preceded by a literature review as a preliminary study. The three contributions can be found in Sections B, C and D.

The first essay, entitled ‘Is Nobody Interested in the Future of Banks? A Scoping Literature Review on the State of the Debate,’ provides a literature review to reveal the future prospects within the academic landscape on the basis of a scoping literature review to create transparency about what has already been written about the future of banks and where the narratives come from. The paper presents publications that make explicit statements about the future of banks, either a description of the future or an assessment of the future prospects of banks. Two databases were used, IDEAS/RePEc and Scopus, for the period from 2001 to 2021. A total of 99 relevant contributions were identified and analysed to answer three questions: (1) What challenges are seen for banks in the future? (2) What kind of future is depicted? (3) How are the future prospects derived? There is also a section on community banks, as the literature on them is somewhat more extensive than on other types of banks. It takes into account that banks are not homogeneous entities.

The paper shows that the importance of assumptions in deriving future

³⁴ *Empractical* means a form of implicit knowledge, “a form of action that we have learned to perform correctly” more or less without thinking about it (Stekeler-Weithofer 2008a, p. 14).

prospects has not been recognised in the existing literature and contributes to the research on the narratives of the future of banks in the following ways: First, future challenges are seen in the areas of profitability, regulation, technology and customer behaviour. Second, future prospects vary widely, which brings into focus the question of how future prospects have been derived. Third, an over-emphasis on intermediation theory tends to generate negative outlooks.

It is evident that the extant literature review does not adequately reflect the theory, neither the orthodoxy nor the plurality of economic theory. Nevertheless, the objective of this thesis is to reveal the implications of economic theory for thinking about the future of banks. Consequently, a methodological shift is needed, departing from the conventional literature review. Thereafter, economic theories are examined to make the assumptions fruitful for inferential conclusions about the future of banks. The division of the following contributions into profitability, technology, regulation and customer behaviour has not been adopted from the literature review. This division is more a result of the shallowness of thinking to date, which is very much limited to the observable. This means that deeper patterns of thought and structures that (can) shape thinking about the future of banks cannot be adequately recognised.

The second essay, entitled ‘How Thinking about Markets and Institutions Influences Thinking about the Future of Banks’ aims to answer the first research question, as indicated by the title. In order to fully grasp the phenomenon and its implications for possible narratives of the future of banks, a scheme of thought is constructed. There are two levels to be distinguished here, which are two sides of the same coin: the content of thought and the form of thought, on a logical/theoretical level and on an empirical/historical level. In this paper, banks are “just” seen as institutions, which is why an external perspective on banks is taken. This means that banks are abstracted from their business models and their essence as banks. The NIE, especially transaction cost theory and agency theory, serves as a theoretical starting point. A strong market thinking and a tendency towards Panglossianism are identified for the NIE,

which means that the new challengers, like fintechs and BigTechs, can be interpreted as a perfection of the market. In this context, banks play a rather passive role and thus have to subordinate themselves to the market. Based on Coleman's bathtub model a consolidation process could take place in which banks might merge in order to reduce transaction and agency costs and to become more competitive. Some of the banks could thus disappear from the scene, leading to a new market equilibrium with fewer banks and more new competitors. Overall, following the ideas of NIE leads to a rather gloomy narrative of the future of banks, which is critically discussed in the following. By re-evaluating concepts such as uncertainty, trust, and power, a more nuanced perspective emerges. Banks may have a greater agency and potential for success than previously thought, challenging the pessimism about their future. The paper contributes to the research on the narratives of the future of banks in a specific way. By making it explicit through the scheme of thought in terms of content of thought and especially form of thought, both on a logical/theoretical and empirical/historical level, the phenomenon and its implications for possible narratives of the future of banks are disclosed more comprehensively. It is shown how the form of thinking has a subliminal influence on the thinking about the future of banks through the basic ontological and epistemological assumptions, and how the narratives take shape in different directions.

The third essay, entitled 'A Bank Is What a Bank Does vs. A Bank Does What a Bank Is: How Thinking About Money Influences Thinking About the Future of Banks' aims to answer the second research question, as is once again evident from its title. Here, banks are no longer viewed merely from an external perspective, but from an internal perspective. It starts with an orthodox economic functionalist view of money. This is contrasted with a more Marxist ontological view. This view of money is then mirrored by a functionalist view of banks, which in turn is contrasted with a more ontological view. In particular, the theory of intermediation is analysed and linked to the current debate on the disintermediation of banks. On the one hand, the transformation services

of banks and their potential for disintermediation are discussed. On the other hand, the theory of intermediation itself is addressed and extended to include the issue of money creation. This “money view” makes it possible to look at banks from an internal perspective and thus, in a further step, to address the question of what banks actually are. This concept was deliberately not defined at the outset. The paper makes an inferentialist contribution to research on the future narratives of banks. By making explicit the rather passive role of banks in the orthodox functionalist perspective, and by contrasting it with a Marxist ontological perspective applying an extension of the value-form analysis to banks for various capitals, which has not yet been done in this way, banks are shown to have a new justification and completely different prospects for the future.

The final section E. provides a summary and critical discussion of the findings of the three essays. This section aims to synthesise a deeper understanding of the narratives shaping the future of banks. It reflects on broader implications, limitations and suggests new directions for future investigation.

A.5. Research Classification

At this point, Eco’s last thought from the opening quote, which is expressed by Adso and addresses perception in relation to truth, must first be clarified. This work is not about inventing as many truths as possible. Instead, it is about the realm or logical space of talking about things (e.g. markets, institutions, money) and the realm of dealing with things (economic theories applied to reality) (based on Stekeler-Weithofer 2005, p. 154).³⁵

Contrary to an empiricist view, it is clear that human perception is already conceptually formed and therefore theoretically formed (Stekeler-Weithofer 2014, p. 30; 2022, p. 66). Stekeler-Weithofer’s plea illustrates the importance

³⁵ “Things exist as such [...] only in a complex system of speaking about things and in the context of the experiences and explanations organised by these speeches” (Stekeler-Weithofer 2005, p. 147, author’s translation).

of handling concepts and understanding them correctly:

“We only ever understand something by way of a preliminary concept that articulates a rough framework, which essentially determines the possibility of exclusion [e.g. concepts of power, trust or uncertainty in relation to institutions, as in Section C] and then also the understanding of the specific and individual sub-areas. Those who do not know the rough framework are usually unable to follow a conversation. This is also true in science. However, it is all too often believed that considerations about the framework can simply be left to some pre-scientific plausibility considerations or, even more simply, to given scientific traditions. The truly important things only happen afterwards. But the truly important thing often happen right here. It happens in the recognition or critical examination of presuppositions” (Stekeler-Weithofer 2005, pp. 52–53, author’s translation).

In this sense, the term *bank* is not defined from the outset in this thesis. It is based on a preliminary concept which will be treated explicitly later in Section D. There we go beyond the preliminary concept and cast it in a new light. Anyone who, like young Adso in the opening quote, sees truth only as the adjustment between the thing and the intellect will have to take a step back for this thesis and open up to the formation of perception through theories.

Following Stekeler-Weithofer (2005), epistemology is concerned with the question of how we come to know something, whereas a critique of cognition and knowledge examines what we can know about the world. It is only through an ontological analysis that the meaning of the words and judgements in question can be unravelled (Stekeler-Weithofer 2005, p. 156). This is precisely what the present work seeks to achieve in the sense of inferentialism.

It is evidently that this thesis aligns with the tradition of hermeneutics. It can be seen as a form of textual interpretation, i.e. making sense of an object of investigation, which aims to reveal deeper connections (Taylor 1985, p. 15).

Inferentialism can also be categorised here in the broadest sense. After all, it is a matter of understanding linguistic entities or concepts, and the inferential structuring of concepts is to be understood as normative in such a way that the giving and demanding of reasons has a deontic (normative) status, i.e. as in hermeneutics, it is determined interpretatively from the point of view (through commitment, entitlement and incompatibility).

However, hermeneutics cannot be categorised as anti-realist, even if the constructivist idea is of course present. Similarly, no anti-realist (or idealist) theory of science has been claimed with the references to Kant and Hegel.³⁶ In general, the juxtaposition of idealism and realism, as well as objectivism and relativism, is of little help (Bernstein 1983).

Westphal's definition of realism is an explicitly Hegelian perspective: "‘Realism’ regarding empirical knowledge is the view that the objects of empirical knowledge – physical particulars, events, processes, structures or other natural phenomena, of whatever scale – exist and have characteristics unto themselves, regardless of what we may say, think or believe about them" (Westphal 2018, p. 2).³⁷ By emphasising the importance of structures, the broad field of realism can be further narrowed down and reference made to critical realism. This proclaims a stratified approach in the domains of the ‘empirical,’ the ‘actual’ and the ‘real.’ In addition to mere perception and awareness of events, the latter is also concerned with structures, tendencies and (causal) powers (Bhaskar 1975/2008, pp. 2-3). A positivist perspective, including critical rationalism, either neglects them entirely or only considers them in a limited way. Positivism views them from a scientific perspective, as laws that are valid for all time (Buch-Hansen and Nielsen 2020, pp. 19–20). Here, it is important to note that the future is fundamentally open and uncertain (Sayer

³⁶ In recent years, a significant number of authors have sought to disassociate Hegel from the ‘idealism’ label and to illuminate the aspects of his work that are characterised by realism (Westphal 1989; 2018; Jaeschke and Arndt 2012; Pluder 2013). Rather than the term *German idealism*, the term *classical German philosophy* is increasingly being used, with Hegel endeavouring to overcome the opposites of idealism and realism.

³⁷ This does not contradict Stekeler-Weithofer's quotation from footnote 35, since there are different Hegelian levels of speech. Westphal is at the level of in itself [an sich], while Stekeler-Weithofer speaks about the higher level of in-and-for-itself [an und für sich].

2000, p. 15).³⁸ Hermeneutics can then be related to critical realism to the effect that although an objective reality exists, it is perceived (conceptually) interpretatively and is strongly dependent on language and its rule-guided application.

The meaning of performativity, in times of crises and uncertainty, is emphasized by Biebricher (2018, p. 197): “Interpretation and narration as two crucial elements in the construction and definition of a crisis are ineradicably idea laden, and their import thus indirectly shapes both crisis management and, possibly, institutional transformations.” In this context, the reference to theory-ladenness raises the question of what economic theories can tell us about the future of banks, less in terms of a forecast than in terms of how they guide our thinking and enable us to think about the subject.

The circular scheme for dealing with narratives in Section C can also be applied to the hermeneutic circle, where understanding must already exist as it develops (Bertram 2002, p. 41). However, since Heidegger it is no longer a question of avoiding this circle, but of entering the circle in the right way (Heidegger 1967, p. 153).

³⁸ The aspect of uncertainty is emphasised even more clearly in Section C at the beginning of the discussion.

B. Essay 1: Is Nobody Interested in the Future of Banks? A Scoping Literature Review on the State of the Debate³⁹

B.1. Introduction

Banks are not ordinary companies. This quickly becomes clear when one considers the last financial crisis. The special role of banks results in an additional responsibility for the scientific community, especially economists, to recognize future developments in time to warn banks, politicians, and society as a whole about possible undesirable developments, and even to protect them from those developments.

Dealing with the future in the social sciences is a tricky business. Because there are a large number of influencing factors, making predictions of the kind characteristic of the natural sciences is difficult, if not impossible. Unlike predictions of planetary movements, for example, forecasts in the social sciences depend on the social context, which includes the uncertain behavior of people and institutions. The situation is even more complex when feedback effects

³⁹ Hübenbecker, U. (2024), 'Is Nobody Interested in the Future of Banks? A Scoping Literature Review on the State of the Debate', *Management Review Quarterly* 74(3), 1283-1326. It is licensed under the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>).

are taken into consideration, as knowledge about the future changes behavior in the future. The dilemma is thus obvious. Although it is in the interest of society not to neglect the future, dealing with the future in a scientific manner presents great difficulties.

Why it is nevertheless worthwhile to address the issue of the future of banks and how this is possible will be briefly explained in the following. There has been already considerable public debate about the future of banks. Particularly notable is the regular publication of books with striking titles such as “Breaking Banks” (King 2014), “Bank 4.0: Banking Everywhere, Never at a Bank” (King 2019), “The End of Banking” (McMillan 2014), and “Reinventing Banking and Finance” (Panzarino and Hatami 2020). Also worth mentioning are statements such as the following, said to have been made by Bill Gates in 1994/1995: “Banking is essential, banks are not” and “Banks are dinosaurs, they can be bypassed.” These phrases have become firmly established in the linguistic usage of many people in the financial sector. In German, too, terms such as “Bankensterben” (translated roughly as “dying of banks”) are well established. It should come as no surprise that new challengers such as fintechs and BigTechs play a role in this context and inspire such or similar narratives. Such narratives, once entrenched and adopted, can drive the future in precisely the direction they describe.

In this context, Shiller (2019) points out the importance of such narratives for economics: “We need to incorporate the contagion of narratives into economic theory. Otherwise, we remain blind to a very real, very palpable, very important mechanism for economic change, as well as a crucial element for economic forecasting. If we do not understand the epidemics of popular narratives, we do not fully understand changes in the economy and in economic behavior” (Shiller 2019, p. xi). One can also speak of performativity, i.e. the fact that theories have a direct impact on the object of study itself. This is nothing new in the field of finance. For example, Callon (1998) and MacKenzie (2006) have shown that the emergence of modern finance and its highly mathematized models has significantly influenced practice.

Against this background, the aim of this paper is not to write about the “factual” future of banks, or to predict the future. The aim is rather to clarify the state of the debate by conducting a literature review that makes visible the narratives in what has already been written about the future of banks. The focus should thus be on the banks as institutions and not so much on banking as their business activity, although the two components of course cannot be completely separated from each other.

Three research questions help to achieve this aim. We start by identifying the future challenges that are listed repeatedly in the literature. This sets the context and allows for a more structured discussion of the topic. Accordingly, the first research question is: What challenges are seen for banks in the future? Asking this question makes it possible to present the different perspectives on the future against the background of the thematized challenges. Accordingly, the second research question is: What kind of future is depicted? For a future outlook to be taken seriously, it must be justified. In addition to arguments, the focus of interest here is the underlying assumptions, and it is understandable that authors can rarely agree on certain basic assumptions. Therefore, it is important to achieve transparency in regard to these assumptions so that the reader knows from the outset where he or she stands and can, if necessary, make adjustments to the picture presented. Thus, the third research question is: What lies behind the future prospects? After these three questions have been addressed, this review goes on to consider a cluster of literature of the US community banks. This section is based on a specific example and takes account of the fact that banks are not homogeneous entities. This approach follows the structure of the previous sections by addressing the questions on future challenges, future prospects, and what lies behind those prospects that were previously asked about banks in general.

In order to avoid misunderstandings with regard to future prospects, it should be noted that no evaluation of future prospects is intended. Some of the prospects may appear to be out of date; the conditions under which they arose have changed over the last 20 years, and their authors

would certainly wish to adapt their statements to the new circumstances.

To the present author's knowledge, such a review of the literature has not been carried out before, and it is hoped that this will be an important contribution to the debate on the future of banks.

The paper is structured as follows. Section 2 describes the methods used in the review. Sections 3, 4, and 5 are devoted to the research questions in the order stated above. Taking into account the fact that banks are not homogeneous entities, Section 6 examines the literature on a specific group of banks (US community banks). Section 7 addresses the implications and limitations of this review, and Section 8 concludes with possible areas for future research.

B.2. Methodology

For this review, a first literature search was conducted in July/August 2020 using the online search platform IDEAS/RePEc. This platform was chosen because it covers all the important economic journals and contains 3.6 million items.⁴⁰ This represents almost 2 million more records than EconLit, making it the largest bibliographic database of economic content.⁴¹

This review is a scoping review: a review that is primarily suitable for identifying the scope and nature of the existing literature in a research field (Paré et al. 2015, p. 186). Such reviews are “a technique to ‘map’ relevant literature in the field of interest” (Arksey and O'Malley 2005, p. 20). In this context, the scope of the question is broad and the search strategy is comprehensive. The search aims to identify both conceptual and empirical contributions (Paré et al. 2015, p. 186).

Boolean operators were used to search for “bank OR banks AND future.” The period covered by the search was 2001 to 2020, and the search was conducted in three publication forms, Articles, Papers, and Chapters. This broad search

⁴⁰ See <https://ideas.repec.org/>

⁴¹ See <https://www.aeaweb.org/econlit/>.

yielded 3,944 hits, many of which had nothing to do with the topic of the future of banks. In particular, the term ‘future’ is regularly used in scientific abstracts (for example, in connection with ‘future research’), and this generated a considerable number of nonrelevant hits.

In order to separate the relevant results from the nonrelevant ones, the author carried out an initial screening to identify results whose titles or abstracts indicated that they were likely to include statements on the future of banks. To avoid fatigue but to enable as many articles as possible to be screened, the author read a maximum of 100 abstracts each day. This process yielded 239 papers.

The initial screening was followed by a selection based on specific criteria. To be included in the literature review, the contributions had to refer explicitly to the future of banks; that is, it had to be possible to find at least one statement that was indicative of the future. Such statements could take either of two forms: a qualitative content statement that describes the future or a qualitative-evaluative statement that comments on the viability of banks. It was not sufficient, for example, to highlight a particular parameter or coefficient as important and then indicate that it would continue to be important in the future. This more detailed selection yielded 48 contributions.

The results of the selection were reviewed independently by a second person. For the screening of the 239 articles, the agreement was 92.05 percent. In relation to the selection of the 48 articles, the agreement was 72.91 percent. All cases of disagreement were reviewed by the author.

Hereafter, a second literature research was conducted from January to March 2022 using the online search platform Scopus. The platform was used to guarantee high quality results from mostly peer reviewed journals. During the initial search via IDEAS/RePEc, the quality of the search results was less of a priority, as the focus was more on finding out what future prospects could generally be found within the scientific landscape. For this purpose, grey literature (working papers and discussion papers) should also be consulted. No-

varese and Zimmermann (2008) praise RePEc in this context because RePEc does not execute a referee process or have any quality control. In this way there is no discrimination of heterodox economic directions and RePEc thus contributes to a “democratized research” (Novarese and Zimmermann 2008, p. 199).

Boolean operators were also used for the research via Scopus: “bank OR banks AND future.” The research was limited to English journal articles in the years 2001 to 2021 in the subject area “Economics, Econometrics and Finance” and “Business, Management and Accounting.” As a result 3,308 hits were generated.

The selection based on the same specific criteria mentioned above was conducted by two student assistants after they had been trained how to select the relevant literature on the basis of the abstract and title of an article. For 60 items, the two assistants found a match, which they then submitted to the author of this article. 4 out of the 60 articles were non-accessible, despite different attempts to get access to the literature. Another 2 of the 60 articles were already part of the first research selection via IDEAS/RePEc. Finally, 26 of the 60 articles were included in the literature review after reviewing the full texts. This further depletion of the literature can be explained by the instruction given to the two student assistants that they should, in case of doubt, include an article so that the author of this article could make the final decision on uncertain cases. Hence, 28 of the 60 articles had to be removed because there were no noteworthy statements on the future of banks, even though some of them suggested at first glance there might be a hidden proposition on the future of banks.

In the run-up to and in the course of the search, the author became aware of articles that were not displayed in the literature search via IDEAS/RePEc and Scopus. Faced with the choice of either proceeding systematically and excluding the additional contributions from the review or covering the topic as far as possible in terms of content and including the contributions in the

review, the author opted for the latter option. The aim of the review is to enliven the debate on the future of banks, which to date has not been very dynamic, by involving as many authors as possible. This goal is more likely to be achieved if less consideration is given to strict formal constraints, even at the risk of disadvantaging articles on the future of banks that are still unknown to the author of this review.

Ultimately, alongside the 48+26 contributions from the planned literature search, 25 contributions were obtained from an unsystematic search (see Appendix).

The term “bank” is not further defined in what follows, except in the examination of the literature on community banks. This is entirely appropriate for a scoping review in which the search strategy is designed to be comprehensive.

B.3. What Challenges Are Seen for Banks in the Future?

In order to be able to talk about the topic in question, it is reasonable first to determine which challenges are emphasized by the authors who write explicitly about the future of banks.

The same challenges are mentioned repeatedly: technology, regulation, changing customer behavior, and a lack of profitability or increased competition. Among the challenges of technology, one can highlight technological innovations themselves, such as crowdfunding with its subcategory of peer-to-peer lending (Pointner and Raunig 2018, p. 36), blockchain technology, which promises to remove barriers to entry in finance once and for all (Hatami et al. 2020, pp. 6-7; Boot 2016, p. 445), the exploitation of big data, which is putting big technology companies on the map (Thorbecke 2020, p. 4), and digital currencies, which will probably be more of a challenge for central banks (Stulz 2019).

Reference is also made to the weaknesses of banks in this context: “Payment services has been considered the Cinderella of banks’ services, but once technology has started evolving they changed into a kind of Trojan horse” (Omarini 2018c, p. 108); “The Achille’s heel of large banks are IT systems that have been built not from scratch, but through a decades-long process of ‘add-ons’” (Stulz 2019, p. 87).

Where some typical banking functions such as payment processing, intermediation, and risk management are considered separately in the literature, it is stated that these functions can also be performed by nonbank organizations (Gup 2003a, pp. 1-3). Reference is therefore also made to new competitors.⁴²

First of all, there are fintechs, with which banks are in a “state of war” (Boustani 2020, p. 347). Thanks to their specialization, they are disaggregating the value chain (Boot 2016, pp. 442-443). Their big standout feature is their “application programming interfaces [...] because they affect the way in which customers consume products and services online, and also the way of working and understanding the corporate world” (Omarini 2018b, p. 27). There is also increasing attention to the so-called BigTech companies (Stulz 2019) or techfins (Omarini 2018b), which are primarily characterized by their large user numbers. Not to be forgotten in this context is the shadow banking sector, which consists of three types of nonbank lenders: “(i) finance companies who are funded by bond issues and equity rather than deposits; (ii) business development corporations; (iii) private equity funds” (Saunders 2020, p. 2075001-2) as well as asset managers (Fender and McGuire 2016, p. 205).

The challenge of regulation often focuses on a bank–bank relationship. This involves regulation of small banks relative to banks that are considered too big to fail (Saunders 2020, p. 2075001-3), as well as regulation in a spatial context across national borders. As long as regulations are not designed at a supranational level, regulatory arbitrage by large financial institutions

⁴² Block et al. (2018) show that these new players have a significant role especially in entrepreneurial finance and they also show the heterogeneity of these new players. In this work, heterogeneity cannot be fully considered. With Lacan, we could simply speak of the ‘big other’ in this respect.

will maintain the ineffectiveness of regulation: “One of the challenges facing the banking system is the absence of an effective global supervisory system” (Moshirian 2012, pp. 2675-2676). Moshirian (2012) presents the solution right away: “A world central bank has the potential to remove regulatory arbitrage” (Moshirian 2012, p. 2678).

In addition to the bank–bank relationship, a bank–nonbank relationship can also be considered. Banks are disadvantaged as long as nonbanks that offer some of the same financial products are not subject to the same regulatory standards (Fender and McGuire 2016, p. 205; Huertas 2016, p. 71).

Regulation also affects the profitability of banks. Hintz and Smith (2017) can be cited in this context: “Thus, the global banks are caught in a global regulatory dilemma that has limited their freedom and undermined their business performance. Today, many bankers believe their ‘number 1 client is the government’ [Wall Street Journal (2013)], and this seems unlikely to change” (Hintz and Smith 2017, pp. 167-170).

Omarini (2018a) takes a similar approach, recognizing the need to adapt risk management to reflect increased regulation and reduced profitability (Omarini 2018a, p. 110). For some time, more complex market conditions have been explained in part by the increasing role of capital markets in financial intermediation (Benston et al. 2007, p. 127). Corporate financing via bond markets thus leads to a disintermediation of banks (Marchetti 2016, p. 98). In addition, the connection to macroeconomic developments has also been observed: “Banks’ profitability is correlated with macroeconomic developments” (Smaghi 2018, p. 145).

Interest rate policy, in particular, has been in the spotlight. With reference to Bernanke and Gertler (1995), it has been stated that “Policies that lower short-term interest rates or the interest rate spread may adversely affect bank profitability. If banks become less profitable, this may hinder their ability to extend loans” (Thorbecke 2020, p. 10). Gärtner and Flögel (2017) noted the same connection for the German banking system (Gärtner and Flögel 2017,

pp. 52-53). Going one step further, Dailami and Adams-Kane (2012) included the fiscal policy of EU countries in the situation of banks: “The important implication that emerges from the current policy configuration and public debt profiles is that the banking sector may bear a significant part of the burden of heightened sovereign debt distress. For euro area banks affected by sovereign debt distress, the most visible signs, so far, have been deteriorating funding market conditions, significant credit rating downgrades, and a decline in market capitalization” (Dailami and Adams-Kane 2012, p. 7).

The change in customer behavior reveals two characteristics. First, bank customers are using new technologies and are thus accessible through different channels than previously. Banks face the challenge of establishing a convenient customer interaction and creating a pleasant user experience (Gjino and Irollari 2014, p. 49). Second, bank customers are acting in a more capital market-oriented way and are thus less dependent on banks. In this case, too, one can speak of disintermediation (Cocca and Csoport 2003, p. 288) or a “drift from intermediaries to markets” (Harper and Chan 2003, p. 38).

B.4. What Kind of Future Is Depicted?

This section will proceed from the micro to the macro level in the broadest sense. It will start with the attested information monopoly of the banks and the direct influence of technology on the banks themselves. Then, the new challengers and increased competition will be examined. Finally, questions about banks in the overall financial system and the related disintermediation will be addressed.

The starting point is the assumption that markets exhibit information asymmetries and that banks can help to overcome these, through economies of specialization, economies of scale, or economies of scope (Thorbecke 2020, p. 2). However, for some time now, the Internet has been credited with reducing or completely eliminating such information asymmetries (Lamberti

and Büger 2009, p. 34). This process leads to a loss of identity or a problem of legitimacy for banks, and some authors characterize this as a primarily technology-induced change in the banking sector: “Technology does not only support existing business processes but increasingly constitutes a driver for changes within the actual banking business” (Lamberti and Büger 2009, p. 35). This point is emphasized by Omarini (2018*b*), who believes that digital transformation is not only a technological revolution but also requires new business models (Omarini 2018*b*, p. 25).

On this view, a promising way to “stay in the game” is to practice so-called open banking. This means providing third parties with open access to customer data via application programming interfaces (APIs). This comes with a risk that banks can no longer control interactions with customers, but it offers them the opportunity to innovate and broaden their offerings (Omarini 2018*b*, p. 33). In this connection, Dicuonzo et al. (2019) make the case for banks “to import nonconventional technologies (IoT [Internet of Things], business intelligence, big data and blockchain) that allow the processing of huge quantities of data quickly and accurately, which is useful not only in CRM [customer relationship management], but also in cyber security, fraud detection and the optimisation of decision-making processes. A technological innovation must be accompanied by a cultural change and, in this case, the formation of teams composed of statistical, mathematical and technological skills and data scientists who can combine data analysis skills with functional skills to create automatic processes of value” (Dicuonzo et al. 2019, p. 46). Lamberti and Büger (2009) believe that banks have been preparing for the impact of new technologies over the long term, and they recognize a future in which the banking and technology sectors will increasingly converge (Lamberti and Büger 2009, p. 35). Raja Rao et al. (2019) argue that IoT and access to big data will enable banks to better understand their customers and offer more targeted products with “the flow of information” continuing “to create value,” leading to risk mitigation (Raja Rao et al. 2019, pp. 4315-4317). General advantages of IoT for banks are cost reduction and effective risk management, improvement of

customer service, and increased security in payment transactions (Raja Rao et al. 2019, p. 4316).

Referring in general terms to the Internet as a technological innovation and bringing the bank branch into focus, Beck (2001), among others, argues that the Internet has broken down barriers to market entry and that a branch network will no longer be needed. Products can increasingly be compared from home (Beck 2001, pp. 16-17). The survey by Prodanova et al. (2015) also shows that this channel will become more important and is an important factor for banks to maintain the customer relationship (Prodanova et al. 2015, pp. 109-111). As a result, the other channels, such as the branch and the ATM, are losing importance (Prodanova et al. 2015, p. 115). Hine and Phillips (2003) also highlight the prospect of the end of “brick and mortar institutions” in the new millennium (Hine and Phillips 2003, p. 171). Supporting this argument for online banking, Gjino and Ilollari (2014) claimed that mobile banking would become established and standard over the following five to 10 years [as of 2014] (Gjino and Ilollari 2014, p. 49). Boustani (2020) builds on this point, noting that “conventional and classic bankers have a volatile and gloomy future ahead due to the invasion of finance technology” (Boustani 2020, p. 346) and that “The future belongs to virtual banks, and hybrid-banking structure could be defined as transitory only” (Boustani 2020, p. 357). This assessment is shared by Ilie et al. (2017), who argue that “traditional banks need to turn into a digital bank” (Ilie et al. 2017, p. 288). Omarini (2018a) goes so far as to claim that the bank of tomorrow is a “customer-centered platform” (Omarini 2018a, p. 126).

At the same time, the Internet is contributing to an increasing abundance of information, which could lead to a bank’s reputation becoming even more important (Beck 2001, p. 20). Closely related to this question is the trust that bank customers place in their bank. On this point, banks definitely have an advantage over the new challengers (Omarini 2018c, p. 109).

Accordingly, there are a number of authors who see continuing value in the

bank branch. Bulgărea (2011) claims that “the branch is by no means dead” and justifies the claim as follows: “The most important financial decisions made by individual customers, such as, for example, taking out a mortgage, or deciding on investments for their retirement, are normally taken through people, and not by means of mere computerized simulators or consultants at remote centers. This happens not because standard on-line solutions do not suit customers, but rather because in the last analysis, this whole process involves a ‘trust’ factor” (Bulgărea 2011, p. 21). With reference to a number of other studies, the author concludes that the branch will remain the customer’s preferred channel, even if the number of branches decreases (Bulgărea 2011, pp. 20-21).

Bulgărea (2011) is not alone in expressing doubt in relation to the demise of the banks. Kroszner (2015) follows suit, noting that “commercial banking is not dead” (Kroszner 2015, p. 6) and praising the “local knowledge of soft information” of branches (Kroszner 2015, p. 12). A more ambivalent attitude to the role of branches is taken by Scornavacca and Hoehle (2007). They argue that banks will choose a “multi-channel strategy,” going beyond traditional banking to perform a so-called “channel extension” with online banking and mobile banking (Scornavacca and Hoehle 2007, p. 316). On their view, banks will adopt mobile banking, continuing to reduce costs in this area as the number of users increases and the pace of development accelerates (Scornavacca and Hoehle 2007, p. 317). This is also the view of experts in the Delphi study by Bradley and Stewart (2003), in which they interviewed 71 people from Ireland and the USA, primarily from the retail banking industry, concluding that branch activities will decline and Internet banking will become more important in the future. Nevertheless, a multi-channel strategy will remain the most promising approach (Bradley and Stewart 2003, pp. 276-277). Interesting in this context is the study by Moser (2015), who reviewed the mobile banking literature with a discourse analysis and came to the conclusion that the academic literature did not follow the latest trends or fashions as the literature did at times in practitioner articles and that mobile banking will experience

broad adoption over the next years (Moser 2015, p. 172). Degryse and Ongena (2004) concur, seeing no way for new technologies to overcome distance completely (Degryse and Ongena 2004, p. 586). The work of Go et al. (2020) makes the point that AI will be integrated into all channels to meet the needs of customers (Go et al. 2020, pp. 115-116).

Focusing less on branches than on markets, Gup (2003a) offers a different assessment: “There will be an erosion of geographic barriers between markets, a blurring of distinction between different types of financial institutions, further consolidation, and completeness of markets” (Gup 2003a, p. 13).

Since the financial crisis, however, a trend toward greater regionalization of banking has been identified, i.e., a decrease in cross-border lending (Huertas 2016; Marchetti 2016; Claessens and van Horen 2016a; Claessens and van Horen 2016b; Fender and McGuire 2016). For example, Huertas (2016) sees a shift away from “big, broad, borderless” and toward “small(er), simple(r), separable” (Huertas 2016, p. 69). This shift is due to political factors; during the crisis, banks benefited from government bailouts and refinancing programs, and since then have refocused on the domestic market (Marchetti 2016, p. 105). Some see this trend as set to continue (Claessens and van Horen 2016a, p. 140; Fender and McGuire 2016, pp. 200-201) and even to intensify, especially in developing countries (Claessens and van Horen 2016b, p. 288).

Another aspect of the future of banks that is under discussion is big data. According to Kroszner (2015), “We will see a transformation of many banks that are no longer primarily seen as ‘financial companies’ but as technology/data analytics companies, i.e., as a technology and data analytics company that deals with financial services rather than a financial services company that uses technology and data analytics” (Kroszner 2015, p. 15). Lamberti and Büger (2009) also see such a development: “Banks could increasingly turn into factories where machines are computers and their input and output is data” (Lamberti and Büger 2009, pp. 35-36). However, they dismiss the idea that banks will disappear: “That the bank could become superfluous and be replaced by

a provider of technological services hardly seems realistic” (Lamberti and Büger 2009, p. 35). Boot (2016), on the other hand, sees the danger of specialized lenders entering the scene and replacing relationship lending with algorithm-based lending procedures based on big data mining (Boot 2016, p. 443).

In general, however, big data is seen as a major opportunity for banks (Ilie and Iacob 2018, p. 81). Dicuonzo et al. (2019) justify their stance on this issue mainly in terms of risk management: “Risk management – especially credit and reputational risk management – through BDA [big data analytics] technologies would allow the bank to use its vast amounts of data more effectively and gain more precise, detailed, and accurate information. Real-time implementation could help the risk manager be more timely and accurate in risk identification, assessment, and mitigation, and extract hidden value from the data by using new metrics to monitor data quality useful for unquantifiable risk typologies” (Dicuonzo et al. 2019, p. 45).

Thus, a somewhat positive interim conclusion on the role of technology emphasizes “the potential gains that technology and digital can generally have for banks: time savings, storage and sharing of secure documents, cost savings. In addition, the electronic vault presents new complementary sources of income: a fee based on the amount of files to be stored and additional services (electronic certification of the date of the deposit and its non-modification etc.)” (Ilie and Iacob 2018, p. 82).

When competitors are included in the outlook, then the topic of (dis)intermediation moves into focus. Omarini (2018a) argues for a future in the form of a “customer-centered platform,” thus casting banks as the victims of a form of disintermediation (Omarini 2018b, p. 25). Although Lenz (2015) regards the trend toward disintermediation as being temporarily halted by regulatory efforts in the wake of the financial crisis, he, too, sees a future in which capital is mediated via platforms. Because of the implications that Lenz (2015) sets out, he is quoted here at length: “A media-adequate continuation of this trend

is the web-based mediation of capital via Internet platforms, which is gradually replacing the traditional bank as an intermediary. Commercial banks that recognize this trend and have the courage to enter the platform business at an early stage will continue to exist in a completely different organizational structure. The banks will establish their own platforms, offer their expertise in assessing creditworthiness, advise customers on investment opportunities in their own and also third-party platforms, and continue to process payment transactions. The bank will thus gradually become the ‘front end’ of the digital platforms behind it, without, however, taking its own risk positions ‘on the books,’ but instead solely conducting the business of capital intermediation” (Lenz 2015, p. 526 author’s own translation). In this respect, the future prospects for banks are gloomy: “Web-based capital intermediation will prevail as an economically superior form of organization over the traditional business model ‘bank’. This is beyond question. The only question is how long it will take for this system change to take place in the financial market” (Lenz 2015, p. 527 author’s own translation). It should be noted that the danger of disintermediation is not new. As far back as 2001, Beck (2001) had predicted that competition would increase, that this would reduce the interest margin and associated profits, and that this in turn would lead to disintermediation (Beck 2001, p. 21).

In the area of peer-to-peer lending (P2P), it is open to question whether platform operators are profiting from the poor economic situation in the aftermath of the financial crisis and the associated low-interest phase. Experience shows that banks are reluctant to lend in times of crisis. At the same time, during such periods, central banks influence the key interest rate, adjusting their interest rates downward (Pointner and Raunig 2018, p. 49). Reinforcing this criticism of the platforms, Pointner and Raunig (2018) believe that P2P platforms tend to move in a direction where they practice balance sheet lending, which requires a banking license. Thus, they move further in the direction of traditional banking over time (Pointner and Raunig 2018, p. 49).

A different trend is recognized by Boot (2016), who sees greater market in-

tegration due to technologies, anticipating that this will move commercial banking in the direction of investment banking (Boot 2016, p. 437). Cocca and Csoport (2003) predict the future viability of traditional banking both in the form of universal banks and on the model of financial portals, which they regard as the greatest competition for universal banks. In the long term, they expect to see an alignment between the two (Cocca and Csoport 2003, p. 296). Likewise, Cobas et al. (2003) see a trend for banks to play a smaller role as financiers for nonfinancial corporations, although they believe that it will be a very long time before small businesses will no longer be dependent on banks for financing (Cobas et al. 2003, pp. 70-71).

Predictions of less banking and more nonbanking prevail in the literature, although according to Bossone (2001*b*), the demand for both banking and nonbanking services will increase (Bossone 2001*b*, pp. 2264-2265). Kodres and Narain (2010) emphasize that banks will lose ground to nonbanks: “Unless savers become highly risk averse, placing their funds on protected deposit accounts, intermediation outside the banking system is going to grow” (Kodres and Narain 2010, p. 12). The reasons for this are obvious; fintechs, in particular, offer many substitutes for traditional bank financial products (e.g., Boustani 2020, p. 346). This view also seems to have been adopted by Feldman (2020), who looks at the impact that fintech deposits and digital wallets has on the market values of commercial banks. His insight is that when digital wallet growth occurs, then the decline of bank deposits takes place, from which it follows that the market value of banks declines (Feldman 2020, p. 42). Thus, for him, “FinTech banking companies [are] a complete alternative to traditional banking” (Feldman 2020, p. 46).

As far back as 2001, Beck (2001) had already incorporated many of the aspects mentioned so far into his picture of the future. He even anticipated the phenomenon of BigTech: “The potential financial intermediaries of the future: large firms with a high reputation among customers and insurance companies. These firms will have large funds of capital under control, their reputation will be high enough that customers may put their money into the hands of these

firms, and they are well known to the public so they can acquire a potential of customers large enough to pool risks. If this is true, banks will face new rivals in the battle for customers: Insurance companies and large companies may enter the market especially for the emission and the trade of bonds and stocks as well as the credit business. This will be true for the account business and payment systems. In a few years it may be possible that customers will be given credits by Microsoft or may put their savings to Microsoft. This may not be true for financial services with low standardization and high risks” (Beck 2001, pp. 20-21).

The challenge posed by BigTech companies is also the central point for Stulz (2019), who regards fintechs as relatively dependent on banks, be it through the cash they place with banks or through the lines of credit granted to them by banks. In contrast, BigTech companies are independently viable and can operate a platform bank with their strong customer base (Stulz 2019, p. 95). This gives BigTech many advantages over fintechs as well as banks: “A BigTech firm with a platform bank would not have to rely on existing banks. It could have its own affiliated bank through which it could have deposit accounts, provide customers with credit cards, and enable them to use e-cash. It could also make available to its customers a great variety of financial services from third parties. It could help them make choices among these services” (Stulz 2019, p. 95).

According to Bossone (2001*b*), one factor that both Beck (2001) and Stulz (2019) omit is the increasing competition in the nonbanking sector. Although banks are losing their quasi-monopoly on information and will have to cede market share to the nonbank sector, banks themselves will also become more active in that sector in order to tap new sources of profit. This will increase competition in the nonbanking sector and diminish profit margins. Accordingly, there will be incentives for nonbanks to cooperate or merge with banks (Bossone 2001*b*, p. 2266). Bossone (2001*b*) concludes that this will lead to a consolidation of the banking sector, in which the active banks will be larger and fewer in number (Bossone 2001*b*, p. 2266).

Nevertheless, for some authors, what is at stake is no less than the survival of banks. For example, at the 44th Economics Conference 2017 of the Oesterreichische Nationalbank, which focused on the future of the financial system, Puschmann (2017) argued that “from a technical point of view, the internet developed from the ‘internet of information’ to the ‘internet of services’ and currently takes another step towards the ‘internet of values’,” whereby “[t]he third phase focuses on standards around blockchain, standards for digital payments, smart contracts and other areas for the exchange of values” (Puschmann 2017, p. 30). Puschmann (2017) concluded that “If for example a firm can self-issue security papers fully digitally on a blockchain, it can initiate and coordinate all processes in a decentralized manner without the need for a central party like a bank (e.g., for an IPO) or a stock exchange (e.g., for trading)” (Puschmann 2017, pp. 30-31). This view of the matter prompted Beer et al. (2017), in their reflection on Puschmann’s presentation, to claim that “in the future, we will transfer values among individuals and organizations directly without intermediaries” (Beer et al. 2017, p. 36). In particular, financial institutions would need to act to avoid having a so-called Kodak moment. In the 1980s, Kodak was the world’s leading company for photographic materials, but, for various reasons, it missed the transition to digital photography and went from being a world leader to bankruptcy.

When the special position of banks is acknowledged, authors tend to reach a different assessment, such as that of Hatami et al. (2020): “Banks will never live through a Kodak moment [...]. As a systemically important and thus highly regulated industry, banking is different from photography, IT, or even telecommunications” (Hatami et al. 2020, pp. 7-8).

Gup (2003a) does not view the future transformation of the banking sector as a “smooth transition,” which is why he dresses his article on the future of banks in the Schumpeterian terminology of “creative destruction” (Gup 2003a, p. 13). According to this approach, the institutions that will survive in the market are those that have a “strong brand identity” and enter into strategic alliances with new challengers (Gup 2003b, p. 145).

In what follows here, the special role of banks in the economic and financial system will be discussed in connection with regulation, especially the relationship between regulation and economic growth. Kodres and Narain (2010) argue that, on the one hand, a more regulated financial system can lead to a more stable system in which the real economy can thrive, but on the other hand, it can lead to lower and/or slower economic growth (Kodres and Narain 2010, p. 4). Opinions differ on this point. For Kodres and Narain (2010), the regulation enacted in the wake of the 2007/2008 financial crisis has led to a simpler and safer system with lower but stable growth (Kodres and Narain 2010, p. 17). Similarly, Huertas (2016) emphasizes the positive effects of the new regulatory regime, which not only protects banks from failing but also makes things safer when they do fail (Huertas 2016, p. 68).

In contrast, Smaghi (2018) emphasizes an increase in the cost of capital for banks, which he expects will further affect profitability in the future. This lack of profitability in the banking system cannot generate stable economic growth (Smaghi 2018, p. 151). Swagel (2016) sees no signs of a new financial crisis hitting the banking sector in the foreseeable future, even though he considers regulation in the US (in the form of the Dodd–Frank Act) to be counterproductive for a stable financial system (Swagel 2016, p. 469).

This critical approach to regulation is reminiscent of the views of Shull (2003), who looked at the future of banks before the financial crisis in the deregulatory context of the Gramm–Leach–Bliley Act and the Glass–Steagal Act: “American banking, then, can be seen as a continuation of the course that had emerged prior to 1933 and that had been arrested for nearly 70 years” (Shull 2003, p. 93).

Monvoisin (2017) focuses more on stability. She notes a long period of neglect of one of the core functions of banks, namely, to supply the production of the real economy with sufficient money (Monvoisin 2017, p. 190). Instead, banks themselves create instability in the financial sector because they are insufficiently regulated: “The sad realization is that banks have evolved to such

an extent that the financial system is no longer at the service of the productive side of the economy. Moreover, as it grows in importance, this system becomes a dominant sector and therefore can become increasingly destabilizing for the economy as a whole” (Monvoisin 2017, p. 187).

Size can play a central role in the relationship between regulation and economic growth. Bossone (2001*b*) saw this early on, declaring that “Size will matter” (Bossone 2001*b*, p. 2264), and that this is why the banking sector will consolidate into fewer but larger banks (Bossone 2001*b*, p. 2260).

In the aftermath of the financial crisis, however, the large banks came under criticism, leading Kodres and Narain (2010) to the conclusion that “After this interim period the banking sector will likely be scaled back to a smaller, but more stable, size, particularly if the activities that a bank is able to undertake are more restricted” (Kodres and Narain 2010, p. 13). This approach has been challenged by Moshirian (2012): “However, the recent global financial crisis does not appear to have had profound effects to create a more internationally based and accountable banking system. Yet in science, larger aircrafts with a large capacity are built, such as the A380, while scientists learnt how to also contain their risk. In global banking environment, the emphasis is more on how to reduce the size of banks rather than thinking how to improve global and regional financial systems in the 21st century which could minimise banks financial risks even if they further expand their global and national business activities” (Moshirian 2012, p. 2677). Swagel (2016), too, considers the big banks as scapegoats that will retain their place as such in the political discourse (Swagel 2016, p. 471). In this respect, Hintz and Smith (2017) attest to a “grim” future in which banks “will have to be smaller and more manageable, at least until they settle into a new economic model that works” (Hintz and Smith 2017, p. 169). However, it remains unclear whether this really bucks the trend for fewer but larger banks: “The keys to the likely future of the size of large banks would then be the existence and magnitude of scale and scope economies as well as regulation” (Kroszner 2015, p. 7).

In this respect, it is worth mentioning other macroeconomic factors that make the future of banks difficult to assess. Thorbecke (2020), who is particularly concerned with US banks, states: “Trade wars could worsen or a recession could hit and impair the ability of their borrowers to repay. The outlook for collateralized loan obligations could worsen and harm exposed banks. Problems in the shadow banking system could arise and spread to the regulated banking sector. These or other factors could spark a crisis and be deleterious for an already challenged banking system” (Thorbecke 2020, p. 9).

Finally, the location factor should be mentioned. As Fender and McGuire (2016) point out, it is particularly important to pay attention to the prevailing banking system and the region in which the decision-makers operate (Fender and McGuire 2016, p. 197). In relation to the future of the Swiss banking system, Cocca and Csoport (2003) conclude that successful retail banks can increase their profitability thanks to falling variable costs and an increase in volume. At the same time, technological innovations will restructure the value chain, which will lead to a decline in the vertical product offering. However, they are pessimistic about the prospects for purely online retail banks (Cocca and Csoport 2003, pp. 292-293).

For Germany, Gischer and Jüttner (2003) conclude from their econometric analysis that competition in the banking sector will increase and that profitability (in the form of the rate of return before tax and interest rate margins) will continue to decline. As a result, in overbanked countries such as Germany, the consolidation process will continue, branch closures will increase, and services will be outsourced to the Internet (Gischer and Jüttner 2003, pp. 243-244). With regard to the low interest rate environment, Dombret et al. (2019) conclude that German banks will overcome what they call the “biggest challenge facing the German banking sector” due to their reserves, which the German Commercial Code (HGB) allows banks to build up in good times (Dombret et al. 2019, pp. 157-166).

Serbia is another country with a bank-centric financial system, and Loncar and

Rajic (2012) see this situation as likely to continue. However, they anticipate a progressive consolidation in the Serbian banking sector, with an accompanying reduction in the number of banks and an increase in the market power of the largest banks (Loncar and Rajic 2012, p. 384).

A set of articles deals with the future prospects of Islamic banking. Banks that operate this kind of banking are subject to certain rules, namely not charging interest. Instead, debt-like instruments such as mark-up financing are used to circumvent this rule. Alam and Parinduri (2017) assume that this form of Islamic banking practice will continue to dominate in the future and they do not see a shift from mark-up to equity financing (Alam and Parinduri 2017, pp. 546-547). Gündüz (2020) predicts far-reaching growth for Islamic banking institutions, especially compared to conventional banks (Gündüz 2020, p. 339). For Malaysia, Ariff (2017) shares to a lesser extent this optimism for Islamic banks. Basically, Islamic banks compete more with each other than with conventional banks and he notes that many conventional banks have Islamic subsidiaries that are stronger than pure Islamic banks (Ariff 2017, p. 10). Islamic banks are still at an “infant stage” and they can only overcome this status through innovative products, although here too Islamic subsidiaries are in a better starting position (Ariff 2017, p. 11). For Malaysia, Shanmugam and Nair (2004) look at the mergers and acquisitions of the entire banking sector in the past, finding that as of 2004 there are 10 anchor banks and in future there will be more mergers, possibly with foreign banks (Shanmugam and Nair 2004, pp. 12-13).

For Pakistan, Tahir et al. (2016) also deal with the issue of mergers and acquisitions. They find monopolistic competition in the banking sector in Pakistan and do not see the banking sector in long-run equilibrium. The authors conclude that many mergers and acquisitions will take place in the future, as this will increase the competitive dynamics (Tahir et al. 2016, p. 251). For the neighbouring country India, bank managers themselves get a chance to speak in the article by Kamath et al. (2003), and explain four trends that can be observed: “consolidation, globalisation of operations, development of new

technologies, and universalization of banking” (Kamath et al. 2003, p. 83).

For Bangladesh, the article by Rahman and Abedin (2021) conducted a survey and interview of 30 public commercial banks with 183 participants. Here, the authors state that technology has never provided such a rapid and comprehensive change and they conclude that technology will greatly change the banking landscape, the bank branch being replaced by “banking from everywhere” (Rahman and Abedin 2021, pp. 1292, 1297). The change also affects security aspects that can arise with “technological platforms such as fraud, forgery and anti-money laundering” (Rahman and Abedin 2021, p. 1297).

Another group of articles focuses on China. For this region, Allen et al. (2015) note that the five largest banks, which are all state-owned, have high rates of non-performing loans (NPL) (Allen et al. 2015, p. 222). However, NPLs are a problem for neither the government nor the banks (Allen et al. 2015, p. 230). With the financial sector liberalisation, the authors see an intensification of competition among banks in the future, which can also change the incentive structures towards issuing loans of better quality (Allen et al. 2015, p. 303). The market will become more important, but China is still a bank-based system (Allen et al. 2015, p. 283).

Chen et al. (2017) focus on the Chinese market. In their case study on the Industrial and Consumer Bank of China (ICBC) and Citigroup, they conclude that traditional financial institutions are turning into technology companies (Chen et al. 2017, p. 4). Accordingly, they see mobile internet finance as the future of banking (Chen et al. 2017, p. 15).

According to Selmier (2018), behavioural aspects are also taken into account (guanxi and renqing), which are of enormous importance for banking in China. This is a kind of accommodation service, a “quasi-contractual debt obligation,” which is characterised by strong relationship banking (Selmier 2018, pp. 9-10). Furthermore, the author notes that the internationalisation or expansion of Chinese banks is cautious and slow, as China historically learns from the mistakes of Japan (Selmier 2018, p. 3). He further assumes that state-

owned banks will play a significant role in the future and thus also Chinese banks (Selmier 2018, p. 10).

For Hong Kong, Wan et al. (2005) highlight the growing importance of a multi-channel strategy for banks, especially electronic banking and “virtual banking.” However, these cannot simply replace all other channels (Wan et al. 2005, p. 255). Bank branches are still needed, especially for corporate image building, not only towards individual customers but in general: “Such a positive corporate image can help the bank develop and maintain long-term competitiveness in the society” (Wan et al. 2005, p. 255).

Japan, too, has a bank-centric financial system. Baba and Hisada (2002) predicted that capital market pressures would increase in the long term, although not to the level seen in the United States. At the same time, they expected pressure from new competitors to increase, which would strongly affect profitability. Ultimately, then, the conditions for a sound bank-centric system cannot be maintained (Baba and Hisada 2002, p. 77).

For South Africa, Coetzee (2018) sees a challenge to banks posed by fintechs, which are disruptive and threaten the very existence of banks (Coetzee 2018, p. 6). For him, the future is “fundamentally technology driven” and switching costs will become lower and lower, seriously threatening the survival of banks and leading to fewer and fewer branches (Coetzee 2018, pp. 8-9). In the article by Wessels and Van Rooyen (2010), the connection between stability and economic growth is addressed. They also look primarily at South Africa. They predict that bank revenues will decline because fewer loans are being granted and interest rates are falling, so that the future is not rosy overall (Wessels and Van Rooyen 2010, p. 400). Because South Africa did comparatively well in the financial crisis, the authors infer a positive effect that new capital can flow into the country (Wessels and Van Rooyen 2010, p. 401). What is not discussed, however, is why South Africa did so well and whether there is perhaps a connection between the good performance and the less developed financial system.

Turning to the South American continent, an extremely fruitful article by Miralles-Quirós et al. (2017) can be addressed, in which the authors test Gibrat's Law for the banking market in Brazil. This states that there is no relationship between size and growth and thus that all firms have the same probability of growing (Miralles-Quirós et al. 2017, p. 1658). So far there is disagreement in the literature on whether Gibrat's law holds or not (Miralles-Quirós et al. 2017, p. 1660). The authors' empirical results suggest that there is a non-linear relationship between size and growth in the shape of an inverted U, which means that small firms have greater growth potential and the banking market will develop accordingly, i.e. the concentration in the banking sector will decrease and the market shares of the players will equalise (Miralles-Quirós et al. 2017, pp. 1667-1668).

In less developed countries, the future of banking is viewed more optimistically, as there is considerable need to catch up in the deepening of financial structures (Seelig 2003, pp. 28-29).

B.5. How Are the Future Prospects Derived?

In order for a future outlook to be taken seriously, it must be justifiable. In addition to the arguments put forward by authors, the focus here is on the assumptions behind the arguments, something that authors rarely agree on. Accordingly, it is important to achieve transparency concerning these assumptions so that the reader knows from the outset where he or she stands and, if necessary, can make adjustments. In this context, it will again become clear that the different areas of focus are closely interrelated.

One important factor in the justification of an outlook relates to whether banks are seen as playing a special role in the economic and financial system. There are different starting points for such special status. For example, Stulz (2019) points out that "[d]eposits are at the core of what makes a bank on economic grounds as well" (Stulz 2019, p. 88) and emphasizes that special regulatory

relationships for banks exist because of deposit opportunities and not simply because banks are lenders (Stulz 2019, p. 87). Thus, although banks compete with nonbanks for deposits, nonbanks do not enjoy the same rights as banks, for example, over deposit insurance (Stulz 2019, pp. 87-88). Kroszner (2015) echoes this point, noting that “banks are still ‘special’ in that non-banks without deposits behave differently during liquidity shocks and that this deposit–credit creation link is unique to banks” (Kroszner 2015, p. 12).

A different approach to the specificity of banks is Bossone (2001*b*) and his monetary circuit approach: “[Banks] issue debt claims on themselves that are accepted *as money* by the public” (Bossone 2001*b*, p. 2252, emphasis added). Therefore, Bossone continues, “Banks are special because they can finance new production by creating money; this makes production cheaper than if banks were only to intermediate claims backed by pre-existing real resources” (Bossone 2001*b*, p. 2253).

Bossone (2001*b*) distinguishes between a credit market, where liquidity is generated for use in production, and a financial market, where existing accumulated liquidity is merely distributed. Bossone (2001*b*) associates the credit market with banks and the financial market with nonbank financial intermediaries. These nonbank financial intermediaries “transfer money across agents with different liquidity preferences, in no case do they create money” (Bossone 2001*b*, p. 2252). Whereby Bossone (2001*b*) points out that no one is prevented from “using a nonbank liability *as money*” (Bossone 2001*b*, p. 2252, emphasis added).

In support of Bossone’s view, we can cite the post-Keynesian approach of Monvoisin (2017), who claims that an analysis of banking behavior is not possible without an analysis of money (Monvoisin 2017, p. 183). “The abandonment of the mainstream causality between savings and investment implies that production must now be financed, and it is this necessity to finance production that makes banks and bank credit so important in the discussion over the role of banks” (Monvoisin 2017, p. 193).

The focus of consideration can be either the asset side of the balance sheet (loans) or the liability side (deposits). Depending on where the focus lies, it can also be determined whether the bank is an active or a passive⁴³ player. In this respect, authors who focus on the deposit side of the balance sheet advocate a typical intermediation approach, according to which banks depend on deposits in order to be able to grant loans (Sealey and Lindley 1977).⁴⁴

According to this approach, banks are dependent on customer deposits and play a somewhat passive role. In contrast, the emphasis on money creation attributes to banks an active role that goes well beyond their role as mere intermediaries. The associated scope for banks to shape the economy tends to place producers in a relationship of dependence on banks.

With regard to future prospects, it can be assumed that passive or dependent actors have less room for shaping the economic field, whereas active actors have room for action that they can use to structure the future in their own interests.

Feldman (2020) sees the banks in this respect, at the mercy of the new competitors, which for him represent a complete alternative to banks. This view is taken to the extreme by Othman et al. (2019). They look at the challenge of blockchain technology in the form of cryptocurrencies on banks with a vector autoregression (VAR) and a vector error correction model (VECM). They find that growing market capitalization of crypto-industry “has a negative long-run equilibrium relationship with bank deposit variability.” The authors even calculate a 1% deterioration in the market capitalisation of cryptocurrencies, which means that bank deposit variability will increase by approximately 4.381% (Othman et al. 2019, p. 122). How meaningful this calculation is can be questioned, because, as in the authors’ own words, “public perception is consistently influenced by the media” (Othman et al. 2019, p. 122). All in

⁴³ See also Ingraio and Sardoni (2019) for a similar terminology.

⁴⁴ Earlier approaches to a theory of intermediation in this sense can already be found in (Cannan 1921; Cannan 1927; Gurley and Shaw 1955; Gurley and Shaw 1956). Compare also the definition by Mishkin (2019): “[...]financial intermediaries, which are institutions that borrow funds from people who have saved *and in turn* make loans to people who need funds” (Mishkin 2019, p. 55, emphasis added).

all, such an indicator reveals a strongly (natural) science-based understanding of society, which does not take humans as anticipating beings into account at all. With regard to “the bank’s future performances and survival,” there are two alternative courses of action: (1) to invest in cryptocurrencies themselves during economic upswings and to avoid them during downturns and (2) to implement blockchain technology, which, however, does not seem particularly promising for the authors themselves. Ultimately, cryptocurrencies eliminate the functions of a bank (Othman et al. 2019, p. 110, 119). Broby (2021) also takes a strong look at the bank as an intermediary. Here, the author attempts to expand the theory of the banking firm by Klein (1971) to include the aspect of digital banking. Disintermediation is a particular focus of attention, which understandably darkens the outlook for the future. However, Broby (2021) also points to the advantages of banks, such as trust. For the banks, the primary goal is therefore also to expand this trust and customer loyalty. Brandl (2020) would certainly argue against this, seeing no danger in blockchain technology and above all not the end for banks, but rather points out that “capitalist economies are fundamentally dependent on intermediaries that can generate confidence in the temporal as well as the spatial stability of the value of money” (Brandl 2020, p. 560 author’s own translation).

So far, the specialness of banks has been related to one side of the balance sheet of each bank. A more general view of the situation is taken by Hatami et al. (2020), who refer to the banking license, which will ensure the continued existence of the banking sector (Hatami et al. 2020, p. 9). In this sense, a more institutional approach can be detected here.⁴⁵

Omarini (2018a) offers a view that already finds it difficult to identify one unique feature of banks: “Banks have to recognize that the blurring of the lines between banks and Fintech startups is causing a rethinking of the definition of a bank itself. According to regulators, they are deposit-taking institutions, but they do not necessarily need to be defined by that. [...] Fintech

⁴⁵ Among others, the New Institutional Economics, which combines economic aspects with legal components could be mentioned (e.g. in the property rights approach).

companies may be considered enablers or social constructs, because they are not banks in the traditional sense, but they are banks because they let customers store money. All this boils down to the construct of what people feel is a bank” (Omarini 2018a, pp. 128-129). As outlined in the previous section, such a view ultimately leads Omarini (2018b) to describe banks as “victims of disintermediation” (Omarini 2018b, p. 25). The notion of victim should not be overemphasized in this respect, but this assessment goes far beyond allocating banks a passive role in the future.

Another facet of the specialness of banks concerns their role in economic growth. Again, Bossone (2001b) attributes special capabilities: “Banks are thus essential for a growing real and financial economy” (Bossone 2001b, p. 2261). What becomes particularly clear from this quotation is that banks are of enormous importance for the real economy and for economic growth. When this aspect is recognized by political decision-makers, banks enjoy influence and are protected in the public interest, which helps them weather future crises and may save them from unwelcome regulation.

Kodres and Narain (2010) also integrate banks into the overarching goal of economic growth. Everything must be subordinated to this goal. According to Kodres and Narain (2010), regulation can be an obstacle to innovation and thus can slow growth (Kodres and Narain 2010, pp. 11-12); on this view, regulation must not be too strict. In this context, the International Monetary Fund (IMF), to which the authors are close, will work to ensure that “a redesigned financial system benefits all its members, not just some” (Kodres and Narain 2010, pp. 16-17). They continue: “The new higher capital requirements and other regulatory strictures on banks imply that in the steady state, after the deleveraging effects of the crisis have worn off, the banking system is likely to be smaller overall. In the near term, bank deleveraging may overshoot and reduce the size of the banking system below its long-run equilibrium” (Kodres and Narain 2010, p. 13). The reliance on neoclassical growth theory is hard to miss (“steady state,” “long-run equilibrium,” “growth path”). What is relevant for the future prospects of banks is that neoclassical growth theory,

which relates exclusively to real economic aspects, is mixed up here with the monetary sector, resulting in policy recommendations that do not follow from the theory at all. The model, which takes no account of money as such, of institutions, or of regulation, is used to infer a loose regulatory policy for banks (Petrakis 2020, p. 321). The application of neoclassical growth theory is also interesting against the background of the hope expressed that all members will benefit from IMF involvement. After all, IMF policies with this intention have not been able to fulfill these hopes over the past 70 years (Abe 2003; Vreeland 2003; Copelovitch 2010; Breen 2013; Moosa and Moosa 2019, chap. 5). It is clear that the theory has provoked more optimism than might be advisable.

At this point, we need to return to the interactions of regulation discussed in the last section and to the causal relationship between regulation and economic growth. Regulation can be seen as an obstacle to innovation (Kodres and Narain 2010), as causing higher costs and thus lower profitability for banks, or as detrimental to the growth of banks themselves (Stulz 2019, p. 87). Moreover, de Andrés et al. (2019) argue that regulation of managerial salaries will have a negative impact on European banks because the best managers will go elsewhere. Regulation is seen as a constraint that prevents managers from finding the optimal risk level for the bank (de Andrés et al. 2019, p. 222). Behind this lies a strong market thought. Through impaired profitability, regulation can also lead to growth problems for the economy as a whole (Smaghi 2018, p. 151). However, the focus can move toward stability. In that case, regulation is a barrier to entry for further competitors, which is conducive to banks' profitability (Stulz 2019, p. 87). To a certain extent, this view is held by Kodres and Narain (2010), provided that the regulation is not too strong. Similarly, Monvoisin (2017) considers stronger regulation to be indispensable if banks are once again to fulfill their role in the "monetary economy of production" in order to generate economic growth (Monvoisin 2017, p. 196). Cullen (2018) criticises the standard narrative of the pre-crisis practice of securitisation, in short that the originate-to-distribute approach of mortgage loans creates the wrong incentives and that regulation should reduce these

kinds of incentives and instead increase transparency and reduce complexity (Cullen 2018, p. 76). Such regulation is merely process-focused regulation and is nice in theory because of its efficient results, but it fails to recognise the behavioural aspects of bubbles, which is why it is better to address the capacity of the credit channel (Cullen 2018, pp. 76-77). In this context, Cullen (2018) makes his future prediction (for banks in the UK, which are facing just such a process-forced regulation with the EU Regulation on Securitization) that banks will mutate into monolines, which will become more receptive to lending greater volumes in property markets and specialise almost exclusively in mortgage lending (Cullen 2018, p. 104). In his argumentation, Cullen (2018) draws both on post-Keynesian authors such as Minsky and authors who emphasise the instability of the financial market, such as Shiller (Cullen 2018, p. 91). In addition to the regulatory aspect of securitisation, financialisation can also be highlighted, as Hardie and Howarth (2009) do. The authors refer to the “increased trading of risk,” which in their eyes is responsible for French banks having survived the financial crisis more successfully than German banks (Hardie and Howarth 2009, p. 1018). For German banks, however, they see a trend that points further towards financialisation and, especially for German regional/country banks, goes hand in hand with a stronger international orientation, which in turn means a move away from the core business of regional financing of SMEs (Hardie and Howarth 2009, p. 1036). Thus, depending on where the focus lies, either there is positive scope for banks (regulation → stability) or there are existential concerns (regulation → costs of regulation).

In this respect, it is worth recalling Kindleberger (1983), who had already dealt with the question in a modified form. He focused on the relationship between international banking and international trade, asking whether banks follow international business activities or enable them. However, even Kindleberger (1983) could not provide a simple answer to this question. When the relationship between banks and nonbanks is considered in the context of regulation, different approaches become apparent here, too. For example, Stulz

(2019) blames regulation for the rise of nonbank financial institutions (or the shadow banking sector), with reference to the savings and loan crisis of the 1980s (Stulz 2019, p. 89). Recognizing the confrontation between banks and nonbanks, however, Kroszner (2015) sees banks as winning out over nonbanks in terms of regulation in the wake of the 2007 financial crisis; in the US, regulation hit the shadow banking sector much harder (Kroszner 2015, p. 6). Dugan (2016) agrees, noting that all the financial institutions that survived the crisis are now affected by “bank-style regulation” (Dugan 2016, pp. 454-455). Lenz (2015), in contrast, does not see this phase as a battle of banks versus nonbanks, but rather highlights the responsibility of banks for nonbanks: “In the 1990s, banks increasingly established off-balance-sheet transaction platforms with their own legal personality, as these were much more flexible in terms of the possibilities of securitization” (Lenz 2015, p. 526 author’s own translation).

Despite this view that banks can create money and that the central bank has only a limited ability to influence the money supply, Lenz (2015) foresees a bleak future for banks in which they act merely as platforms and can no longer exercise their special capabilities. In this context, he clearly distances himself from Bossone (2001*b*) and Monvoisin (2017). This is because the essential part of Lenz’s analysis depends on a network effect: “That is, the economic advantage of a behavioral change in terms of the individual turning to something new must be so severe that it justifies the transaction costs of familiarizing oneself with the new and the associated initial uncertainty of acting. As the number of new users increases, at a certain point the network effect kicks in, giving the process of reorganization and system change a momentum of its own” (Lenz 2015, p. 523).

At this point, a changeover from quantity to quality or a kind of emergence can be seen. For Lenz (2015), this process is so important that the specialness of the banks takes a back seat. Again, a similar effect is noted by Bossone (2001*b*). With the increasing loss of market share to nonbanks, traditional banking will change: “As many believe, the quantitative loss reflects a qual-

itative change” (Bossone 2001*b*, p. 2259). However, according to Bossone, even if banks give up market shares to nonbanks, they can maintain their special role in the economic and financial system. This is because competition in the nonbank sector will also increase and reduce profit opportunities, such that nonbanks will merge or cooperate more with banks (Bossone 2001*b*, p. 2266). Thus, despite considering similar aspects to Lenz (2015), Bossone (2001*b*) arrives at a very different picture of the future.

A critical attitude toward regulation in connection with economic growth reveals one major assumption, which tends to be tacit. The underlying idea is that market efficiency is impaired by regulation. Although this finding may sound trivial to many economists, it is a fundamental assumption for the future of banks. This is because policy recommendations are derived from the critical attitude, which are then implemented by political decision-makers. In this context, it is worth taking a look back. In a review article, Benston et al. (2007) revisit their influential book from two decades earlier (Benston et al. 1986)⁴⁶, in which they examined the “safety and soundness of the banking industry” in order to draw lessons for the future: “Time-traveling is so valuable that sifting through the dust of our ancient study can help one to understand the forces driving financial change today and how these forces might eventually take the industry back into trouble” (Benston et al. 2007, p. 132). Of particular interest is the almost casual remark about markets, made in the context of finance theory: “If markets are efficient (as we all believe them to be), leverage does not add to the value of the firm” (Benston et al. 2007, p. 130). The authors then explicitly attest this efficiency of the markets in relation to securities and mortgage markets: “They do for the securities that compose part of a bank’s portfolio and for mortgage loans that may make up a larger part” (Benston et al. 2007, p. 131). This is a statement that, if made just one year later, would have astonished many people.

It is in this context that we should consider the following quote, in which one of the authors expresses his satisfaction with the policy measures taken since

⁴⁶ This study was commissioned by the American Bankers Association.

the publication of the book: “I take pride in our ability to identify issues and to point public policy in the right direction. Over recent years we have moved significantly in that direction, but we still have a way to go” (Benston et al. 2007, p. 131). It is important to note that the period between the publication of the book in 1986 and the self-praise in 2007 concerning the book’s impact on policy was accompanied by far-reaching liberalization and deregulation of markets in the financial sector (Helleiner 1994, chap. 7; Arestis 2004/2005; Arestis and Sawyer 2005; Arestis 2016). The notion of efficient markets has had a significant influence on what has happened in the real world of banking, not to mention its performative character. Since the role of the market has been understood in a range of ways, both in economic history and economic theory, such an aspect cannot be disregarded for the future of banks.

Kroszner (2015) also mentions efficiency reasons due to the market, regarding deregulation and the resulting deepening of the financial sector in the US as a “win–win” result; both the banks and the state would have benefited from higher growth rates, a claim that the author tries to substantiate by identifying correlative relationships (Kroszner 2015, p. 10). Kodres and Narain (2010) express a similar view: “Action on numerous fronts by the various public entities could result in over-regulation to a degree that certain markets may simply disappear and valuable financial innovations and products are blocked” (Kodres and Narain 2010, p. 4). At this point, the specificity of banks can again be included and considered in terms of market credibility. For example, Harper and Chan (2003) see banks as merely a “substitute for missing financial markets.” According to them, if financial markets are available, they operate more cheaply and efficiently (Harper and Chan 2003, p. 44).

Similarly, Cocca and Csoport (2003) state that “The banking and financial sector is primarily an information processing branch of the economy [...] the economic justification of their existence, is based on a guaranteeing of various transformation and transaction functions within the scope of financial intermediation” (Cocca and Csoport 2003, p. 281). If technological innovations such as the Internet eliminate information asymmetries, Harper and

Chan (2003) see forces at work that have the potential to eliminate banking (Harper and Chan 2003, p. 43). From the “death of banking” it follows that “banks have forever lost their uniqueness” (Harper and Chan 2003, p. 47). Therefore, according to the authors, “The future of banks will not be in banking but rather in the market exchange of financial instruments” (Harper and Chan 2003, p. 45). Cocca and Csoport (2003) regard customers as the biggest winners in the wake of greater competition and technological innovations. To this end, they also make use of Adam Smith’s concept of the “invisible hand” (Cocca and Csoport 2003, p. 313). It is very clear here how strongly a belief in the market as an abstraction, or in the financial markets as a more concrete phenomenon, goes hand in hand with foreseeing a negative future for banks.

Smaghi (2018) highlights another effect. He tries to show the difference between US banks and European banks with reference to profitability as an important factor: “Banks that are more profitable are better valued by the markets” (Smaghi 2018, p. 144). The fact that profitability is an important factor will not be questioned here, but behind that view lies a belief in the market that is difficult to understand when looking at companies other than banks. This belief would not explain the capitalization of companies such as Spotify or Tesla, and hence it can be insisted here that banks are not normal companies. However, even then, some evidence would have to be provided to account for why “the market” behaves differently for banks than for “normal” companies. Smaghi also gives reasons why US banks are more profitable than European banks. However, some of these reasons are connected to the relative lack of depth of the capital market on the European side, which penalizes banco-centric financial systems more (Smaghi 2018, pp. 148-150). In terms of the future of banks, a deeper capital market is likely to result in more profit opportunities. Sargu and Roman (2010) note the importance of payment transactions for bank profitability, and they link the lower profitability in Europe and Asia to a “more fragmented retail payment infrastructure” than in the US (Sargu and Roman 2010, p. 684).

Based on the belief in the market, a belief in technology can be identified in

many places. This can take a relatively objective form, as with Scornavacca and Hoehle (2007), who see technology as responsible for the rapid growth in mobile banking (Scornavacca and Hoehle 2007, p. 318). However, it can also arise in the context of evolutionary progress thinking (Seelig 2003, p. 19). Ilie and Iacob (2018) put it succinctly: “Digital technology [...] is part of a natural evolution” (Ilie and Iacob 2018, p. 80). In the same vein, despite relying less on biological terminology, Omarini (2018*b*) writes of “the ability to innovate becoming a strategic prerequisite for the financial services industry’s growth and success” (Omarini 2018*b*, p. 26).

For Hintz and Smith (2017), insufficient investment in new technology explains the poor performance of banks (Hintz and Smith 2017, p. 172). This evolutionary idea has led many authors to believe that a kind of replacement of banks is imminent; banks cannot withstand evolution because they are too weak. Boustani (2020) uses the Schumpeterian term “creative destruction” to argue that fintechs could completely replace banks (Boustani 2020, p. 350), and even glorifies the role of technology to some extent: “It was not until the global crisis (2007–2009) that the United States realized the importance of financial innovation. The default of housing payments triggered a global crisis and the recovery was marked by financial innovations” (Boustani 2020, p. 348). It can be noted in this regard that technology in finance made a significant contribution to the crisis (see for example Lapavitsas and dos Santos 2008, p. 45).

Anagnostopoulos (2018), who also notes the rise of fintechs, nevertheless does not assume that banks as institutions are threatened with extinction. Instead of a competitive relationship against fintechs, he brings into play channel diversification and partnerships with them (Anagnostopoulos 2018, p. 9, 19). This is also the argument of Sedaghatparast (2019), who generally considers actions at all levels: Cooperation of banks with non-banks, greater investment in technology, diversification of products and permanent training of own staff (Sedaghatparast 2019, pp. 489–490). As mentioned earlier, for Lenz (2015), technology (in the form of new competitors) is causing banks to turn

themselves into platforms, thereby losing any special role they might play in the economic and financial system.

However, besides these rather pessimistic voices, there are also authors who see opportunities for banks in new technologies. Ilie and Iacob (2018) base their optimism on an interplay of four processes of transformation: optimizing the customer experience, redesigning business processes, changing the internal mode of production, and transforming the business model whereby banks have a competitive advantage due to their proximity to the customer. Banks can thus accommodate changing customer behavior by means of technology, shifting from a product-based strategy to a service-based strategy (Ilie and Iacob 2018, pp. 81-83). At this point, acknowledgments of the importance of technology transition into views on changing customer behavior. Omarini (2018*b*) has made clear the increasing importance of attracting and retaining customers, focusing on the importance of the trust factor.

This psychological component goes beyond the notion of a purely rational customer. The connection between technology and customer behavior is multilayered. Some authors, including Tiwari et al. (2006), continue to address the purely rational aspect; they assume that technological innovations such as mobile banking will become standard in the medium term, allowing banks to continue to offer services to their technology-savvy customers (Tiwari et al. 2006, p. 7). However, in an increasingly uncertain and unmanageable world, there remains a need for institutions that can build trust (similarly Hatami et al. 2020, p. 8). Bulgărea (2011) exemplifies this psychological consideration when she says: “Multichannelling is more than offering multiple channels” (Bulgărea 2011, pp. 20-21). Here, it is trust that opens up a decisive influence on consistency in the bank–customer relationship. Boot (2016) takes a similar view, assuming that banks will survive in the market, even in the age of fintechs, because they benefit from people’s wish to have a safe place for their money: “Whatever the popularity of Apple, will people trust technology companies in safeguarding their money? Being a bank with a license and an implicit guarantee from the government has value” (Boot 2016, pp. 444-445).

B.6. Example: Community Banks

A not insignificant part of the literature reviewed here on the future of banks relates to community banks in the United States. This is primarily due to the English-language search terms used. Nevertheless, these studies form a cluster that can be treated as a case. Since community banks are considered to be relatively small banks, they can be used to illustrate the differences between small and large banks in terms of the identified areas of focus.

The literature on the future of community banks was initiated in a range of articles by DeYoung (DeYoung and Hunter 2001; DeYoung and Duffy 2002; DeYoung and Rice 2004; DeYoung et al. 2004; DeYoung and Hunter 2003). For this reason, the definition of community banks used by these articles will serve as the basis for this section: “A community bank (a) holds less than 1 billion dollars in assets (2001 dollars); (b) derives at least half its deposits from branches located in a single county; (c) is domestically owned; (d) has a traditional product mix that includes portfolio lending, transactions services, and insured deposits; and (e) is either an independent bank, the sole bank in a one-bank holding company, or an affiliate in a multibank holding company (MBHC) comprised solely of other community banks” (DeYoung et al. 2004, p. 87).

These relatively small banks predominantly finance small businesses and thus perform an important function within the US economy (Gilbert 2007, p. 1). Balasubramanyan et al. (2013/2014) highlight the services provided by community banks and distinguish them from other types of banks: “In the banking world, many community banks focus mainly on service, megabanks on scope, online financial institutions on price. RBOs [regional banking organizations with assets between 10 and 50 billion USD] can offer it all, even under incredible pricing pressures. Because they focus on a particular region, RBOs also have the advantage of knowing their customers more intimately, allowing most to offer a specialized product or a more tailored customer experience” (Balasubramanyan et al. 2013/2014, p. 9). The authors assess the future chal-

lenges for community banks as similar to those facing banks in general. The main concern is low interest rates, which affect profitability (Lux and Greene 2015, p. 6). In this respect, ways must be found to ensure that profits are no longer dependent on the interest margin (Gilbert et al. 2013, p. 136). One way is “to drive more efficiency into core business lines” and exercise “control of operating expenses” (Corner 2010, p. 9).

The increasing importance of nonbanks, such as credit card networks, was clear even before the financial crisis (DeYoung et al. 2004, p. 104). Prior to the crisis, the main drivers of major change were seen in the deregulation of financial markets and the use of new technologies that removed geographical barriers, forcing increased competition and allowing new competitors to enter (DeYoung and Hunter 2001, p. 1). The studies mention, among others, the Gramm–Leach–Bliley Act of 1999 that “eliminated the barriers that had protected commercial banks, investment banks, brokerage house, and insurance companies from competition with each other” (DeYoung et al. 2004, p. 104) and the Riegle–Neal Act of 1994, which lifted the regional market entry restrictions for both large banks and small community banks (DeYoung et al. 2004, p. 104).

In general, prior to the financial crisis, bankers themselves already recognized the challenges of new regulation, new technology, and increased competition; this is clear from surveys in a series of articles published by the Federal Reserve Bank of Kansas City for the Tenth District (Midwestern US) (Myers 2001; Myers and Sullivan 2001; Myers and Robbins 2004; Klose 2004). Other concerns expressed in this context include the ability of banks to pay competitive wages to their employees (Myers 2001, p. 13; Myers and Sullivan 2001, p. 9) and significant aging of the population in primarily rural areas (Myers and Robbins 2004, p. 23; Klose 2004, pp. 8-9).

The literature around DeYoung speaks here of a “strategic wedge” that regulation and technology drive between large and small banks (DeYoung and Hunter 2001, p. 8; DeYoung et al. 2004, p. 110). In this context, the authors

recognize both a decreasing role for banks as an investment object for customers and a “breathtaking amount of commoditization on the lending side of banking,” which represents, for example, securitization (DeYoung et al. 2004, p. 103). However, the authors see technology in the payment system as providing the greatest potential for change in the banking system (DeYoung et al. 2004, p. 98).

After the financial crisis, this assessment has changed, at least with regard to regulation. Corner (2010), for example, estimates that technology, regulatory costs, and standardized loan products affected the market share of community banks, and thus their profitability (Corner 2010, p. 9).

If we look at the future prospects of community banks as described in the literature, the picture is largely positive. The literature around DeYoung uses the three parameters of bank size, bank unit costs, and product differentiation to describe how the banking sector changed as a result of deregulation and new technologies, and to delineate how this development will continue. According to this literature, large banks will rely less on personalized service, take advantage of economies of scale (which are associated with lower unit costs), and rely on automated product processes. Community banks, on the other hand, will rely more on soft information, pursue a high degree of product differentiation, and offer high-end consumer banking services (DeYoung et al. 2004, p. 110). With the aim of predicting the future viability of community banks, the authors test their model against existing data. They start with the current population of community banks and gradually remove the least profitable until the average ROE [return on equity] is at least equal to the average ROE of the large banks (DeYoung et al. 2004, p. 123). The result is a banking landscape that contains significantly fewer profitable community banks and a relatively small number of large banks (DeYoung et al. 2004, pp. 120-123; DeYoung and Hunter 2001, p. 25). The authors see this projection as evidence of the viability of the community bank business model, which nevertheless requires a “well-run organization to make it work” (DeYoung et al. 2004, p. 122; DeYoung and Duffy 2002, p. 14).

Although Gilbert (2007) cautions that certain aspects of tax may have a distorting effect on DeYoung's data (such as regulations on Subchapter S corporations), he also concludes that "small banks will continue to be an important part of the financial services industry in the United States" (Gilbert 2007, p. 1). This assessment still stands after the financial crisis Gilbert et al. (2013). The data indicate that community banks that performed well during the financial crisis will continue to be successful in the future. What will be important is "strong commitments to maintaining standards for risk control in all economic environments and business plans that work for their individual markets" (Gilbert et al. 2013, p. 138).

Lux and Greene (2015) focus on the question of whether community banks (those with up to 10 billion USD total assets) will retain their unique selling proposition of being able to serve small businesses better (Lux and Greene 2015, p. 5). They analyze the trend toward this and away from the current engagement with bank lending markets. They conclude that community banks will continue to play an important role in the US agricultural, residential, and small business lending markets (Lux and Greene 2015, p. 31). In this context, the authors take a critical view of regulation: "We find that while community banks weathered the crisis with greater resilience than many mid-size counterparts, since the passage of the Dodd–Frank Act the pace at which community banks have lost market share is nearly double what it was during the crisis" (Lux and Greene 2015, p. 31).

Regulatory costs mean that size is increasingly a decisive factor, although DeYoung et al. (2004) have already addressed the increasing importance of size for community banks (DeYoung et al. 2004, p. 122). Gilbert (2007) makes a similar assessment. Community banks need to learn from the most profitable banks, and he sees an advantage for community banks that have between 100 million and 1 billion USD in assets (Gilbert 2007, p. 14). In the recent literature on community banks, this point is echoed by Chiorazzo et al. (2018): "The traditional community bank business model has been and can be strategically viable, so long as this business model is applied to a bank of adequate

and appropriate scale” (Chiorazzo et al. 2018, p. 32). Chiorazzo et al. (2018) conduct a survivor analysis; instead of looking at banks that have failed over time, they focus on the nearly 6,000 community banks that survived the financial crisis. On this approach, a bank is a survivor if it is still economically active at the end of a specified period (Chiorazzo et al. 2018, pp. 2-3). Yeager (2004) also applied the survivor principle in his study of community banks, segmenting the banking sector by size and then observing how market share changed in each size category over time (Yeager 2004, p. 6).

Despite the 14 years between the contributions of Yeager (2004) and Chiorazzo et al. (2018), during which regulation underwent significant changes, both reach similar conclusions. Yeager (2004) states: “These results suggest that, although the market share and number of community banks will continue to decline over time, community banks of all sizes will remain viable in the banking industry of the future” (Yeager 2004, p. 15). He goes on to say: “The dominance of large banks, however, does not necessarily imply that community banks are on the verge of extinction” (Yeager 2004, p. 19). Admittedly, Chiorazzo et al. (2018) point out that regulation is more detrimental to small banks, which marginalizes their survival advantages. They also note that technology enables large banks to make better use of soft information, which undermines the advantages of community banks in personal relationship banking. Their conclusion, however, is similar to Yeager’s: “While this decline has likely not yet run its full course, our results suggest that industry consolidation will not result in the complete extinction of community banks” (Chiorazzo et al. 2018, p. 32). While technological developments such as big data open up new scope for all banks, community banks stand to benefit less than other banks. For example, technology promotes the processing of hard, quantitative information rather than the soft, qualitative information that facilitates the relationship banking of community banks (Berger and Udell 2003, p. 220). However, to the extent that community banks retain their advantage in relationship lending, strategic partnerships with nonbank lenders offer opportunities to attract a broader customer base in the future (Jagtiani and Lemieux

2016, p. 17).

In answer to the third question, how future prospects are justified, it is already apparent that views are highly dependent on assumptions about regulation and technology. For example, the literature around DeYoung exposes an ambivalence toward regulation. On the one hand, regulation is seen as having protected community banks from competitors and cross-border market entry; on the other hand, it is argued that Regulation Q ceilings, for example, threatened the existence of community banks (at least in the 1970s) and have interfered with their functioning (DeYoung et al. 2004, p. 92). In the post-financial crisis period, regulation is again cast in a rather poor light.

Smaller banks are more affected than others by regulatory requirements, which is not particularly propitious for the prospects of community banks (Lux and Greene 2015, p. 21). For this reason, Lux and Greene (2015) suggest that the regulators themselves should be regulated: “To mitigate the unintended consequences of financial regulations on community banks, all federal financial regulators should be required to conduct cost–benefit analyses for economically significant proposed rulemakings” (Lux and Greene 2015, p. 28).

In respect of assumptions about efficient markets, patterns of reasoning found in the general section on banks are also applied to the case of community banks. For example, DeYoung et al. (2004) assume in their forecasts that investors will withdraw their capital from unprofitable banks; there are forces at work that automatically regulate this. In principle, a battle of small banks against large banks can also be identified in technology, with small banks once again at a disadvantage. The fact that community banks are nevertheless seen as having positive prospects for the future reflects their special ability to finance small businesses through high-end consumer banking services.

Ultimately, it is evident that there are significant differences according to which types of banks each focus area or challenge is applied to. For example, regulatory measures have different degrees of importance for small banks compared to large banks, and their opportunities for implementing new tech-

nologies are also different. The case of community banks thus makes it even clearer that analysis of the future of banks requires fine distinctions to be made.

B.7. Discussion

The aim of this review is to clarify the current state of the debate on the future of banks without succumbing to the temptation to make a forecast of what the future of banks will “really” look like. As has been shown, the debate on the future of banks is still very much in its infancy. This is evident not only from the rather meager number of sources over the twenty-year period under review, but also from the almost complete absence of citations among the authors (see Appendix). One exception is the literature on community banks, and this might have something to do with the English-language orientation of the search. The quality of the contributions also varies greatly, but almost half of all articles were published in journals (see Appendix). It must be emphasised at this point that most of the articles do not focus specifically on the future of banks. Most of the time, this topic is dealt with in passing and the derivation of future prospects leaves much to be desired.

These findings are not surprising, as the issue of the future of banks is over-determined and difficult to grasp. Nevertheless, the topic is an important one that demands attention and debate in the scientific arena. The positivist⁴⁷ orientation in the social sciences, especially in economics (see for example Dow 2002, pp. 70-71), does little to support attempts to elaborate the future. If at all approaches tend to be found in forecasts that take an empiricist or econometric approach. Thus, science as an institution gets in its own way when it comes to the future of banks, and it is clear that this topic cannot be explored in the usual ways. It is also clear that the framework conditions in which banks are important will change over time. Nevertheless, this does not mean

⁴⁷ For a more detailed explanation of the word see for example McCloskey (1998, p. 141-146) or Hands (1998).

that all attempts to foresee future prospects should be jettisoned. It is an unsatisfactory state of affairs when each new contribution on the future of banks start virtually from scratch, in effect ignoring any previous discussion of the subject.

That academia has something of value to say about the future of banks is made clear by some of the contributions discussed. Over the past 20 years, the same focus areas have been addressed regularly. Profitability, regulation, technology, and even customer behavior have all been examined to a similar extent, both before and after the financial crisis. The four fields are, of course, interrelated, although regulation and new technologies have probably received the most heated discussion. Regulation is often seen as an obstacle to the profitability of banks or as a barrier to economic growth. However, it must be taken into account that regulation does not affect all banks equally. Differentiation is required according to the size of the banks, the spatial context in which they operate, and their different business areas. Accordingly, this study examined some of the assumptions behind regulatory skepticism, identifying a belief in efficient markets whose capacity for self-healing and growth is hindered by regulatory intervention.

In this respect, an already established narrative seems to be that banks are threatened in their existence by disintermediation. Contributing to this is an overemphasis on the intermediation theory combined with a strong emphasis on new technology and an underlying belief in the market.

One might generally suspect that the role of technologies tends to be overestimated and that the persistence of institutions such as banks tends to be underestimated. Recall the announcements that a million electric cars would be on the road in Germany by 2020 (status as of April 2022: 687,241 electric cars), or the promises of pop culture (exemplified in the 1985 film *Back to the Future*) that flying cars would be cruising the streets as early as 2015. This is not to discredit belief in progress but to illustrate how interconnected our assumptions and our outlook on the future are. Further research is required

into the assumptions at play, especially the hidden ones.

This review is not free of limitations. One was the restriction to English-language publications, which may explain why the search yielded only one cluster of contributions on community banks. A related limitation concerns the search terms. Due to their general nature, many non-matching hits were accepted. Although several synonyms could have been searched for, such limitations apply to any literature search that uses a platform with fixed search terms; in this regard, an unconventional search (for example, a forward and backward search) can be a useful supplement. The contributions that were missing from the planned literature search via IDEAS/RePEc and Scopus but nonetheless have also been included in this review could be taken as evidence of limitations in terms of the search platforms or even the search strategy. However, there were good reasons why the additional contributions were difficult to find (e.g., they had no abstracts or were published as chapters in edited volumes). Their inclusion, regardless of how they were identified, has helped to achieve this review's goal of including as many authors as possible to enliven the debate on the future of banks.

The method used in this review also includes dealing with terms. The term "bank" has not been defined here, with the exception of the definition of community banks used in Section B.6. What is clear, however, is that banks are not homogeneous entities. The term is generic, and as a result this article is about banks in all their diversity. Future research should treat this as a starting point and seek to further define the different facets of the respective types of banks.

Another limitation relates to the specific challenges discussed. While these challenges must be recognized when addressing the future of banks, they are not the sole focus of the selected literature. Other challenges exist, not least the difficulty of hiring and retaining staff that can cope with technological change. This is certainly a topic in its own right, but for practical reasons it has been subordinated here to the focus area of new technologies.

Already mentioned is the limitation caused by the interconnectedness of the fields of focus, which makes consistent subdivision difficult. The division into cause and effect of the respective challenges is thus not taken into account. Where there is talk of revenue problems, for example, these problems may derive from increased competition either among banks or with nonbanks. Regulation could also play a role here, in that it paves the way for more or less competition. However, profitability problems also arise from changes in the economic environment; for example, if the general level of interest rates falls after a crisis, interest margins will be narrower. The influence of assumptions is omnipresent here, as elsewhere. The present review has sought to address this influence, although there remains much for future work to explore.

In this regard, one assumption is particularly worth mentioning. One reason for the state of the debate could be that banks, as an object of study, fall between two stools: between business administration and economics, and between the micro and macro levels. In the broadest sense, each of the four focus areas can always be approached from one side or the other. There is a danger that the topic of the future of banks will be subsumed into topics on either side; there is also a danger that the topic will be neglected altogether, either because no one dares to tackle it or because no one feels responsible for it. Here, interdisciplinarity can provide fertile ground for an exchange of ideas.

It is clear that the underlying assumptions and theoretical foundations for the future prospects of banks must be brought into sharper focus. If explanations, like predictions, are shaped by theories, then it is only logical to examine theories more thoroughly in order to establish their implications for the future of banks. Perhaps it is also necessary to go further in shedding light on the scientific-theoretical attitude. In this respect, one can also speak of an ontology for future prospects.

B.8. Conclusion

The future of banks is a topic of general interest and deserves scientific attention. So far, attention to the topic in the academic arena has been limited, and there has been no real debate on the subject. Too little attention has been paid to the work of other authors (insofar as citations are taken as an indication of this), and arguments have not been sufficiently related to each other.

Here, in order to get closer to the state of research on the future of banks, a literature search was conducted via the IDEAS/RePEc and the Scopus platform. This search yielded 76 articles that deal with the future of banks. This planned literature search was supplemented by 25 additional contributions that came to the author's attention while working on the topic.

Three questions were posed to the existing literature in order to understand the state of the debate. The first question addressed the challenges facing banks in the future. Here, it became apparent that four key concerns recur during the period under review: profitability, new competitors, technology, and changing customer behavior. The second question, about future prospects, has received a wide range of answers, both before and after the financial crisis. The spectrum ranges from predicting the end of banks to foreseeing a stable future for them with a firm place in the financial system. The third research question addressed the justifications for these future prospects. On the one hand, it became apparent that basic assumptions are not always clearly disclosed. On the other hand, it proved possible to identify specific assumptions. For example, the assumption that banks play a special role (of whatever kind) in the financial system tends to make authors more positive about their future. A strong focus on the intermediation aspect of banks, however, combined with new competitors, can significantly darken future prospects. Assumptions that reflect a belief in "the market" and associated forces tend to make authors believe that banks will lose market share in more competitive environments. Highlighting technology and progress only strengthens this belief. In this respect, a distinction can be made according to size; larger banks are more likely

to be able to implement new technologies and survive greater competition whereas the debate about Gibrat's law is not clearly decided.

How assumptions shape future prospects has yet to be addressed in the literature on the future of banks. This paper is a necessary first step, and it is to be hoped that the debate will continue and intensify.

C. Essay 2: How Thinking about Markets and Institutions Influences Thinking about the Future of Banks⁴⁸

C.1. Introduction

In the social sciences, statements about the future are often viewed critically. This reflects the problem of overdetermination, but also the fear of many social scientists of being labeled as charlatans, or, even worse, of finding out in the near future that their predictions were wrong. Nevertheless, it is hard to look away when people talk about the future, as the narratives that emerge in this way can develop immense power and may even guide the future in a certain direction. This phenomenon, which is known as performativity, has been described in the context of economics by, for example, Callon (1998) and MacKenzie (2006).

One topic that is regularly followed with excitement and attention concerns the future of banks, as they are central to our economic system. Publications such as “Bank 4.0: Banking Everywhere, Never at a Bank” (King 2019) and

⁴⁸ Hübenbecker, U. and Homöller, S. (2025), ‘How Thinking about Markets and Institutions Influences Thinking about the Future of Banks’, *Credit and Capital Markets - Kredit und Kapital*, 1-32, <https://doi.org/10.3790/ccm.2024.1454201>. It is licensed under the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0>).

“Banking 5.0: How Fintech Will Change Traditional Banks in the ‘New Normal’ Post Pandemic” (Nicoletti 2021) try to satisfy this interest, whereby the most popular narrative still comes from Bill Gates: “Banking is essential, banks are not.”⁴⁹ This narrative hangs over the banks like a sword of Damocles, and its followers seem to be waiting for the moment when they can finally say, “That’s how it is, I always knew it.”

Astonishingly, such narratives have rarely been scientifically investigated. Hübener (2024) has conducted a literature review of the narratives, *inter alia*, to identify their underlying assumptions. His results reveal a range of different narratives about the future of banks, but hardly any scientific debate between the authors. Moreover, there seems to be a lack of theoretical stringency, as the assumptions behind the predictions are often not (clearly) worked out. These results are rather disappointing as “narratives are not facts without theory. The suggestion that narratives are inherently less scientific than mathematical models is nonsense. After all, theories begin and end with words” (Whalen 2021, p. 261). For this reason, we take the opposite approach in this paper. We start with theoretical considerations to derive a narrative about the future of banks, which is then critically discussed and adapted using other economic theories.

There are a number of perspectives from which the existence and future of banks can be approached theoretically, e.g., a regulatory perspective. In this paper, we focus on the very abstract categories of market and institution, because they characterize all economic thinking from the very beginning (see, for example, Williamson (1975)).

The aim of this paper is to find out how thinking about markets and institutions according to economic theory can influence thinking about the future of banks. This paper thus considers banks “only” as institutions at a high level of abstraction, looking at the institutional challenges they face, rather than at

⁴⁹ In some variants, “Banking is necessary, banks are not.”

specific business models and products of banks or the regulation they face.⁵⁰ In this context, few people would deny that banks are facing a whole range of new competitors, especially Fintechs and BigTechs, that are attacking the banks' value chain. This phenomenon is widely referred to as disintermediation (Beck 2001; Omarini 2018b).

Narratives have a theoretical background that influences the thinking and actions of people and institutions. In a recent article, Heilmann et al. (2024) ask "what kind of science is financial economics?" and their answer is "its focus on the use of models and by its performative nature" (Heilmann et al. 2024, p. 112). Which narratives, which need neither be correct nor reasonable in order to be valid in the world, circulate and have a performative effect, but also which narratives are given credibility, is a profoundly scientific task given the uncertain future of the banks.

Obviously, narratives are complex constructs. So the focus can only ever be on individual aspects. This does not preclude a holistic view, but it does require more preparatory work, such as this paper, to be able to see the whole picture. This involves a balancing act between considerations on the factual level and scientific-theoretical considerations. Ultimately, an ontological theme is the necessary basis for epistemological insights, especially in order to avoid the 'epistemic fallacy,' i.e. the "reduction of reality to our knowledge about reality" (Farasoo 2024, p. 122).

The theoretical starting point of our analysis will be the New Institutional Economics (NIE). As the name suggests, the NIE is primarily concerned with institutions. From a sociological point of view, it represents the mainstream when it comes to an economic view of institutions. This can be seen not only in research but also in teaching, through its representation in many textbooks (see, for example, Furubotn and Richter (2009)).

In a second step, the narrative that the NIE offers us about the future of banks will be scrutinized. On the one hand, the NIE will be examined critically;

⁵⁰ On this point, see the informative papers by Dow (2012), Chick and Dow (2013) or Nersisyan and Wray (2010).

on the other hand, the narrative itself will be brought into focus and blind spots will be pointed out. Consideration will be given to (post-)Keynesianism and Marxism as well as to the old institutional economics (OIE) to identify blind spots and inconsistencies in the narrative derived from neo-institutional thinking. Finally, we get a fuller picture of the future of banks.

This paper contributes to the literature in four main ways. First, we contribute to the ongoing debate about the future of banks, less in the sense of a forecast than in the sense of how economic theory can guide our thinking and enable us to think about the subject. Second, the consideration of narratives in general has an enormous and not yet fully understood importance for economics. By examining the case of the future of banks, we show how strongly, and sometimes even subliminally, abstract categories such as the market and institutions can shape narratives. Third, by addressing the role of banks in our current economic system, we clarify how the economy works, which, against the backdrop of a rapidly changing business world, is relevant not only for banks. Fourth, we bring different schools of thought into the discussion. As explicit reference is made to more than one economic theory, the narrative becomes transparent and comprehensible through critical observation. Moreover, we follow a principle which has not only legal but also scientific application: *audiatur et altera pars* (let the other side be heard as well).

The paper is structured as follows. In Section 2, the methodology is explained in detail. This is followed in Section 3 by a description of the transition from neoclassical economics to the NIE, namely transaction cost theory and agency theory. The rather lengthy description of this theoretical underpinning is necessary in order to clearly work out the relevance of the market and institutions. The implications for thinking about the future of banks are derived in Section 4. In Section 5, this narrative is evaluated critically and examined comprehensively for inconsistencies as well as blind spots, namely the aspects of uncertainty, trust, and power. The paper ends with a summary and conclusion.

C.2. Methodology

Against the background of thinking about market and institutions, we look at the future of banks from different angles. A rather obvious approach would be simply to find out what has happened in “reality” in the recent past and then try to extrapolate this development using data and “facts.” This approach would produce content of thought about the object of investigation that stands in a (purely) historical/empirical context. It could be supplemented by logical/theoretical considerations that draw on an “appropriate” theory in order to formulate further content of thought about the object of investigation. However, what remains unconsidered is what we call the form of thought: what logic underlies the appropriate theory and, in a broader context, which theorizing dynamics have historically taken place and how any explanations of the object of investigation have come about. This addresses the point made by Somers (1998, p. 731) that “all of our knowledge, our logics, our presuppositions, indeed our very reasoning practices, are indelibly (even if obscurely) marked with the signature of time”; in other words, they are history-laden.

Not only can it be shown that, because of the problem of theoretical terms, empirical explanations always rely on theories (Zoglauer 1993), it can just as easily be shown that the form and the content of thought are closely interwoven. This becomes evident in quite simple explanatory schemes like the deductive-nomological one, but also when the logic of a theory itself is taken into account. To give an extreme example here, the Nazi race theory follows a racist logic. The logic of the theory is, so to speak, the engine that generates thoughts about the object of investigation in the first place.

Table C.1 serves as an illustration of which aspects should be considered in order to examine a phenomenon comprehensively. For the object of investigation, the future of banks (which in this paper will be considered only in terms of thinking about market and institutions), this means not only (a) looking at what has happened historically/empirically with banks as institutions in recent years, and not only (b) referring to the supposedly appropriate economic

	Historical/empirical	Logical/theoretical
Content of thought	(a) Historical development of banks	(b) Thinking about (the future of) banks with theory
Form of thought	(d) Historical development of theories (theory dynamics)	(c) Inner logic of the theory

Table C.1.: Scheme of Thought

theories that try to explain that development logically. Instead, we will also (c) make the inner logic of these theories clear to (d) understand these theories with all its potential statements about the object of investigation historically from the dynamics of the theory. The focus of this paper is on points (b) and (c). The results are then applied to Coleman’s bathtub model. By specifically formulating immanent critiques of the theory (that is, critiques that do not use an external standard as a benchmark; Wrenn (2016, p. 453)), and by initiating a discourse with other theories and pointing out blind spots, the future of banks can be considered more comprehensively, elevating the debate to a new level.

C.3. Thinking About Markets and Institutions

C.3.1. Neoclassical Economics

The market is the starting point of neoclassical thinking. This is also evident in neoclassical finance, which focuses on the purity of the market. For example, models of portfolio selection, asset pricing, capital structure, and option pricing are all based on a frictionless market. This view culminates in the efficient market hypothesis, which rejects any influence on the market for reasons of efficiency (Haugen 2002; Bernstein 2007).

The market is rarely defined or questioned in depth about its nature; rather, it is “taken for granted” (Hodgson 1988, pp. 172-173). In the German-language

literature, Ötsch (1991) points out the use of metaphors in neoclassical economics and elaborates on 50 fundamental principles of the market in his critique of neoclassical economics (see also Ötsch 2019, ch. 1). The market is seen, among other things, as a process of price formation that has inherent forces, as a social order, as a principle of freedom, as a mechanistic metaphor or machine, as a person acting, as a state of nature, or even as a utopia. In the English-speaking literature, Mirowski (1984; 1989) can be singled out for his analysis of the neoclassical worldview. He demonstrates that early neoclassicism is the replication of Newtonian mechanics and that the market in this respect resembles a mechanistic principle. For postwar neoclassicism, Mirowski (2007, p. 222) recognizes the metaphor of an information-processing computer.

It is typical that institutions (in the narrower sense), which are usually called firms, and especially financial firms, which include banks, do not exist in this model world. After all, the existence of such institutions questions the perfection of the market. However, one institution (in a broad sense) does exist, namely the market itself. In this respect, the tension between the terminology of market and institutions becomes apparent: institutions (in the broad sense) are a super-category under which the market also falls. Coase (1937) has already engaged with the fact that there are no institutions in the narrow sense in the neoclassical model. In his landmark paper, he asked the question “Why do firms exist?” and thus laid the foundation for the NIE.

C.3.2. New Institutional Economics

In asking why firms (as institutions in the narrow sense) exist, the NIE lies squarely in the tradition of neoclassical economics, even if its assumptions can be assessed as more realistic (Dugger 1983, p. 96; 1990, p. 429). Far from being a unified stream of thought (Rutherford 1989, p. 300), the NIE subsumes many different approaches. In their classification of theories, Erlei et al. (2016) distinguish between institutions in the market and institutions in

the political sector. For institutions in the market, they refer to agency theory and transaction cost theory (Erlei et al. 2016, p. 59). In the following, these two strands of the NIE will be considered in more detail.

C.3.2.1. Transaction Cost Theory

A variant of the NIE is the transaction cost approach, which goes back to a large extent to the work of Williamson (1975; 1985). The initiators of this approach acknowledge that markets are rarely efficient in reality (Dugger 1983, p. 96), as there is a cost of using the price mechanism (of a market), which is the so-called transaction cost. Firms can deal with transaction costs more efficiently and thus gain their right to exist (Coase 1937, pp. 388–390). Williamson (1975) points out explicitly that firms and markets are to be regarded as alternative instruments, both with the same goal “for completing a related set of transactions” (Williamson 1975, p. 8). The hierarchy of internal organization thus has advantages over the market (Williamson 1975, pp. 39–40).

This approach also addresses the phenomenon of market failure and makes some relevant assumptions that allow a more realistic picture of the economy to be drawn, e.g. bounded rationality and opportunism (Williamson 1975, pp. 21, 26). Another far-reaching assumption is the almost Faustian statement that “in the beginning there were markets” (Williamson 1975, p. 20; 1985, p. 87). This means in effect that the market becomes a universal category that has always existed (Ankarloo and Palermo 2004, p. 417). Only institutions in the narrower sense (i.e., firms) can be justified by market failures or transaction costs. Compared to markets, firms can carry out exchanges in ways that are less transaction cost intensive (Dugger 1990, pp. 425–428). All this happens in the absence of coercion or power. Instead, Coase and Williamson prefer to speak of “authority” in the sense of acting “voluntarily” (Pitelis 1998, p. 1002). On this view, institutions serve as an extended arm of the market, or rather, they serve the market and restore its harmony.

The harmony of the market is also reflected in equilibrium thinking, which is based on methodological individualism, a focus on atomistic individuals with rigid preferences who are socially disembedded.⁵¹ In this respect, Williamson's approach to transaction costs is comparative-static: "Typically, the incidence of transaction costs in equilibrium is compared in two or more governance structures, and the structure with the lowest costs is deemed to be more efficient" (Hodgson 1996, p. 252). The comparative-static approach is also recognized by Dow (1987, p. 34), who draws parallels with neoclassical microeconomics.

The fact that these equilibrium models have a normative character, emphasizing the "self-regulating tendency of the market" (Valentinov 2012, p. 256), is often underestimated or not recognized by economists. Equilibrium models demonstrate the ability of the market to coordinate at the aggregate level, evoking an ideally functioning system (Boldyrev and Ushakov 2016, p. 42; Boldyrev 2019, p. 4).⁵² Williamson (1996) himself later tried to make his view less attackable.

In any case, it is clear that microanalysis is an important component of the transaction cost approach, as even Williamson (1991, p. 91) confirms: "Transaction cost economics adopts a comparative contractual approach." Winter,

⁵¹ The charge that methodological individualism is preferable to other economic strands is rejected by Dorman (1991). He argues for a heterodox approach to institutional analysis in general and defends a Marxian account in particular.

⁵² To what extent this comparative-static approach is about Pareto-optimal states is debatable, as is the question of whether it is a general Walrasian equilibrium or a partial Marshallian equilibrium. In fact, a Walrasian (general) equilibrium cannot be assumed, since the assumptions of complete information and honesty are not fulfilled (De Vroey 1998, pp. 207–209). However, even a Marshallian (partial) equilibrium entails further conditions that are not (cannot) be fulfilled here. For example, by assumption, production must exist at first; but then we cannot start with the market. Moreover, households need income to be able to afford the products (De Vroey 1999, p. 322). Last but not least, a perfect information context is of crucial importance (De Vroey 1999, p. 323). Because of complexity and bounded rationality, however, this perfect information context cannot be assumed without further effort (Williamson 1975, p. 31). A partial equilibrium can most likely be justified on the grounds that no global statements of efficiency except local ones can be assumed (Nutzinger 1982, pp. 180–181). Following Nutzinger (1982), Hodgson (1999a) arrives at a similar view, although he draws more attention to the contradiction that the transaction cost-minimizing rational agents of Williamson's comparative static approach are difficult to fit with his assumption of bounded rationality (Hodgson 1999a, pp. 208–209).

likewise, comes to the conclusion that “few if any advocates of transaction cost or evolutionary economics have sworn to abstain entirely from optimization calculus” (Winter 1991, p. 189).

To sum up, methodological individualism and equilibrium thinking are ontological basic principles, which are implicit assumptions supporting market thinking or efficiency thinking.

Market thinking also affects firms themselves. This becomes clear when we refrain from assuming a static state, looking instead at the dynamics in which firms find themselves. Williamson’s book is called “The Economic Institutions of Capitalism”. He thus explicitly targets a period in history and aims to explain the institutions of capitalism in evolutionary terms (similarly Palermo 2000, p. 580; Meramveliotakis and Milonakis 2010, p. 1057). Since firms exist as institutions in the narrower sense for reasons of efficiency, this approach goes so far as to suggest that the institutions that exist at the moment must be considered efficient; after all, they would not be able to exist otherwise.⁵³

In this context, Williamson’s assumption that “in the beginning there were markets” must be addressed again. It is impossible to consider it as a historical-empirical assumption. On the one hand, we cannot interpret it as a primordial beginning, not only because doing so would clearly contradict Williamson’s intention in his book, but also because the development of mankind presupposes many other institutions, such as families and tribes (Hodgson 1988, pp. 206–207; Pitelis 1998, pp. 1000–1001; Meramveliotakis and Milonakis 2010, p. 1061). On the other hand, the assumption is untenable in terms of a capitalist beginning because, even if Williamson wanted to get at the important characteristic of markets as a place of exchange, he would miss the point that the commodity form of assets in capitalism is a result of production. Williamson would thus be presupposing something that he wants to explain (Ankarloo and Palermo 2004, pp. 423–426).⁵⁴ Thus, Williamson is not concerned with real markets as they really exist or came into being, but in a

⁵³ A similar view can be found in Ankarloo and Palermo (2004, p. 418).

⁵⁴ This is also true for one-person companies, as Fourie (1993, pp. 43–44) shows.

logical sense with “neoclassical markets as those of the GE [general equilibrium] world” (Ankarloo and Palermo 2004, p. 423).

This analysis reveals the epistemological character of the assumption and thus of the transaction cost theory as a whole. Relying on idealizing assumptions is completely in the tradition of neoclassical economics and in this sense characteristic of market thinking.⁵⁵ If markets were assumed from the very beginning, they would not be the result of conscious human selection, which is compatible with the assumption of bounded rationality. If it was further presupposed that markets had transaction costs and that firms were more efficient than the market because of hierarchies, the evolutionary efficiency assumption would also be fulfilled. Thus, efficiency is made the engine of the market, with the result that the idealized world develops evolutionarily toward the best (in this case, efficient) condition. So, even here the market is present in the form of an invisible (evolutionary) hand. In the literature, Williamson has thus been blamed for succumbing to Panglossianism (Granovetter 1985, p. 503; Hodgson 1991; 1993, p. 94), an allusion to the character Dr. Pangloss in Voltaire’s *Candide* who tries to portray every bad event in the world in a positive light and as pointing to a path toward a better world. Accordingly, it is an extremely deterministic worldview that subordinates everything to functionalism. In this connection, Hodgson (1991) draws a parallel between the NIE personified by Williamson and the neoclassical economics personified by Friedman: “Panglossian writers like Friedman and Williamson take for granted that survival means efficiency” (Hodgson 1991, p. 522).

C.3.2.2. Agency Theory

To justify the existence of firms, opportunistic behavior (which is also a focus of the transaction cost approach) and information asymmetries (which are mainly addressed within the firm) are among the central assumptions of agency theory. Both assumptions provide a more realistic picture of the econ-

⁵⁵ In particular, the important essay by Friedman (1953), who is known for his ultra-liberal stance on markets, can be mentioned here. See also Ankarloo (2002, pp. 26–28).

omy than neoclassical economics. Jensen and Meckling (1976) accuse the supporters of the transaction cost theory of continuing to treat the firm as a black box. They emphasize the crucial importance of contractual relations within firms and beyond: “Contractual relations are the essence of the firm, not only with employees but with suppliers, customers, creditors, etc.” (Jensen and Meckling 1976, p. 310).

One aspect of opportunistic behavior that appears in the seminal work of Jensen and Meckling (1976) and Alchian and Demsetz (1972) is shirking, which is what makes monitoring within the firm important in the first place. Jensen and Meckling (1976) pointed out that “the term monitoring includes more than just measuring or observing the behavior of the agent. It includes efforts on the part of the principal to ‘control’ the behavior of the agent through budget restrictions, compensation policies, operating rules, etc.” (Jensen and Meckling 1976, p. 308).⁵⁶

In this context, it is important to note that everything takes place without coercion and that power plays no role. “The firm [...] has no power of fiat, no authority, no disciplinary action any different in the slightest degree from ordinary market contracting between any two people” (Alchian and Demsetz 1972, p. 777). This statement is clarified by the example of a grocery store. Customers can damage their grocer only by not buying his products again. This is also the case within the firm. All an employer can do is terminate the employment relationship. According to Alchian and Demsetz (1972), there is no difference between the two relationships. The market relationship between firm and customer thus has a mirror-image effect in the firm between employer and employee. The firm is no longer an alternative to the market, as in the transaction cost approach, but itself functions in principle like a market, or, as Alchian and Demsetz (1972) put it, “The firm serves as a highly specialized

⁵⁶ A considerable part of the literature on banks in the context of intermediation is based on (delegated) monitoring (e.g., Diamond 1984). This stream of banking literature will not be treated in more detail here. The monitoring function already concerns, in the broadest sense, a service offered by banks. Although what the banks do is of enormous importance, this paper aims at an understanding of the institutions themselves at a higher level of abstraction.

surrogate market” (Alchian and Demsetz 1972, p. 793). Jensen and Meckling (1976) express themselves even more precisely, using the vocabulary of the neoclassical model world to describe the balance between principal and agent: “In this sense the ‘behavior’ of the firm is like the behavior of a market; i.e., the outcome of a complex equilibrium process” (Jensen and Meckling 1976, p. 311; similarly Palermo 2000, p. 575).

The passage from Alchian and Demsetz (1972) also contains the metaphor of the market as an optimal information processor, which Mirowski (2007) has already identified with the information-processing computer for neoclassicism after the Second World War. Although it is (superficially) about the better (“more efficient”) processing of input information by the firm’s manager-employer, the firm is ultimately explicitly characterised as a (“highly specialised surrogate”) market. The aforementioned Panglossianism is particularly evident in the section “Socialist firms” by Alchian and Demsetz (1972). Here the authors attempt to compare Yugoslav, i.e. socialist, firms with firms from Western societies and argue that the form of worker participation in surpluses would be much more common in Western societies if this form were more profitable (Alchian and Demsetz 1972, p. 787).

From these quotations, it is clear that the market is omnipresent or represents a universal category in agency theory. A similar conclusion is reached by Palermo (2000), who calls the opposition between firm and market “illusory”. When the price mechanism is made ubiquitous, the market becomes a universal principle, even within the firm itself (Palermo 2000, p. 575; 2007a, p. 152). A consequence of this social disembedding and of these methodological principles can be summarized as follows: “by severing the market from its structural-institutional context, it is reduced to nothing but inter-individual relations [...] the market is seen as a super societal organizer capable of regulating almost any societal activity or sphere” (Fourie 1991, p. 54).

In summary, the NIE is subject to market thinking both in transaction cost theory and in agency theory, and in this respect it is clearly in the tradition of

neoclassical economics.

C.4. Implications for Narratives About the Future of Banks

Content of thought of a historical nature that relates to the future of banks from an institutional perspective is still missing from our schema of thought (see Section C.2). Candidates for this content are the current challenges facing banks, although it cannot be concealed that the identification of such challenges naturally takes place through theory and is also captured in theoretical terms (Zoglauer 1993). Nevertheless, one commonly recognized challenge stands out: new competitors, namely Fintechs and BigTechs, are attacking the value chain of banks and thus may cause disintermediation (see point (1) in Table C.2).⁵⁷ The question here is how the NIE can deal with this historical-empirical issue of new competitors for banks, that is, what narrative about the future of banks this theory can offer us.

The existence of firms, and especially banks, can be justified by the existence of transaction costs or agency problems due to informational asymmetries (see point (2) in Table C.2). Moreover, we showed in Section C.3 that the NIE stands in the tradition of neoclassical thinking and is subject to strong market thinking in its inner logic (see points (3) and (4) in Table C.2). Because firms themselves are also subject to this market thinking, one implication is that they are to be regarded as “passive players” (see Meramveliotakis and Milonakis 2010, p. 1058). In terms of thinking about the future of banks, this means that, in the broadest sense, banks are passive players that have to subordinate themselves to the market (activities). Following the Panglossian story, the new

⁵⁷ The concept of intermediation presupposes intermediation theory, which can be derived from the NIE literature. However, it is still unclear how the new competitors can be classified in the existing theory: “So far, the literature on fintech has simply bootstrapped fintech platforms to models of financial intermediary existence” (Thakor 2020, p. 6).

competitors can be seen as perfecting the market (see point (5) in Table C.2).⁵⁸

	Historical/empirical	Logical/theoretical
Content of thought	(a) Historical development of banks (1) New competitors attack the value chain of banks	(b) Thinking about (the future of) banks with theory (2) NIE explains institutions (banks) via TCT and AT (5) New competitors serve to perfect the market
Form of thought	(d) Historical development of theories (theory dynamics) (4) NIE stands in the tradition of neoclassical economics	(c) Inner logic of the theory (3) NIE is dominated by market thinking and Panglossianism

Note: NIE = new institutional economics; TCT = transaction cost theory; AT = agency theory.

Table C.2.: Scheme of Thinking About Banks

In order to complete the narrative about the future of banks, we have to think about reasonable reactions by the banks. For this purpose, the so-called bathtub model of Coleman (1990), which was further developed by Hedström and Swedberg (1998), will be applied. The model makes it possible to explain social mechanisms via a macro-micro-macro transformation, which would otherwise be observable by the researcher only at the macro level (Hedström and Swedberg 1998, p. 22). Coleman can be seen as a follower of a rational choice sociology (Swedberg 2003, p. 38). His model accommodates the NIE approach chosen here, applying and evaluating the NIE according to standards that correspond to its intention.

The starting point for the bathtub model is the market environment at the macro level (see Figure C.1). From there emanates the situational mechanism

⁵⁸ For a similar argument, but with a much stronger reference to the Arrow and Debreu model world and disintermediation, see Scholtens and van Wensveen (2003, p. 9).

that sees individuals exposed to a particular situation (Hedström and Swedberg 1998, p. 23). Opportunistic customers who want to take advantage of services that are favorable for transaction costs, as well as transaction cost minimizing banks who are competing with new competitors, are located at the micro level.⁵⁹

The second mechanism that comes into play is the action-formation mechanism, which shows how a particular combination of desires, beliefs, and action options produces a particular action (Hedström and Swedberg 1998, p. 23). Customers at the micro level switch to the most favorable provider, which means that the new competitors can count on an influx of customers. As a result of this mechanism, the banks enter a transaction cost downward spiral. However, there is the possibility of mergers among banks, allowing them to reduce transaction costs. “The search for efficiency [. . .] drives merger movements.” (Dugger 1990, p. 425).⁶⁰

The same applies to information asymmetries. They are overcome by the firm, but it does not have to be a particular firm (here, for example, a bank) that processes the information better. In principle, new firms contribute to the elimination of information asymmetries, because the image of the market as an optimal information processor (which was revealed by Alchian and Demsetz (1972) precisely in this context) resonates in the background.

Information asymmetries also affect relationship banking, which is characterised by banks investing in building long-term relationships with their borrowers (Boot and Thakor 2000, p. 679) and by the exchange of private information between the bank and its customers (Freixas 2005, p. 3). Irrespective of whether, as in Freixas (2005), relationship lending increases with increasing competitive pressure from other firms in order to protect themselves from competition, or whether, as in Boot and Thakor (2000), relationship lending

⁵⁹ The banks stand above the customers here, since they are, in the broadest sense, institutions that come close to what is called a “meso unit,” located between the micro and macro levels (Dopfer et al. 2004, pp. 267-270).

⁶⁰ Hamada (2012) shows that horizontal mergers generate larger profits when uncertainty increases, even if there are no efficiency gains that point in the same direction.

only increases with increasing competition in the banking sector, while banks invest less in relationship lending when competition in the financial markets increases, it can be argued that non-bank financial investors can also establish a type of relationship lending. Andreani and Neuberger (2004, p. 2) mention in particular pension funds, mutual funds, and life insurance companies. This means that the reduction of information asymmetries can no longer be limited to banks.⁶¹

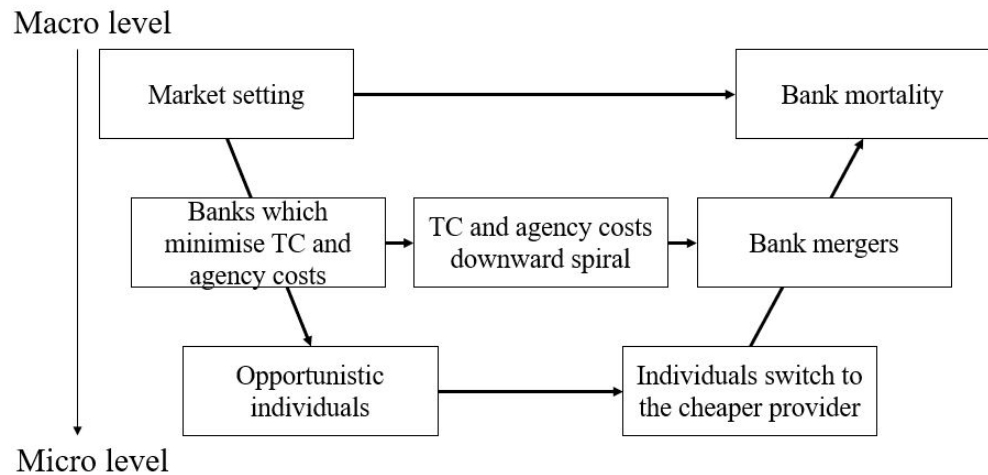
In a final step, the transformational mechanism is considered. Individuals interact with each other, and their social actions are cumulated, so to speak, leading to a collective outcome (Hedström and Swedberg 1998, p. 23). Through bank mergers and customers switching to the most favorable provider or to the new competitors, a loss of importance of single banks and a not insignificant dying of banks is likely. Not all banks will disappear, but the market will tend to perfect itself through the new competitors. Moreover, banks might have difficulties retaining their customers in the long run.

The passivity of banks, due to the strong market thinking within the NIE, prevents them from opposing these mechanisms in a hopeful way. According to agency theory, management might come somewhat more into play, but since there is no power for the firm vis-à-vis the customers (and no market power), the banks' options for action are still limited.

C.5. Discussion

In this section, the rather pessimistic narrative about the future of banks developed above will be evaluated critically. The evaluation is carried out, on the one hand, via criticism of the NIE; if the weak points of the theory are exposed, then the substantive aspects of the narrative can also be seen as at least

⁶¹ With regard to Fintechs, Kaja et al. (2021) argue that they do not provide core banking functions such as relationship lending, and therefore in this respect do not increase competitive pressure on banks (Kaja et al. 2021, pp. 79, 90).



Note: TC = transaction costs.

Figure C.1.: Bathtub Model

questionable. This is a kind of meta-critique. If the schematization of thinking (see Table C.2) is used, then the form of thinking of the NIE will be questioned in its inner logic and, in addition, the theory will be historically classified. On the other hand, the narrative itself will be brought into focus and blind spots will be pointed out. This critique concerns the content of thought, is more pragmatic in nature, and indirectly enables an alternative narrative on the future of banks. More specifically, the meaning of uncertainty, trust, and power for the narrative is discussed. Consideration is given to (post-)Keynesianism and Marxism as well as to the OIE.⁶²

C.5.1. Uncertainty

A fundamental assumption of transaction cost theory is bounded rationality, which is linked to uncertainty and complexity (Williamson 1975, pp. 21-23). In complex (even deterministic) situations, “computational inability” (Simon

⁶² The OIE is not simply a historical predecessor of the NIE. The term “old” is misleading in this respect, because there are still economists who work in this paradigm. Adherents of this school of thought today prefer to call themselves “radical” or “original” institutionalists in distinction to proponents of NIE (Dugger 1989, p. vii). Nevertheless, especially in comparisons of the two schools of theory, the terms “new” and “old” have more or less prevailed (see also Rutherford (1994)).

1972, p. 170; Williamson 1975, p. 23) leads to decision-making under uncertainty.⁶³ Williamson's concept of uncertainty is thus rather restrictive and driven mainly by the decision-makers' rational limitations.

This insight becomes even more significant when other distinctions between different kinds of uncertainty, by authors who are primarily associated with post-Keynesianism, are consulted. For example, Langlois (1984) distinguishes between "parametric uncertainty" and "structural uncertainty," the former referring to the lack of certain parametric values or parametric information and the latter to a fundamental uncertainty or lack of knowledge (Langlois 1984, pp. 29-31; see also Hodgson 1988, pp. 203-204). A further division into "substantive uncertainty" and "procedural uncertainty" can be made (Dosi and Egidi 1991). The former, as the name suggests, refers to the lack of the information needed to make decisions, and the latter includes limitations of the cognitive possibilities. This distinction is also explicitly based on Herbert Simon's differentiation between substantive and procedural rationality (Dequech 2006, p. 112). Other classifications include "weak uncertainty" and "strong uncertainty" (Dequech 1997), or uncertainty (1) and uncertainty (2) or "pure uncertainty" (Fontana 2009), or, as Hodgson (1988) calls his concept in contrast to the NIE, "radical uncertainty" or "real uncertainty" (Hodgson 1988, p. 205).

What all these distinctions have in common is that uncertainty is not simply uncertainty, as trivial as this may sound. Bounded rationality leads to "behavioral uncertainty" but neglects "fundamental uncertainty" (Dunn 2001). All the authors mentioned above emphasize that there is an uncertainty that exists independently of human and computational possibilities. That uncertainty makes future predictions or forecasts difficult or even impossible.⁶⁴

For Fontana (2009), uncertainty is a "first principle" that runs counter to the

⁶³ Williamson and Coase make little effort to provide really solid definitions of uncertainty (Dunn 2000, p. 420). For a more detailed interpretation of Williamson's understanding of uncertainty, see Dequech (2006, p. 113).

⁶⁴ In a broad sense, the call for an awareness of uncertainty is also made by Hutchison (1984) when he looks for similarities between old and new institutional economics. He also draws here heavily on Simon (1976).

“invisible hand theorem” and thus opposes harmonic equilibrium views that assume market adjustment or self-correction (Fontana 2009, p. 7). In this context, the OIE school of thought considers predictions to be uninteresting. If prediction is used at all, it is a matter of making general qualitative predictions and not specific quantitative ones (Dugger 1979, p. 906). This view is justified by the fact that the economy should be regarded as a process: “All institutionalists, including those who do not stress its radical nature, argue that the economy is a process, not an equilibrium” (Dugger 1988*b*, p. 4). In a nutshell, central to the OIE is the “concept of process,” whereas the NIE focuses on the “concept of optimum” (Dugger 1990, p. 424).

This argumentation rejects the starting point and the entire market understanding of the NIE: “Specifically, in a world of flux of the institutional economist that the economic system is not controlled by the price mechanism or the market mechanism, and that it is not to be understood by starting from that premise. [. . .] The economic system is, rather, to be understood as a congeries of a multitude of forces – institutional and technological, social and historical” (Cochran 1955, pp. 248–249; see also Reuter 1996, p. 139).

This has a direct logical impact on model thinking in economics. It can no longer be assumed that the economy tends toward a state of equilibrium. The market is not a harmony-producing construct, an automatic mechanism, or even an invisible hand⁶⁵ that provides balance.⁶⁶ Dunn has argued that the bounded rationality argument for transaction costs is in any case only a “short-run imperfectionist argument” and that transaction cost theory cannot explain

⁶⁵ Hahnel (2007), who is influenced by Marxism, argues that markets are inefficient because disequilibrating forces that are not weak, non-competitive market structures are common, and externalities are the rule rather than an exception, which is why he uses the term “invisible foot” for all bad tendencies of the market (Hahnel 2007, pp. 1141–1142). Perelman (1999), also a Marxist, portrays the influence of markets in this respect even more starkly: “Pure market forces have the tendency to run amok” (Perelman 1999, p. 150).

⁶⁶ A distinction can be made here between post-Keynesians and New Keynesians. In the tradition of Keynes, New Keynesians assume that in the short run there are no automatic adjustment processes in the market. For the long run, however, they join the neoclassicals in believing in self-adjustment of the market. Post-Keynesians assume that neither in the short run nor in the long run are processes at work that cause an automatic adjustment toward equilibrium (Fontana 2009, pp. 2–3).

firms adequately in the long run (Dunn 2000, p. 425).

On this line of argumentation, Panglossianism cannot be applied, and economic events cannot be viewed deterministically. For the narrative about the future of banks it follows that the new competitors can no longer be understood as a perfection of the market, displacing the banks and creating a new equilibrium. However, when equilibrium is not achieved in the long run and the harmony of the market cannot be preserved (or must be preserved because the uncertainty is so great), then institutions in general and banks in particular can be accorded a much more prominent role than that of mere preservers of continuity.

Underlying this argumentation is a psychological explanatory approach that sees institutions as a stronghold of continuity. The more uncertain the future appears, the more important the role of institutions:

“Specifically, in a world of flux and uncertainty the institution has been regularly identified as a relied-upon source of endurability, of continuity and stability, and indeed as the most significant such source. And this fits with the conception of institutions [...] as particular social phenomena, mostly social systems, or structured processes of interaction, that are relatively enduring and recognized as such” (Lawson 2005, p. 14).

Hodgson (2000) also emphasizes this view: “Through this circle of mutual engagement, institutions are endowed with a stable and inert quality, and tend to sustain and thus ‘pass on’ their important characteristics through time” (Hodgson 2000, p. 117). In this respect, the emphasis on uncertainty provides a basis for the existence of firms, which can also apply to the relatively old institution of banking. Therefore, the pessimistic view on the future of banks discussed in Section C.4 must be put into perspective by expanding the notion of uncertainty.

C.5.2. Trust

In the NIE, opportunism plays an important role in explaining institutions in a narrower sense (i.e., firms). For the transaction cost theory, Moschandreas even speaks of opportunism as the “sine qua non” (Moschandreas 1997, p. 41). Opportunism in the form of shirking is also given a prominent position in agency theory (see Section C.3.2.2.).

Williamson’s argument that hierarchy (through authority in firms) mitigates opportunism leads, first, to trust playing no role either inside or outside the firm, and, second, to the opportunism of authority being neglected (as pointed out especially by Dow 1987; see also Moschandreas 1997, p. 49). More precisely, transaction cost theory assumes that authority in the firm is responsible for transaction costs being allocatively efficient (Dow 1987, p. 33). However, it is not clear why the assumption of opportunism is not taken to its logical conclusion. Who monitors the authority or who monitors the monitors (Dow 1987, p. 20, 24)? This question is addressed by Alchian and Demsetz (1972) and by Jensen and Meckling (1976), but they do not explicitly consider authority.

As shown in Section C.3.2.1., the NIE is a further development of neoclassical economics (and the concept of *homo oeconomicus*). Humans are still rational agents (albeit in transaction cost theory their rationality is limited). *Homo oeconomicus* cannot be left behind, because the NIE is based on the calculation of costs, whereas norms and conventions are not included (Hodgson 1988, p. 206). The epistemological parallel to neoclassical economics can again be drawn here, since the NIE considers opportunism “as if [it] were the invariant core of human nature and trustworthiness no more than a supplement that varies from country to country, depending on culture and institutions” (Noorderhaven 1996, p. 106).

The OIE can be distinguished from the NIE in its emphasis on the importance of habits (Hodgson 2000, p. 117). This also includes cultural conditions, in which the distance from the NIE is again very clear: “The mind of

Williamson's individual is bounded; the mind of institutionalism's individual is culturally conditioned" (Dugger 1990, p. 427). In relation to Williamson, it can be stated that the NIE adopts an individual choice approach, instead of the collective action approach advocated by Commons (Dugger 1994, p. 378). As a result, the supporters of the OIE also have a different image of human agents. For example, Veblen's (1898) "instinct of workmanship" in some respects represents a counter-design to shirking. It is worth quoting at length to demonstrate the difference:

"By selective necessity he [the human being] is endowed with a proclivity for purposeful action. He is possessed of a discriminating sense of purpose, by force of which all futility of life or of action is distasteful to him. There may be a wide divergence between individuals as regards the form and the direction in which this impulse expresses itself, but the impulse itself is not a matter of idiosyncrasy, it is a generic feature of human nature. [...] Cases occur in which this proclivity for purposeful action is wanting or is present in obviously scant measure, but persons endowed in this stepmotherly fashion are classed as 'defective subjects'. [...] Within the purview of economic theory, the last analysis of any given phenomenon must run back to this ubiquitous human impulse to do the next thing. [...] In the intervals of sober reflection when not harassed with the strain of overwork, men's common sense speaks unequivocally under the guidance of the instinct of workmanship. [...] They like to see others spend their life to some purpose, and they like to reflect that their own life is of some use" (Veblen 1898, pp. 188–189, cited in 2011, pp. 159–160).

While Veblen's concept of instincts is controversial, it should be noted that, unlike in the case of *homo economicus*, instincts are subject to social influences (Reuter 1996, pp. 212–216; Jennings 1999, pp. 519–520). In this respect, the OIE also distinguishes itself from the NIE in its definition of institutions. According to North, institutions are "humanly devised constraints"

(North 1990, p. 3). However, a conception of institutions as mere constraints could lead to the assumption that unbridled free markets are, so to speak, the state of nature against which those constraints are then directed (Bromley 2006, p. 32). Indeed, passages can be found in North's work in which the market logic is to be discovered: "The profitable opportunities in trade and commerce seemed everywhere circumscribed by privileges, barriers to entry and mobility, which had only to be removed to increase the scope and profitability of enterprise and consequently to promote economic growth" (North and Thomas 1973, p. 148, cited in Mirowski 1981, p. 575). Hodgson (1999*b*) points out that, in North's definition, the "absence of the word 'habit' [...] is not accidental" (Hodgson 1999*b*, p. 535). In Veblen (1909), however, habits are explicitly addressed in the definition of institutions⁶⁷ as "settled habits of thought common to the generality of men" (Veblen 1909, p. 626, cited in 2011, p. 518).

This is important, because "habits both reinforce and are reinforced by institutions" (Hodgson 2000, p. 117). This interaction is particularly interesting in the aspect of trust toward institutions. It creates a circle according to which trust creates habits, and habits in turn create trust. In this context, Moschandreas points out that "Trust reduces costs in long-term relationships" (Moschandreas 1997, p. 45). For this reason, aspects which cannot be explained via transaction costs, such as trade partnerships, must be taken into account; therefore, it can be argued that the NIE approach is not sufficient to fully explain institutions or the existence of firms (Moschandreas 1997, p. 45). Trust is thus a blind spot in the narrative about the future of banks considered in Section C.4.

Trust and habits are essential for firms to exist at all. Williamson's assumption of opportunistic behavior, which he applies to the market as well as to firms, is contrary to this assumption (Hodgson 1988, pp. 209–211). For the future

⁶⁷ In general, the definitions of institutions are broad and include not only organizations (as well as banks) but also social entities such as money, language, and law (Hodgson 1999*b*, p. 535).

of banks, this is interesting, in that banks have a trust advantage due to usually long relationships with their customers, which translates into the habit of staying with the bank.⁶⁸ New competitors have to build up this trust over a long period of time. Therefore, the narrative developed in Section C.4 might overestimate the speed with which the competitors establish themselves and the banks are displaced.

C.5.3. Power

In principle, power plays hardly any role in the NIE. Within agency theory, power structures are completely absent, both inside and outside the firm. According to transaction cost theory, the existence of the firm is explained via the advantages of a hierarchy, but externally the firm does not possess any power either.

This approach becomes more understandable when the ontology behind it is considered. For the NIE, as for neoclassical economics, power and a perfectly functioning market are antipodes. Two systems are conceived in theory: one without imperfections, in which perfect competition governs all individual relations (a perfect decision-making context), and one with imperfections, in which individual relations are also characterized by power (an imperfect decision-making context) (Palermo 2007*a*, p. 164; 2007*b*, p. 545; 2019, p. 1359). Accordingly, in the NIE, imperfections are “the true cause of power” (Palermo 2019, p. 1359). If imperfections are abolished, then power relations will automatically disappear (Palermo 2007*a*, p. 164).

However, it is doubtful that power has no meaning at all in the justification of the existence of firms (and especially banks).⁶⁹ For example, it is not ex-

⁶⁸ For the phenomenon of relationship lending see, for example, Boot and Thakor (2000) and Kysucky and Norden (2016).

⁶⁹ It is not the task here to refute the NIE. Rather, the criticism serves a meta-argument: if the representation of the firm in this theory is wrong (logically as well as historically), or if false assumptions form the basis of the NIE, then the derivations of the theory will be at least questionable and the corresponding narrative about the future of the banks subject to doubt.

plained why two individuals would agree that one is the employer and the other is the employee. In particular, the amount of compensation would matter to the employee, not the transaction costs. The power to employ is at least implicitly assumed; after all, not everyone can hire workers at will. In this respect, employer and employee are already in a power relationship that is socio-economic in origin (Meramveliotakis and Milonakis 2010, p. 1061).

Similarly, Pitelis (1998) considers the argumentation of the NIE in the context of capitalism:

“Within the capitalist logic of profit generation for the principals, the employment relation is transactionally superior to the price mechanism and is thus a more efficient means of the organization and division of labor. In this sense, the transactional properties of firms are not per se the reason for market failure; the reason is the transactional properties needed for capitalist control to be established. Such control is easier under the employment relation, which renders the latter transactionally superior from the capitalist point of view. Given this, (transactional) efficiency cannot in itself explain the existence of firms; the principals’ objectives (thus power and distribution) also need to be considered” (Pitelis 1998, p. 1010).

Besides the logical inconsistencies, the NIE’s argument that hierarchies emerged without coercion cannot be sustained historically (Palermo 2007*b*, p. 544; for a more comprehensive look at the matter, see Gerstenberger 2017).

Power plays a role not only within a firm but also outside it, that is, between the firm and other firms, and between the firm and individuals. In this regard, different dimensions of power are addressed. Following Lukes (1974), Young (2002, p. 51) proposes four categories of power:

- (1) A has the ability to win in overt conflict with B;
- (2) A is able to divert B’s wants;
- (3) A is able to reconstitute B’s wants;

(4) A is able to reconstitute B's wants against B's interests.

Levels 2 to 4 address the possibility of changing preferences. However, since the NIE excludes exactly that (Hodgson 1994, p. 399), a significant form of power is not recognized. In the OIE, in contrast, preferences are not taken for granted: "Wants are not just givens" (Dugger 1988a, p. 5). Power is a more important factor than efficiency, which means that this tradition of thought is directed against the concept of the survival of the fittest; that is, efficiency is not mixed with existence (Hodgson 1988, p. 214). Power does not always have to be based on brutal coercion and force: "power is difficult to see and to analyze because it is secure and based on voluntary compliance" (Dugger 1980, p. 905).

These considerations lead us to the conclusion that, in a certain sense, there is a contradiction in the NIE regarding power. On the one hand, power relations are almost completely disregarded, such that individuals have sovereignty, and they possess and exercise power over themselves. On the other hand, individuals are slaves to their own preferences, which are merely given, and which they cannot question or change. This is also reflected in institutions. They are free of constraints, but at the same time they have no power to act,⁷⁰ except to reduce (transaction and agency) costs. In this sense, the banks are subject to a superior structural coercion that is exercised by the market or at the level of the market.

A structural form of power is also found in the Marxist view. This is mainly because class struggle is assumed within society. Thus, there is not only a relational notion of power (power over somebody) and a dispositional notion (power to act), but also a kind of invisible coercion (Palermo 2019, p. 1357). At a model-theoretical level, this view is directed against a methodological individualism that does not allow for social classes (Palermo 2019, p. 1360). Without going too deeply into the aspects of money, credit, and capital, in order not to lose sight of the institutional perspective, it can be stated that

⁷⁰ This concept is also discussed by Lukes (1974) and Palermo (2019).

capitalism itself is in essence a system of power (Palermo 2007*b*, p. 556) and that “to have authority in production or market power in circulation, one must first have purchasing power” (Palermo 2007*b*, p. 551). This point is essential here because it rejects the opposition of power and efficiency and considers both aspects together. In the OIE, a circle results: power leads to growth in size, and at the same time growth in size leads to a drive for even more power to keep the company coherent and capable of action (Dugger 1988*a*, p. 80).

Because of the emphasis on social structures and the primary emphasis on power issues, followers of the OIE, such as Dugger (1988*b*), arrive at a completely different assessment in their thinking about the market: “The market does not just happen. It is not a natural phenomenon. The market is a set of instituted social relations [...] the market is not a result of Adam Smith’s natural system of liberty. It is a result of the exercise of power [...] the market is not a cause, but an effect” (Dugger 1988*b*, p. 8).

In contrast to the NIE, where the market appears as an active agent, in the OIE the market is an explicitly “passive institution” and the modern economy is a “corporate economy” (Dugger 1988*c*, p. 984).

This assessment has several implications for thinking about the future of banks. First, banks are no longer merely passive actors that can at best lower transaction and agency costs. By incorporating several dimensions of power, banks have the possibility to change preferences (i.e., the possibility of power over somebody) and to (pro)actively shape their situation to their advantage. Banks can thus actively manage their customer relationships.

Second, assuming that endowments are distributed asymmetrically, banks also have power to act. In relation to the banks’ rather small new competitors, Fin-techs, this seems to be without a doubt the case. In relation to their larger BigTech challengers, things look different. However, banks are not necessarily powerless here, either.

Third, and more fundamentally, the abolition of the separation of efficiency and power casts the bank as an actor in a different light. The model world of

the perfect market is fading and with it the idea of perfecting the market by means of new competitors. Power is no longer a defect that arises from imperfection, but an original category that exists between the actors and determines the framework for action.

C.6. Summary and Conclusion

In this paper, we have outlined a narrative of the future of banks against the background of neo-institutional thinking about markets and institutions. As a starting point, we referred to Fintechs and BigTechs as new challengers that are attacking the value chain of banks. Strong market thinking and a tendency toward Panglossianism were identified as characteristics of the NIE, which leads to the new challengers being interpreted as a perfection of the market. In this context, the banks are regarded as playing a rather passive role and as having to subordinate themselves to the market.

In line with Coleman's bathtub model, this path was further developed. Banks might be displaced by the new competitors. A consolidation process could take place in which banks merge in order to reduce transaction and agency costs and to become more competitive. Some of the banks could therefore disappear from the scene, leading to a new market equilibrium with fewer banks and more new competitors. Overall, following the ideas of the NIE leads to a rather gloomy narrative concerning the future of banks.

In a second step, we evaluated this narrative critically by examining the (assumptions of the) NIE and by pointing out blind spots. Specifically, the meaning of uncertainty, trust, and power for the narrative was discussed in detail with reference to the OIE, (post-)Keynesianism, and Marxism. In the NIE, uncertainty is closely linked to individuals' bounded rationality and can thus be understood as behavioral uncertainty. Such an understanding, however, cannot express itself in an appreciation of institutions that may have a legitimizing effect via a more fundamental form of uncertainty. In terms of trust, the

immanent critique shows, first, that the assumption of opportunistic behavior can be mitigated by authority, although in that case it is not clear who is supervising the authorities. Second, and even more importantly, the assumption of opportunism leaves no room for trust, which may be a significant factor in explaining the existence of institutions. In the case of power, the immanent critique is evident from the ontology according to which efficiency and power form antipodes and institutions are justified only on efficiency grounds. On this reading, power cannot play any role. However, even in logical terms, it is not evident that power is not being used as an explanatory factor for institutions.

Overall, the immanent critique and the characterization of alternative traditions of thought result in a more comprehensive narrative about the future of banks. If uncertainty, trust, and power are taken into account, a strongly altered picture of the future will appear. Uncertainty (in a wider sense) can lead individuals to rely on old, familiar, trusted institutions for the stability they offer. Banks could be seen as institutions that provide security, making many of their customers unwilling to change. This goes hand in hand with trust. With the recognition of strong uncertainty, it becomes important to have trustworthy partners that accompany individuals through the uncertain future. Here again, banks can build on a trust advantage over their new competitors, as bank customers already know what they are getting. In addition, cooperation based on trust can form habits that further strengthen the circle of trust and habits, which is beneficial for the relationship between bank and customer. New challengers must first, at great effort, create trust and try to convince customers. They can also use one of the forms of power described above to change the preferences of bank customers. However, banks, too, are in a position to change customers' preferences in such a way that customers do not choose the cheapest provider, but instead focus on other aspects. Banks are no longer passive players that can only reduce transaction and agency costs and have to subordinate themselves to the market. Banks can take action themselves and use their power against the new competitors or to shape customer

preferences, be it in the form of capital or in the form of trust. In this way, banks are seen as having the ability to remain successful in the market for a longer period of time.

By working out the assumptions of thinking about the future of banks, the paper lays the foundation for a better understanding of narratives on this topic. It may show the limits of such gloomy narratives like Bill Gates' famous one. At the same time, it highlights the importance of plural economic thinking, once again underlining that the content and the form of thought are inextricably linked. It provides a tangible example to illustrate that, for economic science, there is not and cannot be only one theory; a broad knowledge of theories is necessary, also in teaching, in order to explain social phenomena comprehensively.

This conclusion primarily has implications for academic practice. Shedding more light on the assumptions of the theories used when discussing the future of banks would be very helpful. This is all the more important because economic theories can have a performative effect and thereby change the direction of their object of study. Therefore, it is incumbent on scientists to recognize and seek to fulfill their social responsibility.

In terms of practical implications, our findings are also relevant for banks. By examining how markets and institutions are perceived through the lens of economic theory, we provide insights into the credibility and impact of certain narratives. In doing so, we help banks to identify narratives about their future at an early stage, especially the origins of certain narratives. By knowing the hidden ideas behind these narratives, banks can more easily find arguments that counter the narratives. For both academics and practitioners, it is important to note that banks, as important institutions in our economic system, deserve special attention and also special rigour. In particular, premature narratives such as that of Bill Gates need to be viewed critically. Such narratives, consciously or unconsciously linked to economic theories, operate in a performative channel, creating fictional expectations, establishing causal re-

relationships or merely suggesting deductions that provide orientation and form the basis for strategies of action to deal with the uncertain future. When these narratives are then shared by thought collectives, they can undermine confidence and change reality without there being any equivalent in the real economy. Just think of the power of Mario Draghi's 'whatever it takes' speech in 2012 to calm the financial markets in the wake of the sovereign debt crisis with two sentences,⁷¹ without the fundamentals of the affected countries having changed in the slightest (see also Beckert 2016, pp. 82, 89, 256-257).

Of course, this work is not free of limitations. First, when criticizing schools of thought, there is always the risk of attacking a straw man, and it must be questioned whether economists really do think about the future of banks in the ways represented here. However, doubt as to whether economists think in these ways consciously does not make the analysis in this paper less relevant; because of their tacit knowledge of the NIE, economists might still think in these ways unconsciously. Second, the account given in this paper has been presented in terms of the economic categories of market and institutions. However, a narrative may change its orientation by adding or omitting categories, and by weighting categories differently. Therefore, further research is needed to examine the influence of other economic categories, such as regulation and technology, on thinking about the future of banks. Finally, we view banks as institutions at a high level of abstraction. Special bank services and products, such as loans and deposits, are not taken into account. This more functionalist view of banks will not be considered here, but in another paper. In particular, by comparing the theory of intermediation and the theory of 'money creation out of thin air,' the role of banks in the monetary system is analysed in more detail. In doing so, an internal perspective will take into account both banks as specific institutions in their own right and their special function in dealing with money.

⁷¹ "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough." (Draghi 2012).

D. Essay 3: A Bank Is What a Bank Does vs. A Bank Does What a Bank Is: How Thinking About Money Influences Thinking About the Future of Banks⁷²

D.1. Introduction

“Money is what money does” (Hicks 1967, p. 1).

Narratives are becoming increasingly important in economics. Recently, even the winner of the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, Robert Shiller (2019), devoted an entire book to its importance to the profession. This also applies to (the debate about) the future of banks, where some narratives are already in circulation, in particular the narrative of technological improvement with new challengers and new forms of money, which are threatening the very existence of banks. A vision of this kind of future is linked primarily to Bill Gates’ famous quote “Bank-

⁷² Hübenbecker, U. (2025), ‘A Bank Is What a Bank Does vs. A Bank Does What a Bank Is: How Thinking About Money Influences Thinking About the Future of Banks’, Working Paper Uni Rostock.

ing is necessary, banks are not.” However, the power of narratives is nothing new. Some economists have always been concerned with rhetoric (McCloskey 1998), performativity (Callon 2007) or even narratives (Fullbrook 2016). After all, behind the objective façade of empirical investigation lies the undeniable power of interpretation. Within this context, the concept of performativity takes centre stage, as social theories (and models) not only describe social realities but also actively create narratives that (could) shape them (Preda 2009, pp. 118–125). The narratives about the future of banks have a profound significance, as they not only provide insights into the evolving landscape of banking, but can also inspire public trust, which is crucial for the stability and growth of the banking sector.

However, these narratives do not emerge in isolation. They are often rooted in theoretical assumptions that shape how we perceive and discuss the future of banks. Economic theories play a key role in this context, providing the conceptual frameworks that influence how such narratives are constructed and understood. This interplay between narratives and theories raises an important question: what and how can economic theories help us to explain such narratives? After all, these theories serve as conceptual frameworks that provide lenses through which researchers interpret and make sense of the social world. It is therefore also necessary to look at what actually characterises banks in theory.⁷³ The intermediation theory is one candidate that could take a leading role in this play.⁷⁴ There are two related debates. The first is that the transformation services of intermediaries have the potential for disintermediation, i.e. the debate on the disintermediation of banks. The second is the debate about

⁷³ The teaching of money and banking varies significantly depending on the theoretical perspective adopted, with notable differences between orthodox and heterodox approaches. Monvoisin (2013), Lavoie and Seccareccia (2016) and Rochon and Rossi (2018) argue from a post-Keynesian standpoint that orthodox teaching often assumes the exogeneity of money, portraying banks primarily as passive intermediaries. In contrast, they emphasize a demand-led perspective on credit money creation, where banks actively respond to the credit needs of the economy. While this critique provides a valuable foundation, this paper builds on these insights by exploring how such theoretical perspectives shape narratives about the future of banks, thus extending the discussion into the context of their societal and economic implications.

⁷⁴ One possible theoretical distinction from the intermediation theory is the production approach, which goes back to Deppe (1964).

the theory of intermediation itself. This debate, which is largely driven by monetary authorities, is related to the issue of money creation (Ryan-Collins et al. 2012; Jakab and Kumhof 2015; 2019). Both debates (on the transformation services of intermediaries and on the valuation of banks as intermediaries) are based on very specific assumptions about money.

The aim of this paper is therefore to find out how thinking about money according to economic theory can influence the thinking about the future of banks. After all, banks, as financial(!) institutions, are primarily engaged in the business of money. Therefore, this paper will take a “money view,” which in turn means that many other economic aspects such as risk, regulation or technology have to be abstracted from. This does not mean that these categories are not important or should not be addressed, but only that the focus should be sharpened. Thus, the focus is on the abstract category of money, after an earlier paper by Hübenbecker and Homölle (2025) considered how thinking about markets and institutions can influence thinking about the future of banks. There banks were considered quite abstractly in the sense of institutions (in the narrower sense as firms), quasi as a shell, without characteristic aspects of what “really” distinguishes banks from other firms. This paper takes that step and looks at what banks actually are. Money plays a special role here in two respects. First, by analogy with money, it is possible to examine what banks effectively are. Second, by looking at money, it becomes clear how certain narratives about the future of banks can be derived from theory.

Methodologically, this paper follows a hermeneutic approach. By systematically interpreting and contextualizing theoretical perspectives from the literature, it seeks to uncover the assumptions underlying narratives about disintermediation and their implications for the future of banks. The starting point for the analysis is the quote from Hicks mentioned at the beginning: “Money is what money does.” With its functionalist interpretation of what money is, this quote is completely in line with orthodox economics, i.e. an economic science that, due to its positivism and narrowly prescribed methodological framework,

no longer reflects on what actually exists in the world and, in this context, sets aside ontological questions (Lawson 1997; 2003). This functionalist variant of interpretation is contrasted with an ontological one by reversing the quotation to “money does what money is.” The content of this view is filled in by a Marxist-oriented political economy. But why ask only about money? The quotation can also be applied to banks, and the findings about money can be directly linked to thinking about banks, because there too the content of the statement “A bank is what a bank does” reflects the orthodoxy. So it seems to make sense to reverse this view as well to “A bank does what a bank is.” It is argued here that, as with money, a Marxist view can enrich the content of the statement. Subsequently, in the discussion, the insights gained can be applied to the current or future challenge of disintermediation by new forms of money.

The functionalist and the more ontological perspectives are explained by referring to many basic aspects of the theories, which might lead the interested reader to conclude that there is little new to discover here. However, such an outline of the theories is necessary, first, in order to highlight the differences between the two approaches, second, because it makes the narratives clearer, third, because the narratives can be derived from this outline, and finally, because it allows a critical reflection on which narrative can be trusted more and which assumptions of the theories may not (or no longer) help economics to progress.

This paper contributes to the literature in several ways: First, it provides possible explanations for narratives on the future of banks. This is done here under a “money view,” which attempts to theoretically embed the challenge of disintermediation from the literature in different ways. So far, these debates about intermediation theory, disintermediation and money have not been purposefully intertwined and examined for potential narratives about the future of banks. Second, it becomes clear that ontological questions are not only extremely relevant in economics, but that they are necessary questions of any discipline, enabling a clearer view of the objects of study, here money and

banks, for the profession and strengthening the understanding of economic interrelations. The ontological elaboration in relation to banks, with an extension of the value form analysis to banks through a form analysis of the various capitals, has not yet been achieved in this way. Banks thus receive a largely new justification. Third, it highlights the importance of theoretical thinking, how different traditions of thought can think about phenomena and in this context how important it is to promote plural economics.

The paper is structured as follows. In Section 2, the methodology of the paper is explained in detail. This is followed in Section 3 by a discussion of the orthodox view of money and then in Section 4 by a Marxist-oriented political economy. This is followed by a reflection on banks, i.e. in Section 5 the orthodox view of banks is described and then in Section 6 a Marxist view. The implications of these views are then applied to the challenge of disintermediation in Section 7. The paper ends with a summary and conclusion.

D.2. Methodology

The research problem with the question of the future of banks is that, on the one hand, it is an important issue, and understanding its evolution helps to anticipate changes in services, regulations and technological advances that are shaping the financial landscape worldwide. On the other hand, the recent literature does not satisfactorily explain how they arrive at their future prospects (Hübenbecker 2024). One of the reasons for this is that the significance of economic theories and, above all, their assumptions have not yet been sufficiently taken into account.

In order to derive the future prospects from the theories, several steps are required. A first step is the almost naïve observation that banks are facing current challenges that are widely perceived as disintermediation. This is partly due to new forms of money, such as cryptocurrencies or Central Bank Digital Currency (CBDC), which compete with bank deposits and could make banks

redundant as intermediaries.⁷⁵ Such an approach is naïve because it already uses a theoretical vocabulary, i.e. the simple empirical observations cannot be reduced to a theory-free approach. However, since the term (dis)intermediation is used across different theories in economics, this naïve approach can be tolerated here. The next step involves examining the challenges faced by banks through the lens of selected economic theories, which offer distinct perspectives on the issue of (dis)intermediation. This means that an orthodox view of money and banks is elaborated, which is then supplemented by a critical counter-view to this perspective. This clearly shows the scope in thinking about economic aspects. In addition to substantively explaining money and banks as objects of study, it is necessary to develop the underlying logic for their examination. In this context, the introductory quotation from Hicks is of particular importance, as it already reveals the functionalism predefined in the orthodoxy. Within the counter-view, the inner logic cannot easily be determined in this way, but approaches can be found that lead in a more ontological direction.

This approach not only generates narratives around money and banking itself, but also lays the groundwork for deriving narratives about the future of banks, offering explanations of potential visions of the future.

⁷⁵ If this competition takes place between, for example, CBDCs and bank deposits (as Sander et al. (2020, p. 16) state), then it is clear that this is not exclusively about the processing of payment transactions. There is a whole range of subdivisions of intermediation or intermediaries and thus also potential approaches to disintermediation. For example, the transformation services of banks as financial intermediaries could be affected at least indirectly if they lose market share to competitors and lot size, risk, maturity and information transformation become less important for them. The use of the term *disintermediation* is already embedded in far-reaching theories and cannot be discussed comprehensively here. For this very reason, however, the challenge of disintermediation should not be presented or even analysed much further, as this would already require further standpoint determinations, which is what the theories to be considered in this paper are supposed to do. The focus here is less on financial intermediaries such as financial auctioneers, rating agencies and market makers but rather on financial producers (Breuer 1993, pp. 9-14), which also means that shadow banks are somewhat excluded from the analysis. This may seem surprising given that this sector continues to grow in size and importance (Thiemann 2018), but it is due to the fact that the concept of banks has to be approached first and the extremely complicated legal and regulatory characteristics cannot be dealt with here. However, it can already be said here that the concept of disintermediation may be misleading for precisely this reason, as it shifts the focus all too much to a traditional banking sector and banking concept that is hardly compatible with a modern(?) understanding of the capitalist financial system.

How does thinking about money influence thinking about the future of banks?					Section
A	Thinking about money	Quotation of Hicks: “Money is what money does”			
		I	Affirmation: “Money is what money does”		D.3.
		II	Inversion: “Money does what money is”		D.4.
B	Thinking about banks	III	Mirroring with banks: “A bank is what a bank does”		
			1	Affirmation: “A bank is what a bank does”	D.5.
			2	Inversion: “A bank does what a bank is”	D.6.
C	Thinking about the future of banks		3	Application to current/future challenges	D.7.

Table D.1.: Structure of Essay 3

In this respect, this article is structured a bit like a nesting doll (see Table D.1). The whole article revolves around the question “How does thinking about money influence thinking about the future of banks?” But thinking about the future of banks requires thinking about money and thinking about banks (A-C), which in turn build on each other. Thus, thinking about money is aligned with the quotation from Hicks, which then leads into the mirroring of the quotation with banks (I-III). Thinking about banks nevertheless forms an independent part, which then results in the application to the current challenge of disintermediation (1-3).

Ultimately, this is a hermeneutic method that is not limited purely to observable phenomena. It deals with internal structures and possible resulting tendencies (Dean et al. 2006, p. 66), not to mention addressing ontological questions (Lawson 1997; 2003). This does not mean, however, that a relativist or anti-realist standpoint must necessarily be adopted, as the highly esteemed Bunge (1993) once polemically propagated. On the contrary, hermeneutics

is needed in order to adopt a realistic standpoint. In this sense, it is worth referring to Sayer (1992): “In learning a new body of theory, whether it be marxism or neoclassical economics or pluralist theories of politics, we usually eventually come to find that the new concepts enable us to see new objects or aspects of objects and not merely offer a different interpretation of everyday observations” (Sayer 1992, p. 54). In this sense, the theoretically embedded narratives can help to make the possible future perspectives of the banks a little more understandable.

D.3. Money Is What Money Does

Before going into the content of the statement that precedes this paper, it is necessary to make a brief classification of who this statement is associated with. In essence, this is an account of orthodox economics in which the fairly standard textbook literature can serve as an anchor. For the broad area of money, banking and finance, one of the standard textbooks would undoubtedly be Mishkin’s (2019) “The economics of money, banking, and financial markets.”⁷⁶

What is initially striking is that the (current) orthodoxy does not really have a theory of money. Money is more or less considered in passing. This is shown, among other things, by the fact that in the textbooks money is characterised relatively quickly almost exclusively by its functions. In this way, money actually becomes what money does. Mishkin precedes the money functions with the following statement: “Economists define money as anything that is generally accepted as payment for goods or services or in the repayment of debts” (Mishkin 2019, p. 99). Even this definition already bears functionalist characteristics. The problem is that a functionalist definition is basically no defini-

⁷⁶ Another standard textbook is Greenbaum et al. (2019). But they don’t even bother to present a monetary concept. Apart from the usual references to fiat money, etc., they take it for granted (Greenbaum et al. 2019, pp. 24, 64). The standardisation of textbooks in economics is evident in the case of microeconomics (Lee and Keen 2004), substantial sections of macroeconomics (De Araujo et al. 2013), and even German-language introductory textbooks in business administration concerning methodology (Julmi 2020).

tion at all. If someone is interested in what a car is, they will presumably be reluctant to settle for the fact that it is a means of transport from A to B; after all, this also applies to a bicycle or an aeroplane.

Then the following three functions are almost always named: medium of exchange, unit of account, and store of value (Mishkin 2019, pp. 100–102). Emphasis is placed on the medium of exchange function, which is introduced via the “double coincidence of wants,”⁷⁷ meaning that two parties in a barter economy want the other good of their exchange partner (Mishkin 2019, pp. 100–101). Since this is simply rarely true, monetary trade is introduced (Ostroy and Starr 1990, p. 27). This view is also closely related to Menger (1892), who sees money arising spontaneously via the market (through habits) (Menger 1892, pp. 249–250).⁷⁸ To put it in more familiar terms, one could also say that the origin of money as a means of exchange is justified logically-rationally rather than historically, via the avoidance of transaction costs in the sense of the time-honoured double coincidence of wants (Mishkin 2019, p. 100). Money here seems to be simply a commodity like any other, which simply “functions” as money (Mishkin 2019, p. 101). The lack of realism associated with the view of money as a commodity is also noted in the literature: “Such a conception of money may be fine for the construction of logically consistent equilibrium models. But it has little to do with reality” (Guttman 1994, p. 30). It remains unclear how this commodity, which at some point functioned as money, became what we usually call today token money, i.e. money without intrinsic value. Insofar as the supply of money without intrinsic value is addressed for this historical formation of our society, the most important actor is the central bank (Mishkin 2019, p. 388). The keyword here is an exogenous money supply.

⁷⁷ The term goes back to Jevons (1875) (see Ostroy and Starr 1990, pp. 26–27). However, Jevons also states: “Modern society could not exist in its present complex form without the means which money constitutes of valuing, distributing, and contracting for commodities of various kinds” (Jevons 1875, p. 3).

⁷⁸ In defence of Menger, it should be mentioned that the latter contributed considerably more on the subject of money (see especially Menger’s article on money in the *Handwörterbuch der Staatswissenschaften*, 1909 (reprinted in Menger 1936, pp. 1–116). Today, however, little remains of his profound reflections in the orthodoxy.

When discussing the demand for money, by contrast, reference is made to the Quantity Theory of Money (Mishkin 2019, pp. 532–536). This theory has a long tradition, but has for some time been associated primarily with Milton Friedman (Blaug 1997, p. 615). With regard to the central bank, he states: “[...] the monetary authority controls nominal quantities [...] It cannot use its control over nominal quantities to peg a real quantity – the real rate of interest, the rate of unemployment, the level of real national income, the real quantity of money, the rate of growth of real national income, or the rate of growth of the real quantity of money” (Friedman 1968).

As Kaldor (1970) critically summarises Friedman, in Friedman’s world “money cannot change ‘real’ things” (Kaldor 1970, p. 3) like output, employment and the allocation of resources (Blaug 1997, p. 615). In this context, it must be mentioned that the followers of the quantity theory interpret the Fisher equation, $MV = PT$, where M represents the stock of money, V the velocity of circulation, P the average level of prices, and T the volume of trade per time period, in a very specific way:

- (1) “[T]he direction of causation must run from MV to PT .”
- (2) “[A]ll changes in V and T must be attributable to nonmonetary factors.”
- (3) “[T]he nominal stock of money must be exogenously determined” (Blaug 1997, p. 614).

Insofar as V is stable, P changes exactly proportionally to the changes in M . With this rigorous assumption, a version of the quantity theory emerges that excludes any function of money other than that of a medium of exchange (Blaug 1997, p. 614).⁷⁹

Another facet that attaches to the quantity theory is the connection to Say’s

⁷⁹ Smithin (2013), who is also critical of the quantity theory, would certainly subsume such an account under the “Caricature Version of the Quantity Theory of Money” (Smithin 2013, p. 62). The simplified and condensed presentation here aims to make the basic framework of the Orthodoxy clear. For a more extensive account and critique of aspects such as the neutrality and exogeneity of money, see Cartelier (2018), Patnaik (2009), Weeks (2012) or Baronian (2023).

law (Shaikh 2016, p. 546). According to Say's law, there cannot be an excess of overall supply of commodities because the total supply of all commodities is exactly equal to the total demand for all commodities (Lange 1942, p. 49). The total demand for commodities excludes money but Say's law suggests that the demand for money has a unique nature, indicating that individuals within our system, when considered together, are always content with the current amount of money and do not desire to have more or less (Lange 1942, pp. 52-53). So, Say's law eliminates the possibility of substituting between money and commodities since it implies that purchases of commodities cannot be financed through cash balances and that cash balances cannot be increased through the proceeds from the sale of commodities (Lange 1942, p. 63). Lange (1942) can thus critically state "the relative prices of commodities are found to be independent of the quantity of money in the system. Money is "neutral," or, to use the phrase of the classical economists, it is merely a "veil" which can be removed and relative prices can be studied as if the system were based on barter" (Lange 1942, p. 64). This has very specific implications. The neutrality of money in connection with an exogenous (by the monetary authority or the state) predetermined money supply also means, that basically not even a trade credit is possible, since this would already have an effect on production (i.e non-neutrality). Moreover, in this case the money would not have been created by the monetary authority (i.e. non-exogeneity).

Why is this important? Such a view of money demand and money supply disproportionately emphasises the money function as a means of exchange. This means that the possibility of hoarding money is severely limited or even impossible. Money is not an "object of desire" in itself (De Brunhoff and Foley 2007, p. 193) (De Brunhoff and Foley, 2007, p. 193) and if money is seen as worthless, there is no motivation to hoard it (Weeks 2010, p. 74). Instead, any other asset can be used to store value and many are even better suited for this than money. Therefore, this function is somewhat lost in the orthodoxy. If money is held after all, then this is done out of a liquidity preference (Mishkin 2019, p. 102). This could also be seen as a disregard for money. Moreover, it

means that there is no possibility of a disintegration of buying and selling, i.e. no payment on credit is possible, which can be observed on a daily basis in today's economy. In the broadest sense, this is also connected to the model thinking of the orthodoxy from a micro perspective, which takes place in logical time and not in historical time (Patnaik 2009, p. 20), quasi in a "timeless vacuum" (Minsky 2008, p. 155).

There exists somewhat of a tension within orthodoxy between the (ahistorical) origin of money in the double coincidence of wants, which is to be considered logically rational rather than factually historical, and the actual representation of the currently observable monetary system of the historical formation of our society. In describing the current monetary system, orthodoxy typically refers to banks, central banks, credit, etc. to do the proper justice to money in today's world. In contrast, money as such is inherently timeless and as such not related to a specific historical epoch, such as capitalism.

Overall, the significance of money is therefore quite limited. It simply fulfils its functions, first and foremost as a means of exchange. At the same time, the concept of money must be interpreted broadly, since various assets can fulfil monetary functions.

D.4. Money Does What Money Is

This section presents an approach that turns Hicks' opening quotation around and consequently derives a different logic of argumentation from the determination of what money is. Such an approach is linked to Marxist political economy.⁸⁰

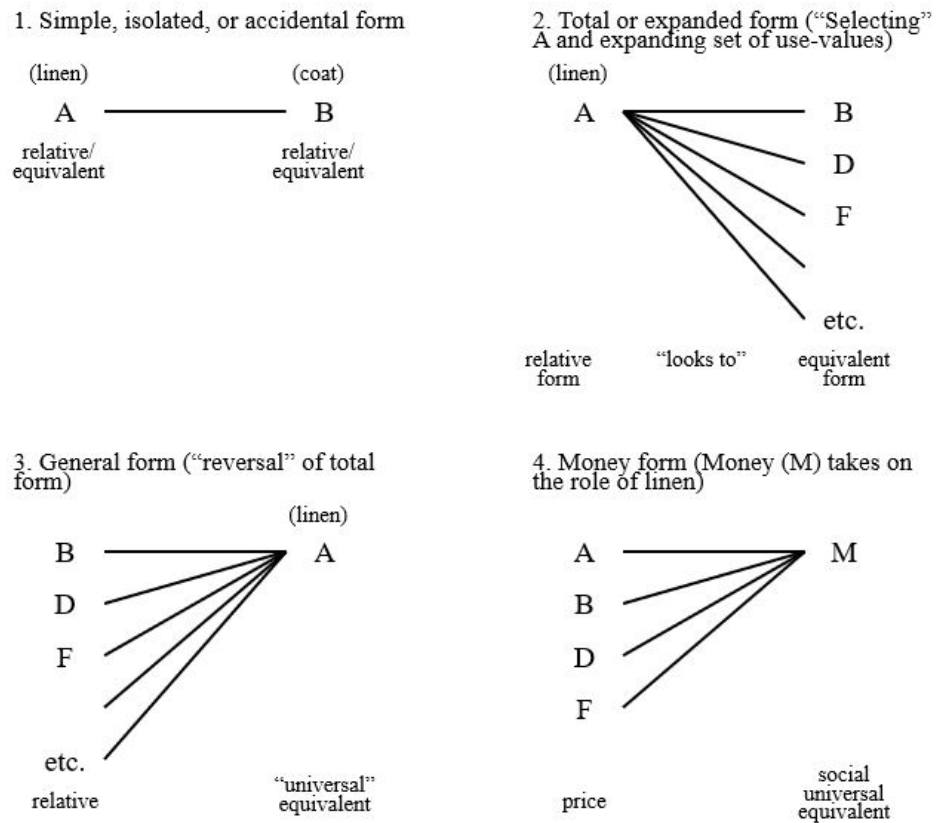
⁸⁰ Its adherents may represent only a minority in the economic guild, but they explicitly point out that money does what money is (Lapavitsas 1994, p. 449; Itoh and Lapavitsas 1999, p. 40; Lapavitsas 2003b, p. 15). Since Marx's teachings (which have been pushed into the background in economics) cannot be presented here in all their complexity and detail, the following discussions are based on highly simplified summaries. In particular, the Hegelian foundations for a comprehensive understanding are neglected.

D.4.1. Value Form Analysis and Theory of Action

For such an approach, it is necessary to start with the value form analysis. The development of the value form (see Figure D.1) is about the explanation of money from the contradictory structure of the commodity to embody use value and value (Iber 2005, p. 83 in connection with p. 51). This development is not to be understood historically, but logically-systematically (Iber 2005, p. 47).

(1) Marx begins with the “simple, isolated, or accidental form of value,” in which the value of one commodity is expressed in another commodity, whereby one commodity assumes a relative value form and the other commodity assumes an equivalent form. (2) He continues with the “total or expanded form of value,” in which the value of one commodity is expressed in numerous other commodities, with one commodity assuming a relative value form and the numerous other commodities assuming an equivalent form. (3) This leads to a reversal of the total form of value to the “general form of value” in which the value of all commodities is expressed in a single commodity, with all but one commodity assuming a relative form of value and the one commodity assuming a general/universal equivalent form. (4) This leads to the final form, the “money form,” in which the one commodity that has assumed general/universal equivalent form is excluded as an equivalent by all other commodities and this exclusion is finally limited to one type of commodity. This specific commodity becomes the commodity of money (Marx 1962, pp. 62–85; Marx 1976, pp. 138–162).

Money is derived generically here and is in consequence “the ‘universal equivalent’, the monopolist of buying ability (or the independent form of value) that arises due to social relations among ‘foreign’ commodity owners. The ‘universal equivalent’ can assume a variety of forms: commodity, fiat paper, banknotes, bank deposits, money trust account, etc. In all its forms, the ‘universal equivalent’ monopolises the ability to buy (and represent value), this being the thread that ties all forms of money together” (Lapavistas 2003b,



Note: Adapted from Carling (1986, p. 68).

Figure D.1.: The Sequence of Value Forms

p. 15).

The analysis of form is supplemented by a theory of action that addresses the exchange process. At the level of the exchange process, it is shown how the emergence of money appears to be necessary in the actions of the commodity owners (Iber 2005, p. 83). Form analysis and action theory together have the same result, “that the money form necessarily attaches itself to a certain kind of commodity excluded from all other commodities, so that the realisation of commodity value now presents itself as a relation of commodities to money, a commodity which is accorded a prominent position in relation to the other commodities [...]” (Iber 2005, pp. 83, 95, author’s translation).

All in all, with the pronouncement of the form of money and the result of money as the independent form of value, money is given a higher significance than

in the orthodoxy, where the notion of value is banished.

D.4.2. The Significance of the Money Commodity in the Monetary Theory of Value and the Historical Formation of Society

There is also a significance for capitalism: “money as the independent form of value is the nexus rerum of capitalist society” (Itoh and Lapavistas 1999, p. 55). Of course, Marxist authors are aware that money existed before capitalism, but “money’s nature, functions and forms emerge most clearly under capitalist social conditions, for it is only then that commodity exchange becomes truly general and permeates economic activity” (Lapavistas 2003a, p. 66). Thus, supra-historically, money is the medium of the socialisation of atomised commodity producers (Heinrich 2001, p. 160).

The peculiarity of money is that it is both a commodity and a non-commodity (Krätke 2000, p. 68) and both universal and particular (Fleetwood 2000, p. 188), which can be explained, among other things, by the social embedding of money: “The contrast between money and other commodities is sharp, since the usefulness of the latter has an irreducible private dimension: bread satisfies personal hunger, clothes keep out the cold for their wearer, and cars take their driver from one place to another. However, the benefits from holding money do not result from the private relationship between money and its holder; instead, they are comprehensively social” (Lapavistas 2003c, p. 55).

“What Marx derives is not the existence of money - money exists - but he presents what money is and why money necessarily exists in commodity-producing society” (Iber 2005, p. 49, author’s translation). In this sense, “money is not a ‘cleverly devised means of information’ (Marx and Engels 1990, p. 36) that serves to remedy the difficulties of natural exchange, which

could also proceed without money” (Iber 2005, p. 89, author’s translation).⁸¹ The difference to the orthodoxy is that the owners of commodities can only(!) relate to each other with their commodities via money.⁸²

Marx’s theory of value is thus from the beginning a monetary theory of value with a general theory of money. In this context it should also have become clear that Marx did not write a history of money.⁸³ History plays a role in the sense that money as a money commodity must have been linked to a commodity at some point in history and that his theory of money also applies to capitalism or the capitalist mode of production, i.e. a specific historical epoch. Many critics of Marxism accuse him that his theory stops at the identification of the money commodity as gold and is no longer relevant in our time (Ingham 2004, p. 61). However, as Bryan and Rafferty (2006*a*; 2006*b*) rightly point out, Marx’s money commodity need not be fixed on gold. They show that Marxists are not physiocrats and that aspects other than power, trust and nation-state guarantees are paramount to the foundations of a general theory of money, emphasising in this respect the role of derivatives as a money commodity for our time (Bryan and Rafferty 2006*a*, ch. 5; 2006*b*, pp. 84, 92).

All in all, Marx’s general theory of value, in contrast to the orthodoxy, is a monetary theory from the outset, placing the significance of money at its core. Its importance is further emphasized by its explicit embedding in a specific historical epoch – capitalism – where money is not merely an optional lubricant but a structural necessity for the interaction between commodity producers. In this sense, money holds a far greater importance in Marx’s framework

⁸¹ Thus Mishkin states: “Imagine how hard it would be in a barter economy to shop at a supermarket with 1,000 different items on its shelves and be faced with deciding whether chicken or fish is a better buy if the price of a pound of chicken were quoted as 4 pounds of butter and the price of a pound of fish as 8 pounds of tomatoes. To make it possible to compare prices, the tag on each item would have to list up to 999 different prices, and the time spent reading them would result in very high transaction costs” (Mishkin 2019, p. 101).

⁸² “The all-round product exchange of commodities, in contrast to the isolated direct product exchange, can only take place as a reference of the commodities to money” (Iber 2005, p. 89, author’s translation).

⁸³ Many Marxist strands now point to this: “Marx’s theory is monetary theory of value” (Heinrich 1988, p. 28), or Marx’s theory is “monetary from the outset” (Itoh and Lapavistas 1999, p. 58).

than it does in orthodox economics.

D.4.3. Hierarchy of the Money Functions and the Path

From the Money Commodity to Token Money

The path from the money commodity to token money is closely linked to the money functions. Itoh and Lapavitsas (1999) make it explicitly clear that for them “what money does follows from what money is” with a “strict ordering of the functions of money” (Itoh and Lapavitsas 1999, p. 40), in which the path from the money commodity to money as symbol is also illustrated.

The first money function as a “measure of value” allows the commodities to represent their value in the excluded equivalent commodity as was shown in the value form analysis. Only then is the second money function opened up as a “means of exchange” or “means of circulation.”⁸⁴ Here money mediates the exchange of commodities: commodity 1 – money – commodity 2 ($C1-M-C2$) in the characteristic form of currency (Itoh and Lapavitsas 1999, p. 43). In this function there is space for the emergence of symbolic money (Itoh and Lapavitsas 1999, p. 44) with money as layered symbol (Lapavitsas 2017, p. 11), either as state-backed issued fiat money or as private issued credit money.⁸⁵ The commodity money vanishes here from circulation and functions as an idealised sign of itself (Iber 2005, pp. 107–108), it is plain means of purchase (Otani 2018, pp. 108–109).⁸⁶

⁸⁴ The exchange of goods is basically only possible via money. In this sense, a distinction must be made from the plain exchange of products, which is also possible without money, but is simply not an option for more mature economic systems.

⁸⁵ For the record, credit (money) and money are not the same thing, as Ivanova (2020, p. 149) reminds us.

⁸⁶ “Marx’s approach is highly compatible with the practice of contemporary central banks, which supply reserves endogenously to the banking system to maintain a target interest rate. Marx’s recognition of the ease with which various forms of symbolic and credit money can take the place of ‘hard cash’ in the circulation of commodities is also relevant to the problem of defining ‘money’ operationally. There is a wide spectrum of close substitutes for cash as means of circulation of commodities, and even as means of payment. In these respects Marx’s theory provides a rich and flexible mode of comprehending contemporary monetary institutions” (De Brunhoff and Foley 2007, p. 202). Marx’s relevance can also be highlighted by the fact that in the light of his theory of money and credit, even the financial crises in the 21st century can be explained (Neuberger 2019).

Whereas previously the functions of money were not characterised by the actual presence of the money commodity, for the function of hoarding money must actually be present. Money functions not only in circulation, but also outside of it. In the metamorphosis of the commodity ($C-M-C$) lies the possibility of the separation of sale ($C-M$) and purchase ($M-C$) and the possibility of the accumulation of wealth. It is partly through this separation that Marx rejects both the quantity theory of money and Say's law (De Brunhoff 1976, pp. 34-37; De Brunhoff and Foley 2007, pp. 192-193). Hoarded metals are accumulation of value in a durable form. A distinction can be made here between, on the one hand, societies that do not have a systematic social mechanism for the expansion of value, in which hoarding represents a primitive form of wealth accumulation, usually simply as a hoard of gold. On the other hand, societies that have such a social mechanism, such as capitalist societies, through the use of money as capital, self-valorising value, in an advanced credit system (Itoh and Lapavistas 1999, pp. 46-47).

The separation cannot only be made into selling and buying, but also the act of selling itself can be divided into two, thus addressing the function of money as a "means of payment." In this (temporal) separation lies the possibility of credit money.⁸⁷ This consists of the forms of commercial credit (the sale of commodities against promise to pay) and money (or banking) credit (the lending of money) (Lapavistas 1991, p. 292; 2017, p. 24; Itoh and Lapavistas 1999, p. 59). Credit money differs from commodity money and fiat money in that it has a cyclical shape. The quantity of credit money in circulation is thus significantly influenced both by the real economy and by the financial economy itself, in particular by the banks. The loans can thus create the conditions for their own repayment, which is why credit (money) can no more be regarded as neutral than money as a whole (Itoh and Lapavistas 1999,

⁸⁷ See also De Brunhoff (2005): "Credit introduces the notion of time (i.e., the amount of time that elapses between C and M if the commodity buyer does not immediately pay the seller in hard cash)" (De Brunhoff 2005, p. 211).

pp. 48–49).⁸⁸

In the last money function, money as “world money,” money has already moved from a general theory of money to a specific theory of money, namely for capitalism, since here spatial boundaries no longer exist and money functions as a general equivalent on a world market. The primary role of world money is to serve as a medium of exchange for settling international balances (Lapavitsas 2013, p. 102; Otani 2018, p. 119).⁸⁹

All in all, with this hierarchy of money functions, which simultaneously outlines the development from commodity money to token money, money is given a prominent place in our current form of society. In contrast to the orthodoxy, this role is emphasised by the functions of hoarding and as a means of payment, making it impossible to regard money as neutral.

D.4.4. From Money to Capital

For Marxists it is clear that money is closely linked to the concept of capital. To return to the question of the subject of history, “it is not money that creates capitalism, but capitalism that transforms money into capital” (Lapavitsas 2003a, p. 67). With the transition to a particular theory of money (i.e. money in capitalism), three aspects come into focus: the use of money as capital, the three circuits of capital (Desai 1974) and the credit system with credit money as “the characteristic form of money in capitalism” (Lapavitsas 2003a, p. 71).

In simple commodity circulation ($C-M-C$), money functions as money in that it enables the exchange of commodities (Marx 1962, p. 162; 1976, pp. 247–248; Fine and Saad-Filho 2016, p. 119). In addition, however, there is also the form $M-C-M$, i.e. buying in order to sell. However, buying to sell

⁸⁸ This aspect also makes the rejection of the quantity theory of money somewhat more understandable. For a far-reaching critique of monetarism see De Brunhoff (1982). The current debate between monetarists and modern money theorists should not be confused with this, however, since Marxist economists criticise both theories (Lapavitsas and Aguila 2020; Stützle 2021).

⁸⁹ The role of world money in modern times has been interpreted in many ways among Marxists, according to the dollar playing the role in different forms (Lapavitsas 2006, pp. 135–139; Ivanova 2013, pp. 51–52).

only takes place if the buyer ends up with more, i.e. $M-C-M'$ (thus $M' = M + m$, with m as an additional means of money). When the circulation of money becomes an end in itself, the realisation of value, then money becomes capital (Marx 1962, p. 167; 1976, p. 253).⁹⁰ Furthermore, this end in itself is not only inherent in merchant's capital,⁹¹ but also in industrial capital and finally, above all, in interest-bearing capital, which manages to operate without the mediation of a commodity ($M-M'$) (Marx 1962, p. 170; 1976, pp. 256–257).

The three circuits of (1) money capital, (2) productive capital and (3) commodity capital (Desai 1974, pp. 27–32, see also Figure D.2) make up the industrial capital circuit, although only the former (money capital circuit) will be considered in more detail here: $M-C \dots P \dots C'-M'$.⁹²

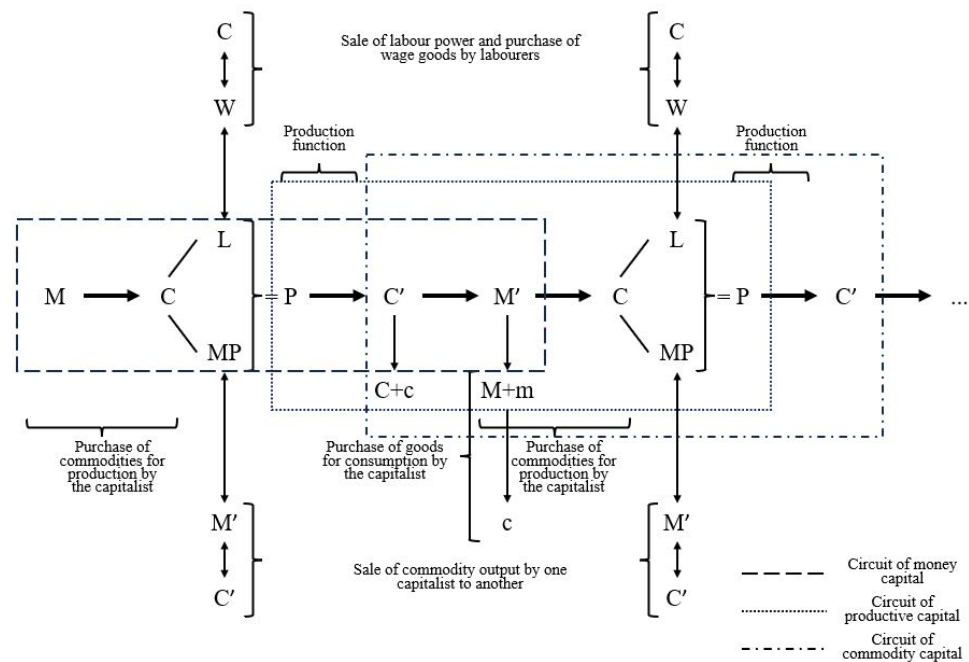
“The importance of the $M-M'$ circuit is in the fact that it is most often forgotten that money is the starting and the end point of economic activity in capitalism. In the other two circuits, money appears as a mere intermediary and can be easily ignored. The function of money as money capital, i.e. *more than just a medium of exchange, comes out only in this circuit*” (Desai 1974, p. 31, emphasis added).

This refers, on the one hand, to the function of storing value and, on the other, to money as money capital, in which money capital itself becomes a specific commodity, namely interest-bearing capital, which includes credit relations (Fine and Saad-Filho 2016, pp. 126–127). This capital “is constantly formed outside the circuit” (Itoh and Lapavistas 1999, p. 70), which makes an anticipation of the following sections on banks unavoidable, since “the credit system mobilises the stagnant money generated in the course of capitalist reproduction, transforms it into interest-bearing (loanable) capital and redirects

⁹⁰ Again, it is clear that this form (of merchant's capital) has pre-capitalist features if one thinks only of merchant families from Venice. The interaction of all forms of capital is crucial for a capitalist mode of production (Milios 2018).

⁹¹ Consisting of commercial capital and money-dealing capital (in advanced form = banking capital).

⁹² This can also be referred to as the reproduction scheme of total social capital, where P stands for production.



Note: Adapted from Desai (1974, p. II).

Figure D.2.: Circuits of Capital

it toward accumulation” (Itoh and Lapavitsas 1999, p. 61). In other words, with Lapavitsas a “result is that in capitalist exchange in contradistinction to simple exchange, the trend is for money to settle debts rather than to circulate commodities” (Lapavitsas 1991, p. 306).

All in all, it follows from the above argument that everything in Marx’s theory of money is designed so that institutions arise (must arise!) which provide credit money to drive accumulation. The emergence of banks is thus not sufficient (incidental) for this purpose, but necessary. In this respect, the Marxists’ thinking differs from the orthodoxy.

D.4.5. The Social Relation of Money

In addition to the economic significance of money already emphasised, the social relevance is equally important for Marxists, which leads to the thema-

tisation of power and is included in the further interpretation.⁹³ For Marxists, it is clear that money always means power at the same time. This is not just about the fact that money can buy almost anything,⁹⁴ but about the wider power “to set labour in motion, and therefore the power to secure surplus-value for whoever owns money which can be used as capital” (Kincaid 2022, p. 104).

What applies to money also applies to credit: “At the same time, however, credit possesses significant power to ‘stretch’ accumulation, that is, to finance the generation of additional value and surplus value, creating the conditions for its own repayment” (Itoh and Lapavistas 1999, p. 49). Therefore, credit money is not neutral within capitalist accumulation (Itoh and Lapavistas 1999, p. 49). Addressing the credit system, Marx himself also points to the power that emanates from such a system: “The credit system, which has its focal point in the allegedly national banks and the big money-lenders and usurers that surround them, is one enormous centralization and gives this class of parasites a fabulous power not only to decimate the industrial capitalists periodically but also to interfere in actual production in the most dangerous manner - and this crew know nothing of production and have nothing at all to do with it” (Marx 1981, pp. 678–679).⁹⁵ This of course also applies to capital itself, as Nitzan and Bichler (2009) show in their work “Capital as Power,” there with the power to create order what they call “creorder” (Nitzan and Bichler 2009, p. 306).

All in all, according to the Marxist perspective, money is not merely a neu-

⁹³ In addition to power, the importance of trust in the credit system and in banks is also discussed (Lapavistas 2006; 2007).

⁹⁴ “In a capitalist society characterised by the commodification of all aspects of human relationships, hoarded money affords its owner enormous social power; money can buy social standing, education, political power” (Itoh and Lapavistas 1999, p. 46).

⁹⁵ Not surprisingly, Kincaid (2022, p. 109) points to this quote. De Brunhoff (1978) elucidates the true significance of the term in this context, underscoring the pivotal role of banks in this regard: “The only institutions which combine both the management of means of payment and money capital are banks” (De Brunhoff 1978, p. 57). Also: “The centralisation of interest-bearing money capital (i.e. $M-M'$) would be impossible without a complementary concentration of the management of the means of payment. The strategic site of this double characteristic of credit is the banking system” (De Brunhoff 1978, p. 54).

tral medium of exchange or a veil obscuring real economic activities, as it is often portrayed in orthodox economics. Instead, money embodies a social relation of power, deeply rooted in the structures of a capitalist society, where it mediates and reinforces inequalities (between classes). This view highlights money's central role in shaping social and economic dynamics, far beyond its technical function as a means of transaction.

As a conclusion, it can thus be stated that money has a higher status in Marxist monetary theory than in the orthodoxy. Money is in fact indispensable for the functioning of a capitalist economy. There is no separation between the real sphere and the monetary sphere,⁹⁶ as is the case in the orthodoxy, which can well do without money altogether in order to represent or even explain economic events, as is exemplified by disciplines such as real international economics. The fact that money/capital is connected with power also helps to emphasise the importance of money.

In the further course, the question will therefore arise as to what role banks assume in connection with the medium of money. The link between money, capital and capitalism has already been made. This will become important later on when the role of the banks is more fully developed.

D.5. A Bank Is What a Bank Does

The Hicks quote at the beginning of this article can also be applied to banks. Accordingly, the formula "A bank is what a bank does" emerges, which in turn promotes a functionalist view that, as with money, can be attributed to the orthodoxy of economics. As with money, it can be shown that major textbooks on banking and finance do indeed take this approach.

⁹⁶ See also Orhangazi (2011): "the relationship between the financial and the real is presented as a contradictory unity where finance provides the necessary means for accumulation but also contributes to periodic disturbances in the economy" (Orhangazi 2011, p. 127).

Matthews and Thompson (2008), for example, begin their presentation of financial intermediaries⁹⁷ with the functions size transformation, maturity transformation and risk transformation (Matthews and Thompson 2008, pp. 35–38).⁹⁸ Freixas and Rochet (2008) start their textbook with the title “What Is a Bank, and What Do Banks Do?,” but their operational definition is clearly functionalist in nature, referring only to “granting loans and receiving deposits from the public.” In the same breath they add other functions, such as offering liquidity and payment services, transforming assets, managing risks and processing information and monitoring borrowers (Freixas and Rochet 2008, pp. 1–2). Greenbaum et al. (2019) start with a balance sheet perspective only to then set up the activities of financial intermediaries (Greenbaum et al. 2019, p. 24). Also Mishkin (2019) first discusses the functions of intermediaries before classifying financial intermediaries, in which banks are also only defined functionally (Mishkin 2019, pp. 83–92). According to this, they are responsible for indirect financing. “A financial intermediary does this by borrowing funds from lender-savers *and then* using these funds to make loans to borrower-spenders” (Mishkin 2019, p. 84, emphasis added). Other functions are liquidity services, risk sharing and asset transformation (Mishkin 2019, pp. 84–86). What all authors have in common is that they see banks primarily as intermediaries on the market in their portrayal, and in doing so they assume transaction costs as a given, which justifies banks in their existence. “This leads to the conclusion that, in a world with perfect knowledge, no transaction costs and no indivisibilities, financial intermediaries would be unnecessary” (Matthews and Thompson 2008, p. 38). This reading is signif-

⁹⁷ The term *financial intermediaries* is usually broader than the term *bank*, yet it is primarily banks that are associated with this term (in the sense of a *pars pro toto*). The fact that other actors are also subsumed under the term financial intermediaries is initially irrelevant, since it is initially only a question of which aspects of banks are primarily dealt with, functions or ontological aspects, and here it becomes apparent that first of all functionalist aspects of banks are addressed via the financial intermediaries. The specificity of banks will be dealt with in more detail at a later stage.

⁹⁸ In principle, Matthews and Thompson (2008) even go one step further by embedding financial intermediaries in the capital market, i.e. following a typical neoclassical narrative according to which the (capital) market is the basic economic category, which is then followed by all other categories such as institutions.

icantly linked to intermediation theory, which is supplemented by aspects of new institutional economics such as transaction costs or asymmetric information distribution. As will be shown, justifying the existence of banks in this way (i.e. functionalist) provides fertile ground for doubts about the necessity of banks as soon as the functions can be performed elsewhere.

Intermediation theory is diverse and has a long tradition (Scholtens and van Wensveen 2000). Historically the basic idea of intermediation theory can be found in Gurley and Shaw (1955; 1956): “[T]he business of financial intermediaries [is, t]hey lend at one stratum of interest rates and borrow at a lower stratum. They relieve the market of some primary securities and substitute others – indirect securities or financial assets – whose qualities command a higher price. This margin between yields on primary and indirect securities is the intermediaries’ compensation for the special services they supply” (Gurley and Shaw 1956, p. 259). The authors emphasize with regard to the function of financial intermediaries: “The primary function of intermediaries is to issue debt of their own, indirect debt, in soliciting loanable funds from surplus spending units, and to allocate these loanable funds among deficit units whose direct debt they absorb” (Gurley and Shaw 1955, p. 519). Banks do not have a special position in this: “[...] we count the monetary system, including commercial banks, as one among many intermediaries. It is a vitally important intermediary, in view of its functions and its size. But its elevated rank among intermediaries does not alter the principle that the monetary system, like other intermediaries, transmits loanable funds by issues of indirect financial assets to surplus units and purchases of primary securities from deficit units” (Gurley and Shaw 1956, p. 259).

It is important that deposits are considered as inputs: “The fact that the deposits in financial firms, particularly demand deposits in commercial banks, are considered as inputs in the production of earning asset output, rather than being the output itself, is a significant break with previous theoretical models, [...]” (Sealey and Lindley 1977, p. 1260). This also affects the chronological order of events: “the bank will collect a number of smaller deposits, parcel

them together and lent out a larger sum” (Matthews and Thompson 2008, p. 36). Or as Cannan (1921) noted early on: “the power of each bank to lend is limited by the extent of its ‘resources’” (Cannan 1921, p. 33).

The theory was further sharpened by the emergence of new institutional economics and the preoccupation with transaction costs and asymmetric information distribution, whereby the origin of banks is not addressed in a historical sense, but rather, as with money, a logical-rational justification for the existence of banks. However, the genuinely monetary aspect is thereby lost or recedes into the background and is displaced by the aspect of dealing with information. One of the starting points here was the work of Benston and Smith (1976), who showed that financial intermediaries reduced transaction costs (Benston and Smith 1976, p. 216). Building on this, Leland and Pyle (1977) argued that it may make sense for an intermediary to act between lenders and borrowers who can better deal with the asymmetric distribution of information. Following on from this, Diamond (1984) showed that diversification within the financial intermediary is one of the main reasons why delegated monitoring can be beneficial.

Banks and financial intermediaries are often used synonymously here. Bossone (2001*b*) distinguishes the literature on the specialness of banks into three categories: the credit function, the liquidity function, and integrated functions. He critiques authors who argue that many of the listed banking functions are not – or do not have to be – performed exclusively by banks. Instead, he highlights banks’ unique capacity to issue claims on their own liabilities, which are broadly accepted and used as money, as the core of their specialness. Among others, Fama (1980; 1985) is criticised, who sees the special feature in the provision of transaction services and portfolio management services (Fama 1980, p. 44), as well as an information advantage through inside debt of debtholders, which are otherwise not publicly accessible and are used by banks for new loans. This certified creditworthiness by banks in turn serves as a positive signal to investors on the capital market (Fama 1985, pp. 36–37).

Apart from the fact that some of these functions identified by Bossone (2001*b*) could be performed by actors other than banks, the literature often portrays banks as passive entities, merely facilitating transactions rather than actively shaping economic processes. Such a critique is mainly found in heterodox literature, such as Lavoie and Seccareccia (2016), as distinguished representatives of a post-Keynesian theory: “[...] banking institutions are conceived merely as depositories or storehouses of some pre-existing money that was deposited [...]. Mainstream theorists would argue, therefore, that ‘deposits make loans.’ Banks are conceived as passive deposit takers that serve the useful function of intermediaries, namely, private institutions whose purpose is to transfer depositors’ money” (Lavoie and Seccareccia 2016, p. 101). But even in the orthodoxy, this assessment is found in none other than Fama (1980), which reads like a confession: “[...] banks end up simply bringing together demanders and suppliers of portfolio assets and then acting as repositories for the securities that are thereby created [...]. Since banks just respond to the tastes and opportunities of demanders and suppliers of portfolio assets, banks are simple intermediaries, and the role of a competitive banking sector in a general equilibrium is *passive*” (Fama 1980, p. 46, emphasis added). By emphasising their role as mere intermediaries, banks remain in a passive role with a predetermined fate to which they must succumb.

This was, in the broadest sense, a view from the micro perspective of orthodoxy. If the macro perspective is taken, following the quantity theory of money from the money section, the picture for the banks does not necessarily get better. After all, a separation of monetary and real spheres was opened up there, with money as a neutral medium of exchange that has no influence on the real economy. Moreover, the money supply has been determined exogenously by central banks, according to which banks have no capacity to create money. When banks and the origin of money are discussed in the literature, the intermediation theory is often joined by the fractional reserve theory, which is largely associated with Samuelson (1948), the author of the standard textbook

for economics.⁹⁹ It states that base money is needed to support deposits or to set the money multiplier in motion. The central banks' base money is therefore a material constraint and necessary for the creation of deposits (Palley 1996, p. 106). Here, the position of central banks vis-à-vis banks is particularly clear. Thus the conclusion of passive banks can also be drawn here, with reference to the quantity theory: "Most discussions are based on the quantity theoretical framework treating banks as black boxes [...]. Commercial banks are passive agents simply translating reserve supply to money supply, that is, particular monetary aggregates. Several authors add details, such as compulsory reserves and cash/deposit ratios, but the basis remains the same: for analysing the monetary policy transmission mechanism they take money supply exogenously determined by the central bank via controlling reserves" (Kolozsi et al. 2022, p. 105). But the assessment can also be made with reference to the intermediation theory: "Financial intermediaries do not play a role, except as a passive player that the central bank uses as a channel to implement monetary policy" (Adrian and Shin 2010, p. 602). Or the assessment is ultimately made from a broader macroeconomic perspective: "The subsequent developments of macroeconomics kept or ignoring banks altogether, or regarding them as merely passive agents, which 'multiply,' in a mechanistic way, the currency created by the central bank" (Ingrao and Sardoni 2019, p. 242).

In this sense, an overall historical classification of the basic theoretical ideas of the orthodoxy can also be made, encompassing micro and macro perspectives together. Intermediation theory, shaped by Gurley and Shaw, the quantity theory of money, influenced by Friedman, and fractional reserve theory, decisively associated with Samuelson, taken together are fundamentally very

⁹⁹ For an overview see Werner (2016, pp. 362–369) or Gross and Siebenbrunner (2022, p. 156).

strongly in favour of the exogenous quantity theory of money.¹⁰⁰

In summary, it can be said that according to this functionalist view, banks are more like a caricature of an actor. The parallels to money are striking. Banks are just as passive as money is simply neutral. The functions tie up a tight corset that, to stay in the picture, becomes tighter and tighter the more the functions can also be carried out by other actors. This goes hand in hand with the usual mechanistic-deterministic¹⁰¹ (scientific) views of the orthodoxy.

D.6. A Bank Does What a Bank Is

As in the section on money, the functionalist view of banks contained in the statement “A bank is what a bank does” can be reversed to an ontological view “A bank does what a bank is.” This view continues to be associated with Marxism, although an explicit formulation of this statement is not to be found in this literature. Rather, we are going to interpret and apply the theory, and we are going to explain the parallels between money and banks. Once again, the starting point is to think about money. It could be stated that in the

¹⁰⁰ On the question of which narratives are ultimately more trustworthy without explicitly criticising the theories here, it can be suggested in the sense of an immanent critique that this exogeneity cannot be sustained at all. Gurley and Shaw (1960) also see this themselves when they state: “We have played the game according to the ground rules of neo-classical economics in order to show that even here money is not a veil, that it may have an important role to play in determining the level and composition of output” (Gurley and Shaw 1960, p. 10). The same can be said for the fractional reserve theory. Since the money supply depends on the portfolio decisions of market participants and their demand for currency, time deposits, and excess reserves, logically any change in these parameters is inevitably responsible for the money supply being endogenous in some form after all (Palley 1996, p. 106). Even though the basic texts of these theories partly date from before the Second World War, such as Cannan (1921) for the intermediation theory, the orthodoxy only achieved a breakthrough afterwards, although it was recognised early on that Gurley and Shaw “represents a step backward” (Culbertson 1958, p. 131). Realfonzo (1998) also shows impressively in his study that in the first half of the 20th century the theory of money and banking, and in particular endogenous money theory with banks as creators of money, was more advanced than it appears to be for the second half of the 20th century. Among other things, he refers to Schumpeter (Realfonzo 1998, pp. 127–128). However, the orthodox neoclassical school of thought prevailed and decisively shaped the textbooks with its way of thinking (Realfonzo 1998, p. 164). Only since the financial crisis has there been considerable criticism of intermediation theory and the associated monetary theory in the literature from the monetary authorities themselves (Gross and Siebenbrunner 2019, p. 7).

¹⁰¹ See Mirowski (1989) and Poitras (2018).

circulation of capital, or capitalist reproduction, there is a need for institutions responsible for the centralisation of money in order to provide a functioning credit system that guarantees the process of capital accumulation.

D.6.1. Extension of the Value Form by Reference to Different Types of Capital

The analysis of the value-form of money can be continued here in some respects. Starting in the production sphere the general form of the circuit of *industrial capital* (I)¹⁰² is: $M-C \dots P \dots C'-M'$. This is where money is capital and surplus value is produced.

In the sphere of circulation, we can further consider *merchant's capital* (II), which includes commercial capital to buy goods, and money-dealing capital, which manages the money relevant to the exchange process (Itoh and Lapavistas 1999, pp. 69-70). *Commercial capital* (II.1) has the form $M-C-M'$. As production evolves, the activities of buying and selling become specialized responsibilities assigned to specific capital and specific capitalists, respectively commodity-dealing capital and commodity-dealing capitalists (Fine and Saad-Filho 2016, p. 120). From the producer's perspective, the value of his commodity is realised at the moment it is sold to a merchant (Otani 2018, p. 395). The producer has his money faster and can put it back into the production process, reducing the costs of circulation. There is then a separation of commercial capital, since both industrial capital and commodity-dealing capital require money-handling operations in the circulation process (Otani 2018, p. 406). This capital also has a special name, namely money-dealing capital (II.2a), which takes the form $M-M'$. This, in turn, is associated with the money-dealers or money-dealing capitalists and has its historical origin in international trade (exchange dealing) (Otani 2018,

¹⁰² To better distinguish the Marxian capitals, which are located at different levels, the Roman numerals I, II and III are used here.

p. 407).¹⁰³ Here money serves as money in the broad sense, as a means of circulation and a means of payment, not yet as capital. Money-dealing capital enables the reserve fund for means of purchase and payment as well as idle money capital to become centralised (Otani 2018, p. 407). Through centralisation, the money-dealers handle huge amounts of capital, leading to a reduction in the total reserve funds required by the capitalist class compared to when they were managed by individual capitalists. Consequently, money-dealers begin to invest their surplus capital through interest-based lending. This consolidation of the money-dealing functions with the management of interest-bearing capital and credit transactions marks the evolution of modern banking. The capital involved is thus transformed from mere money-dealing capital into banking capital (II.2b) (Otani 2018, pp. 407-408).¹⁰⁴ In this respect, banks are the institutionalisation of a certain form of capital, namely money-dealing capital.

In the same breath as money-dealing capital, which in its developed form represents banking capital, the form $M-M'$ is also interest-bearing capital (III), in which money serves as capital and which represents the basis of the credit system. The credit system is a social mechanism that collects stagnant money systematically and transforms it into interest-bearing capital (Itoh and Lapavistas 1999, pp. 61, 65, 85). So, money-dealing capital and interest-bearing capital are two sides of the same coin. In this respect, banks are the producers of the homogeneous commodity of capital, more precisely of interest-bearing capital.¹⁰⁵

¹⁰³ Similarly with Kincaid (2022): “Historically banks developed from what Marx calls money-dealing capital – specialised capital which emerged in centres of early capitalism such as Amsterdam and Hamburg and whose business was to provide financial services for industrial and commercial capitals” (Kincaid 2022, p. 105).

¹⁰⁴ “As the capitalist credit system grows and develops, banks tend to appropriate the functions of money-dealing capital, leading to the disappearance of the latter as an independent form of capital” (Itoh and Lapavistas 1999, p. 70).

¹⁰⁵ See also Krätke (2000): “It is the banks that transform any sum of money into the “commodity of capital,” that is, that can carry out the transformation of money into capital on a large scale and that can place capital as a “social quantity” opposite and “at the disposal” of the capitalists as well as the functioning, individual capitals” (Krätke 2000, p. 89, author’s translation). Elsewhere, Krätke (1995) speaks of banks as “centres of money circulation.” (Krätke 1995, p. 15).

All in all, the emergence of banking capital and interest-bearing capital can be understood as an extension of the form of value only by referring to the different types of capital with banks as the necessary result.

D.6.2. The Credit System and the Banking System

Otani (2018) distinguishes between the credit system and the banking system that builds on it, although the two systems are not disjoint. Other financial institutions are of course also recognised as relevant to the credit system, but “its pivot is the banking system” (Otani 2018, pp. 424–425). The credit system is mainly characterised by its evolution of credit types, from commodity credit, the spontaneous basis of the credit system, to commercial credit, the basis component of the credit system, to money credit (or bank credit), which in turn is the original foundation of the banking system (Otani 2018, p. 425). According to Otani (2018, p. 436), the banking system is a highly structured and deliberately constructed mechanism designed to serve the needs of capital. Its role includes minimizing circulation time, which aligns perfectly with the goals of industrial capital. As he explains, circulation time does not generate neither value nor surplus value, making its reduction a priority for industrial capital (Otani 2018, p. 437).

Another facet concerns the two types of capital, money-dealing capital (II.2a) (or banking capital (II.2b) as the developed form) and interest-bearing capital (III), and the location of the circuit. Money-dealing capital (or banking capital) is an integral part of the sphere of circulation in the circuit that minimise the cost of exchange. Interest-bearing capital is formed outside the circuit and mobilise the idle money alongside the accumulation process with the result of channelling it back as (interest-bearing) capital that earns a share of the total surplus value created in the production process of the circuit and thus accelerating the turnover of capital. This is important because the circuit constantly leaks value on several reasons so that money is stagnant and take the form of a hoard, whereby the money function as a hoard once again becomes central

(Itoh and Lapavistas 1999, pp. 66-70).¹⁰⁶ Interest-bearing capital is “capital in a money-form that is centralised in a bank and is thus in the state of being loanable” (Otani 2018, p. 412). That’s why it can also be called “moneyed (or monied) capital.”

All in all, as the importance of money for capitalism was highlighted in Section D.4.2., the central role of banks for capitalism in its defining dynamic – the accumulation of capital – becomes clear here once again: “monied capital contributes to breaking through the immanent limit of the accumulation of real capital, and brings an accelerating accumulation of real capital” (Miyata 2016, p. 18). The banking system, which facilitates this process, is in this sense inherently a fundamental component of the capitalist mode of production (Otani 2018, p. 440).¹⁰⁷ Banks therefore take a prominent position in the capitalist system compared to other historical social formations.

D.6.3. Banks Beyond Intermediation

If one brings the concepts of orthodoxy into play here one could get the idea of reading out the intermediation aspect.¹⁰⁸ And indeed, one finds passages in Marx’s texts that explicitly suggest such a view: “Here, on the basis of commercial credit, one party lends another the money that he needs in the reproduction process. But this takes the form that the banker to whom one section of reproductive agents lend money lends this in turn to the other section of reproductive agents, which makes the banker appear as the benefactor; while at the same time disposal over this capital passes entirely to the bankers as intermediaries” (Marx 1981, p. 638).

¹⁰⁶ Money-dealing capital (or banking capital) take part in the formation of the average rate of profit because it acts in the circuit, while interest-bearing capital does not take part in the determination of the average rate of profit because it earns interests instead. In Marxian economics the rate of profit is normally higher than the average rate of interest. So it becomes clear why the stagnant money outside the circuit is constantly channelled back into the accumulation process (Itoh and Lapavistas 1999, p. 70).

¹⁰⁷ See also Kincaid (2022): “[Banks] are seen as a necessary and inevitable development in capitalist economy because of the positive contribution they make to lowering costs of production and increasing profits” (Kincaid 2022, p. 105).

¹⁰⁸ See Crotty (1985) or Ricciardi (2019).

However, it would be fundamentally wrong to read this passage in terms of orthodox economics and, as intermediation theory largely does, to relegate the monetary aspects behind informational aspects.¹⁰⁹

“The asymmetry of information between lender and borrower is a poor substitute for the distinction between idle money becoming interest-bearing capital alongside accumulation, and capital functioning in the production of surplus value. In neoclassical theory, the richness of social determinations implicit to the distinction between interest-bearing capital and industrial capital, and the primacy of the production of surplus value in the course of social reproduction, collapse into the banal observation that the lender usually knows little about the business of the borrower” (Itoh and Lapavistas 1999, p. 80).

An intermediation aspect is thus recognised, but not solely. Unlike in the orthodoxy, it is clear here that banks are not passive actors. Banks are active players who specialize in the acquisition of financial assets, i.e., providing various forms of loans. They use their own loanable capital, that of others and also anticipated incoming flows of loanable capital. Banks that engage in these measures help to stretch accumulation and hence create the expected flows of loanable capital. This makes them quite powerful players in an advanced capitalist society (Lapavistas 2013, p. 126).¹¹⁰

All in all, this emphasis on banks as active institutions contrasts sharply with the orthodoxy that characterises banks simply as passive intermediaries that stand between lender and borrower.

¹⁰⁹ In the broadest sense, Marx has also already pointed to transaction costs with the separation of production and circulation and the independent formation of specific capitals.

¹¹⁰ Similarly Ingraio and Sardoni (2019): “If banks are ‘active players of the game,’ and not just institutions that merely make the relations between ultimate savers and borrowers smoother, their impact on the economy is not only larger but also more prone to rapid and discontinuous changes” (Ingraio and Sardoni 2019, p. 237).

D.6.4. The Power to Set the Monetary Circuit in Motion

According to this view, the functions result from the previous provisions on banks. However, we do not stop at this point. The social aspect is also included. This is also where the link to the section on money is found, in which it was already stated that money goes hand in hand with power. “Small sums which are incapable of functioning as money capital by themselves are combined into great masses and thus form a monetary power” (Marx 1981, pp. 528–529). Those who control this system of centralisation of capital therefore have a pronounced amount of power (Kincaid 2022, p. 109). The banks use this power, among other things, to create money (out of nothing): “Instead of paper notes, the bank can open a credit account for A, so that A, as its debtor, becomes an imaginary depositor. He pays his creditors with cheques on the bank, and the recipient of these cheques pays them again to his banker, who exchanges them in the clearing house against the cheques drawn on him. In this case there is no intervention of notes, and the entire transaction is confined to one in which the bank settles its own debt with a cheque drawn on itself, its actual compensation consisting in its claim against A. In this case the bank has advanced to A a part of its banking capital, in the form of a part of its own claim as a creditor” (Marx 1981, p. 589).

The barrier to money creation is the subject of much debate in heterodox economics, especially among post-Keynesians, as the debate between the horizontalists and the structuralists makes clear (Dow 2006; Lavoie 2006; Rochon and Rossi 2017). For Marxist economists, there is a limit to the banks’ money creation: “Even when financial institution liabilities are created without idle funds having first accrued from real accumulation, as happens when these institutions anticipate future returns, the inherent uncertainty of accumulation and the crises it generates impose limits on their ability to extend credit” (Lapavistas and Saad-Filho 2000, p. 329). But it is important not to confuse this reading with the orthodox fractional reserve theory. For in the fractional reserve version of money creation, “a sum of money [M], is deposited in a

bank and ‘loaned’ before being spent on commodities, C ; redeposited by the commodity-sellers, reloaned and spent again on commodities, C ; and so on” (Hall 1992, p. 106). It is therefore always the same amount of money that is bypassed, reduced only by the prescribed reserve rate (assumed to be 10% in the example). Hence, one can agree with Hall (1992), that in this approach “the money merely *goes through* the banks” (Hall 1992, p. 106, emphasis added originally by Hall).

Instead, according to the Marxist reading, it is suggested that “The banker lends by creating, at the stroke of a pen, a fictitious deposit for the borrower” (Hall 1992, p. 96). Therefore “it is not that nine tenths of the original real deposit [...] is sent out of the bank as a loan, and, therefore, recycled. Rather, nine times the amount of the real deposit is created in the form of fictitious deposits by making loans” (Hall 1992, p. 97).¹¹¹ This form of money creation is therefore fundamentally different from what the fractional reserve theory suggests, according to which only the entire banking system can create money, but no single bank by itself.

But the reflux of money is also suppressed in the fractional reserve theory. The lent money M of the money creator, i.e. the bank, flows back to the bank at maturity, plus a portion of the original amount of money, namely the interest i (total therefore $M + i$). This amortisation of the loan is no longer a deposit that generates a demand for withdrawals, instead it is a “higher-powered” money that is completely owned by the bank. For the bank, this provides ample reserves to support the issuance of bank money up to ten times its original face value (Hall 1992, pp. 103-104). In this respect, banks are the creators of credit money, which set the monetary circuit in motion in the first

¹¹¹ An adequate summary, in which the connection between money, credit, accumulation and banks is touched upon, is given by Kotz (1991): “Money is a social convention, one without which capitalism could not exist. Capitalists can expand only if society (the state, the banking system) places in the capitalists’ hands the money they require to expand. They cannot use their own money—that received from past sales—since it is sufficient only to carry on at a constant rate of production. Capitalist economic expansion, the justification for and stabilizer of capitalism, is possible only because society violates the usual laws of private property in this one case and provides newly created money to those who already have a great deal of it. With this money the capitalist can command real resources, living and non-living” (Kotz 1991, p. 133).

place. This is an aspect that is also repeatedly emphasised in the circuitists' school of thought. See above all Graziani (1997; 2003, ch. 4), who emphasizes "the importance of credit as *the money* of capitalism" (Graziani 1997, p. 50, emphasis added). This also makes it clear that the money supply cannot be exogenous, but is endogenous¹¹² through credit. In this way credit "produce the necessary liquidity for the market to function" (Graziani 1997, p. 35).¹¹³

But what does this mean for the banks? It means that the banks themselves (partly) have a say in the money supply, and here again the potential power of the banks is emphasised. The relationship with the central bank is thus set against a background of relative autonomy and clearly stands out here from the orthodoxy in terms of potential. This relationship has been redefined in particular by historical circumstances, such as the end of the Bretton Woods system: "The link of credit money with the money commodity was finally severed in 1971-73, when the US reneged on its promise to exchange a troy ounce of gold for \$35. [...] To be specific, in contemporary capitalism bank-created money ultimately promises to pay central bank credit money (banknotes and bank reserves) while the state has declared the latter to be inconvertible into anything else (Lapavistas 2013, p. 86). Guttman (1996) calls this the "liberation of money from the metal cage of gold" (Guttman 1996, p. 167). However, this also liberated the banks, which henceforth were no longer bound to any form of a money commodity. Thus the banks' limits in the accumulation of capital were virtually torn down, the scarcity of money for the entire economic system was eliminated and the power of the banks increased in the sense of money power.

In this sense, Harvey (1982/2006) can be remembered: "Money must exist before it can be converted into capital. Furthermore, an insufficiency of money relative to the quantity of commodities in circulation will indeed act as a check

¹¹² See also Mollo (1999).

¹¹³ The definition of liquidity that can be used here is that of Lapavistas (2013): "the ease of converting a financial asset into the universal equivalent, the latter being the absolute form of liquidity" (Lapavistas 2013, p. 128).

to accumulation” (Harvey 1982/2006, p. 95).¹¹⁴

All in all, this shows that for Marxists, unlike in fractional reserve theory, banks can create money out of nothing and thus put money into circulation, whereupon they receive a higher powered money back in the form of interest. Given the historical transformation of the monetary system and the separation of a money commodity, this implies a considerable potential for power for the banks.

In summary, the Marxist view on banks has obvious parallels with the Marxist view on money and at the same time differs significantly from the orthodoxy. Thus, according to this more ontological approach, if one extends the analysis of the value form of money, banks can be seen, on the one hand, as institutionalising the capital form of money-dealing capital and, on the other hand, as producers of the homogeneous commodity capital, particularly interest-bearing capital. Just as money is not neutral, banks are not passive actors. Money is associated with power, and banks have enormous power through their ability to create money. In this context, banks have a (necessary) significance for capitalism. Banks overcome the immanent limit of the accumulation of real capital and set the monetary circuit in motion. From an orthodox point of view, the intermediation of banks can be supported to a certain extent, but the background of Marxist economists is of a completely different nature. This becomes all the more clear in distinction to the fractional reserve theory. In addition, with a rejection of quantity theory of money, the money supply is endogenous and banks actively influence the money supply. The relationship with the central bank is thus characterised by more autonomy and not determined by a deterministic-functionalistic mechanisms.

¹¹⁴ Here, the important Marxist category of fictitious capital will not be discussed further. However, it can be stated that fictitious capital is generated in the financial system, especially by banks, and expands the limits of accumulation.

D.7. Implications for Thinking About the Future of Banks via Money

The critical undertones regarding the orthodoxy should have been hard to miss in the previous sections. However, the point here is not so much to criticise the theory and the negative image of banks, but how banks characterised in this way can deal with the challenges and developments in money mentioned at the beginning.

The decline of traditional banking (here the activity or functions of banks!) has arrived in the orthodoxy at the latest with Allen and Santomero (2001). Traditional banking, i.e. accepting deposits and making loans, is in decline and banks are switching from traditional to fee-producing activities (Allen and Santomero 2001). Thus, intermediaries facilitate risk transfer “and deal with the increasingly complex maze of financial instruments and markets” (Allen and Santomero 1998, p. 1462). So for the banks, the intermediation activity is becoming more and more centred on the management of risk (Allen and Santomero 1998, p. 1462).¹¹⁵

Against the backdrop of today’s increasing digitalisation, this seems only logical from an orthodox point of view: if money becomes more decentralised by being exchanged via blockchain or Decentralized Finance (DeFi) applications without the need for an intermediary, then an important/crucial banking function will be lost for banks. This is accompanied by the fact that people will no longer have their money as deposits in the banks or, even worse, will not bring their money to the bank at all, resulting in banks being able to issue fewer loans. If the bank has fewer deposits, it also has to hold fewer central bank reserves. For the bank, this does not change much at first because reserves are in a fixed ratio to deposits. However, according to the fractional reserve theory,

¹¹⁵ Allen and Santomero (1998, pp. 1465–1466), who explicitly refer to ‘functional needs’ and therefore also favour a functional perspective over an institutional perspective, cannot provide any explanations as to where these functional needs come from. Nor can they develop them conceptually, which is why they can be accused of a certain blindness to the dynamics of theory.

it could mean that the money multiplier is harder to get going. Eventually, the economy would slow down and people would have even less money to hold in bank deposits. In this case, the banks would enter a downward spiral and a process of contraction would take place. Just as money is becoming more decentralised, the world of finance is becoming more decentralised, and for banks this narrative can be summarised under the heading of disintermediation. What gets lost in this view is the growing money creation by shadow banks. Talking about disintermediation here seems misplaced, since these are ultimately also intermediaries, but are typically characterised by “their lack of access to public sources of liquidity,” precisely because they are not depository institutions (Pozsar et al. 2012, p. 2).

In some respects, there is perhaps also the belief that, as with the money functions, which have become detached from the money commodity and are now compensated for by a broad interpretation of the concept of money, the banking functions are also separating from the institution of the bank and dissolving into decentralisation. It is worth recalling here the strong market thinking in the orthodoxy, according to which institutions in the market can tend to be seen as playthings of market forces (Hübenbecker and Homölle 2025). The question must be asked whether banks still have a specialness in the orthodoxy at all. In principle, the functions of banks can be performed elsewhere, so the specialness of banks is fading away. If the banks are this passive and vulnerable, then the veil of neutrality covers not only the money but also the banks. In astrological terms, this is a negative sign for the future.

Changes in the banking sector have not gone unnoticed by Marxist-minded economists. In particular, the phenomenon of disintermediation is also recognised (Lapavitsas 2013, p. 209; Chesnais 2016, p. 199; Durand 2017, p. 65). However, a much more important development is outlined by the term financialisation. This is a transformation of (mature) capitalist economies that comprise three important characteristics. First, major non-financial corporations have diminished their dependency on bank loans, concurrently enhancing their financial capacities. Second, banks have broadened their interme-

diary roles within financial markets, while also increasing their lending to households. Third, households have seen a growing participation in finance, taking on roles as both borrowers and holders of financial assets (Lapavitsas 2011, pp. 611-612).¹¹⁶

For Marxist economists, this development can be seen in the light of the concepts of concentration and centralisation of capital, where the former refers to individual capital in which profits are reinvested (concentration through accumulation) and the latter concerns the gathering of existing resources, i.e. various already existing capitals, for example through borrowing (concentration through competition and credit).¹¹⁷ Thus, it is also stated that concentration in the banking sector has increased both in recent decades and especially after the financial crisis, including the concentration of the five largest banks in terms of total assets in the sector from 9.7% in 1990 to 44% in 2013 (Guttman 2016, pp. 26, 108; Baronian 2023, pp. 209–210). Centralisation, on the other hand, is interwoven with the development of financialisation and the increasing importance of the sphere of circulation (as opposed to production) and the greater importance of capital markets, where already existing capital is centralised in joint-stock companies. Here, the tendency of capitalist circulation occurs spontaneously to generate new forms of money, what Lapavitsas (2013) calls in this case “e money proper,” which is money that “differs qualitatively from credit money since it does not emerge from the advance of credit but comprises private liabilities obtained in exchange for existing money at par” (Lapavitsas 2013, p. 98).

Assuming that cryptocurrencies are money, we can ask whether they are money as money or money as capital. Money as money means that it functions as a

¹¹⁶ There are many different attempts to define the concept of financialisation and there is no single definition (see Stockhammer 2004; Sawyer 2013).

¹¹⁷ Both terms are regularly discussed together in Marxist literature (e.g. Shaikh 1991; Foster 2010). In the orthodoxy, concentration can best be captured by the term consolidation, but centralisation is a conundrum in the orthodoxy, partly because of its poverty of terms. Unlike in the orthodoxy, where both terms tend to denote the antithesis of “perfect” or “pure” competition, among Marxists both aspects go hand in hand with an intensification of competition, further promoting the accumulation of capital (e.g. Shaikh 1991, p. 76; Foster 2010, pp. 1719–1722; Fine and Saad-Filho 2016, p. 75).

medium of exchange in circulation or as a hoard outside of circulation.¹¹⁸ As such it is a counter-tendency to centralisation.¹¹⁹ As money as capital, it must engage in a process of valorisation (in production to extract surplus value) in order to generate profit that is reinvested. Either as money-dealing capital or as interest-bearing capital, both requiring prior centralisation. But a characteristic of cryptocurrencies is that they are not centralised. Rather, it is a private(!) hoard outside circulation, like gold in ancient times, just without intrinsic value. Valorisation only takes place as an asset that can become more valuable as demand for the asset increases. As such, it is itself a form of financialisation, because it serves as an (additional) investment opportunity for money capital, which was previously centralised and is now looking for valorisation. As Harvey (2010) points out, it is not unusual for Marx to integrate countervailing tendencies (Harvey 2010, p. 271). So this development is not unimportant for Marxist economists either, but since this form of money is not the (typical) form of money of capitalism, namely credit money, this tendency is less dramatic than it appears in the orthodoxy. The decentralisation of (part of) money is to be seen here as an effect similar to entropy, simply prior to the much larger effect of the increasing centralisation of capital through financialisation. Banks are adapting accordingly and are increasingly active in the capital markets themselves. Financial-market intermediation is becoming increasingly important for banks. However, even in this form of intermediation, banks are anything but passive actors. As dos Santos (2009) explicitly shows with reference to the Marxist tradition, banks are active as money dealers in fund management, proprietary trading and derivatives trading (dos Santos 2009, p. 203). This is also reflected in the composition of bank liabilities, which is determined less by deposits and more by borrowed funds (Lapavitsas 2013, pp. 231–238).

¹¹⁸ However, this does not imply that these cryptocurrencies are independent of social relationships, as demonstrated by Dodd (2018) through the example of Bitcoin.

¹¹⁹ Ironically, Halaburda et al. (2022) use the terms concentration and centralization in a different context regarding cryptocurrencies. The mining that goes hand in hand with the necessary computing power, “increases concentration, which runs contrary to Bitcoin’s decentralization objective [...] such centralization forces are a natural consequence of the competitive environment set up by the Bitcoin protocol” (Halaburda et al. 2022, p. 96).

Financialisation has intensified the competition for the accumulation of capital, which the banks also have to face. In this sense, capital looks for the sector or entrepreneurial unit that promises the most lucrative rate of return, and accordingly capital is withdrawn from sectors or entrepreneurial units that promise no or lower profits (it is a question of future expectations). This competition takes place intra-sectorally but also inter-sectorally (Fine and Saad-Filho 2016, pp. 72–75). Banks, of course, also have a profit rate. If this is too low, capital will be withdrawn and invested elsewhere until the banks or the banking sector is competitive again vis-à-vis other sectors, which argues for possible new business models, mergers and acquisitions, etc. However, it should be noted that, contrary to the orthodoxy, banks are not facing these challenges as passive actors and have considerable (monetary) power themselves. The future prospects for banks are therefore much brighter.

D.8. Summary and Conclusion

This paper explored how thinking about money influences thinking about the future of banks. More specifically, the focus on money provided a possible explanation for certain narratives already circulating in connection with the disintermediation of banks by new forms of money.

The starting point was a quotation from Hicks, “Money is what money does,” which in a sense captures the functionalism of the orthodoxy. It was argued that the orthodoxy overemphasises money as a means of exchange and neglects its function as a store of value and its credit/payment function, in line with the microeconomic models of a timeless exchange economy. With the emphasis on money as neutral and a tendency towards the quantity theory of money, money as a whole does not deserve a particularly high status.

This view was countered with the reversal of the quotation to “Money does what money is,” an ontological position that could be classified by a Marxist political economy. Here it was shown that money was derived from the devel-

opment of the form of value and according to this is the ‘universal equivalent,’ or else the monopolist of buying ability or the independent form of value. In this context, money is neither neutral nor exogenously given by an authority, but genuinely connected with power and endogenous. In this sense, it is indispensable for the functioning of a capitalist economy and as capital it then also strives for the valorisation of value, which entails a special emphasis on credit money. Money tends to settle debts rather than circulate commodities. According to this ontological view, money takes on a much higher status.

Subsequently, Hicks’ quote was mirrored for banks, “A bank is what a bank does,” again striking at the heart of orthodoxy’s view. Parallels with money are easy to see. As with money, banks, as intermediaries, take on a rather passive role. Insofar as the activities of a bank can be carried out by other actors, they appear superfluous. This view is reinforced by the fractional reserve theory, according to which banks also pass on funds in a rather mechanic way or the banks serve as transit points.

The counter-view, again raised with the inversion of the quote to “A bank does what a bank is,” shows a different picture here as well. In a continuation of the analysis of the value form, everything boils down to the fact that banks must emerge as institutions. Banks are here a necessary building block of the capitalist mode of production. Banks are thus the institutionalisation of the capital form of money-dealing capital and producers of the homogeneous commodity interest-bearing capital. Here, too, the parallels to money became abundantly clear. Banks are active agents that overcome the limits of accumulation and set the monetary circuit in motion. Through their money-creation potential, they hold enormous power and the relationship with the central bank is characterised by much more autonomy than in the orthodoxy.

The implication for the future of banks is this. If, as in the orthodoxy in which the various economic categories are derived from functions, the functions can be performed elsewhere or if intermediaries are no longer needed due to new forms of money, then banks have little room for action to adapt to the chal-

lenges. According to this reading, banks are threatened in their very existence and do not even deserve to be called actors. Moreover, if one assumes an increasing decentralisation of the monetary system, which has historically taken place with a detachment from the money commodity, then banks may also be affected. In this respect, the decentralisation of finance leads to disintermediation, which can then lead to the separation of banking functions from the institution of banks.¹²⁰

According to the ontological view of Marxism, this assessment cannot be shared. Banks, as the institutionalisation of money-dealing capital, are still central to the capitalist mode of production and necessary as producers of the commodity of interest-bearing capital. Decentralisation and disintermediation, among other things through new forms of money, must be embedded here in the larger tendency of financialisation, where new forms of money emerge spontaneously in the process of circulation. And even if, hypothetically, capitalism were to try to make banks obsolete as institutions, as money commodities already are for money, the big difference between money and banks is that banks have something like a consciousness, in the sense of an institutional memory. Money has no consciousness and in this sense cannot or could not resist the transformation of its form. Banks can, because they do not have to wait deterministically for their end.

These findings have implications for academic practice. On the one hand, it has been shown that the assumptions of the theories allow for a clear difference in the construction of narratives, which here diverge to such an extent for the future of banks that future articles should once again be encouraged to clearly disclose and critically reflect on their assumptions. On the other hand, it has become clear that pluralist economics is important in order to be able to theoretically embed social phenomena. Unfortunately, an economics that is merely positivist and wants to work in an evidence-based way is often still

¹²⁰ The extent to which this approach is viable needs to be synchronised with the consideration of shadow banks in a further step. After all, it can be argued that they take over the functions of banks (Bednarek et al. 2023, p. 29). However, the concept of disintermediation must then be questioned, as intermediation still takes place.

not aware of this necessity. Whether the orthodox narrative is, or should be, given much weight in this respect is at least questionable. Through this work, ontological issues should also become more relevant.

There are also practical implications for banks. They should recognise the narratives at an early stage because of possible performative actions and position themselves in such a way that they can counter the future challenges. It should have become clear that the consideration of action dispositions is not only based on one (prevailing) theory.

Of course, this work is not free of limitations. First, as is so often the case when discussing different schools of thought, there is the possibility of creating a straw man that has little in common with the thinking of the adherents of these theories, because the theory is interpreted in a biased way based on one's own beliefs. Here, a substantial simplification of the assumptions of both the orthodoxy and Marxism is evident. Nevertheless, a pointed presentation of a school of thought can more easily stimulate reflection on issues, and this can be used as an opportunity to formulate certain aspects more clearly, and perhaps even to discard old cherished beliefs. Second, by taking only a "money view," it is of course an incomplete picture of the challenges facing banks. However, it is a start that every economist has to make at some point. Considerations in the light of other economic categories are expressly to be welcomed. In this sense, I conclude with the familiar phrase that further research is necessary.

E. Conclusion

E.1. Summary and Discussion

E.1.1. The Relevance of a Narrative Perspective

In the domain of economics, the task of anticipating and navigating the future is a distinct challenge. Conventionally, endeavours have been made to make the future tangible through forecasts based on econometric methods. Nevertheless, these predictions are contingent on assumptions that may not always be realistic, and their validity is constrained in complex and uncertain systems. Narratives play an important role here. They serve as structuring mechanisms for expectations and orientations for action in an uncertain future. Narratives develop their impact independently of their empirical validity. Economists therefore often produce narratives involuntarily, for example through the choice of theoretical models or the way in which they communicate their results. These narratives shape not only the thinking about the future, but also concrete actions, which makes them a delicate and at the same time essential part of the debate about the future. It is thus important to recognise narratives and be able to classify them theoretically.

The future of banks is a particularly relevant topic of discussion, given their pivotal role within the economic system. Following a common narrative, one could argue that banks are indispensable as intermediaries for capital flows and as entities ensuring stability and trust in the financial system. However, in face of technological disruptions, regulatory challenges and changing cus-

tomers requirements, banks are facing fundamental transformations.

Analysing the future of banks is therefore crucial not only for academics, but also for practitioners. It makes it possible to react to potential developments at an early stage and set the strategic course to ensure the stability and adaptability of this key sector. Narratives concerning the future of banks are of far-reaching importance, as they not only shape the way in which the banking sector is perceived, but also influence concrete actions and decisions. In financial markets narratives have the potential to act as a source of risk. Fictitious expectations and oversimplified narratives have the capacity to erode public confidence in banks, even if there is no real economic basis for insecurity.

Currently, the discourse surrounding the future of banks takes mainly place in the non-academic sector. The media, interest groups and individual actors are collectively shaping this discourse, frequently without a scientific foundation or under the influence of specific interests. Such a potentially one-sided discourse is susceptible to overlooking significant aspects and establishing narratives that can be detrimental in the long term, both for banks and for society as a whole.

From an academic viewpoint, economic science has only insufficiently addressed the role of narratives. By placing economic theory at the centre of the discourse on narratives concerning the future of banks, a more sound understanding of these narratives can be developed. The approach not only enhances the significance of these narratives within the banking sector but also creates opportunities for critical scrutiny and management of their potential effects. This perspective forms the foundation for the objective of this thesis.

The aim of this thesis is to reveal the implications that lie within economic theories for thinking about the future of banks and that take effect through narratives. By analysing fundamental economic concepts and categories – in particular markets, institutions and money – it has been illustrated how different conceptual frameworks and theories shape narratives about the future of banks. This creates an understanding that makes it possible to critically re-

flect on the impact of such narratives and assess their influence on the banking landscape. By demonstrating how economic theories are not only analytical tools but also performative constructs, this thesis contributes to making the role of economic theory in the debate on the future of banks explicit. This goal forms the basis for the derivation of the research questions. Parallel to analysing how economic theories shape narratives about the future of banks, this thesis also highlights the implicit inferential structures that underpin these theories. The assumptions embedded in economic theories are not just simplifications, but actively shape what is considered thinkable in economic discourse. By making these structures explicit, this thesis does not just contribute to the understanding of banking narratives but also to a broader reflection on how economic thought constructs future expectations.

E.1.2. Insights From the Perspective of Economics

A preliminary investigation into extant academic literature was conducted to identify statements and potential narratives concerning the future of banks. The literature review (Section B) involved the analysis of 99 articles from the period 2001 to 2021, which addressed statements on the future of banks. The review offers significant insights into various aspects of existing research on the future of banks.

The analysis shows that the academic discourse on the future of banks in the literature is surprisingly underdeveloped. While technological, regulatory and institutional challenges, such as fintechs, and structural challenges, such as digitalisation and globalisation, are occasionally discussed, there is rarely a systematic consideration of the long-term development of banks. The discourse is frequently fragmented and limited to specific aspects, lacking an overarching perspective. Consequently, the literature lacks a comprehensive and integrated understanding of the future of banks. The spectrum of predictions ranges from the demise of banks to their stable future with a solid standing in the financial system. In this sense, the discourse on the future of

banks remains superficial. Formally, this fragmentation becomes evident in the absence of cross-citations or mutual quotations, with each contribution on the future of banks starting more or less from scratch.

The extant literature contains references to implicit narratives that are rarely explicitly addressed. Moreover, individual visions of the future are largely presented with minimal transparency. Consequently, the images of the future can only vaguely be traced back to the assumptions disclosed by the authors. Narratives such as the supposed replacement of banks by technology companies, or the popular ‘Banking is necessary, banks are not’ assertion, which itself exhibits a substantial lack of transparency, are largely based on assumptions that tend to be overly simplistic. The extant literature is conspicuous by its absence of systematic approaches to the analysis or critical interrogation of these narratives. The analysis of narratives concerning the future of banks is not regarded as a subject of its own. Ignoring the relationship between economics and narratives, the literature demonstrates an absence of recognition of the significance of assumptions for different visions of the future. Nevertheless, economic theories play an important, albeit often implicit, role in the creation and formulation of narratives. The performative dimension of economics remains largely unrecognised in the literature.

The results of the literature review lay the foundation for an in-depth ontological examination of the relationship between economic theory and narratives on the future of banks in the following of this thesis.

E.1.3. The External Perspective on Banks as Institutions

Against this background, the first research question is: ‘How Thinking about Markets and Institutions Influences Thinking about the Future of Banks?’ which can be found in Section C. There, the categories of markets and institutions were discussed and it was shown how the basic theoretical assumptions of new institutional economics (NIE) can shape or underpin a narrative on the future of banks. The analysis demonstrated that the NIE elucidates mar-

kets and institutions through an efficiency-based framework. In particular, it is shown that banks are viewed as institutions primarily to reduce transaction costs and agency costs in order to remain competitive, and that their relevance is subordinated to its efficiency-enhancing role. In this context, banks are often viewed as passive actors. This perspective gives rise to a narrative that banks, in their traditional form can be replaced for example by technology-based market players that serve to perfect the market. Again, an image that is implicit in the narrative ‘Banking is necessary, banks are not.’

A subsequent critical analysis takes up the aspects of ‘uncertainty,’ ‘trust’ and ‘power’ in order to scrutinise the ontological foundation of this narrative on the future of banks. As the eminent philosopher Althusser pertinently observed, “it is enough to introduce a new word to open up the space for a question that has not been asked before. The new word confuses the old words and thus creates a space for the new question. It challenges the old answers and thus also the old questions that lie dormant behind them. This engenders a new perspective on the subject” (Althusser 1985, p. 38, author’s translation).

In the NIE, rationality is constrained solely by the cognitive, i.e. computational limitations of individuals. The market mechanism essentially adopts a deterministic perspective, disregarding any role for radical uncertainty. However, the emphasis on such radical uncertainty leads to the characterisation of institutions as havens of stability and continuity, which bring advantages in the long term. This is also relevant on a methodological level, since a harmonious market equilibrium is no longer central to the analysis. In such a highly open and uncertain process, the explanatory power of the price mechanism is diminished, and institutions are legitimised on their own.

This is supplemented by the aspect of trust. In the NIE, individuals are characterised by opportunistic behaviour and shirking. However, the trust factor, when considered in conjunction with habits, favours institutions that build or already maintain long-term relationships, as these reduce costs. This is applicable, even if a rational actor perspective is maintained, accompanied by the

relevant cultural conditions. In such a framework, a virtuous circle can be established within banks as institutions. This is due to the fact that trust creates habits, and habits in turn promote trust.

Finally, the consideration of the power factor allows banks to be seen as having an advantage over their new competitors. In the NIE institutions are supposed to have no power. On the contrary, they are assumed to be embedded in a superior coercitive setting which is the market mechanism. They are atomistic, passive actors with limited power in the sense that their actions do not have an impact on the economic outcome. The old institutional economics' (OIE) denial of the natural state of the market and the resulting implicit power to act of the actors makes it possible for banks, as large institutions, to take their fate into their own hands and not to surrender themselves to the market mechanism.

Following an inferentialist approach, Section C has made explicit the inferential structures underlying economic theories (particularly NIE). The normative pragmatics of the NIE, which cannot be reduced to a final rule but rests on an implicit assumption of market efficiency and Panglossianism as a guiding principle, suggests a highly dominant market-centered thinking. This, in turn, shapes its inferential semantics, leading to conclusions in which the future of banks is framed predominantly as a question of survival within competitive constraints, reinforcing a rather gloomy narrative of inevitable institutional transformation or decline.

The paper makes a contribution to the field by offering insights into the implications of considering the categories of markets and institutions according to the NIE and OIE. The study shows that the NIE's theoretical framework most likely lead to the narrative of a gloomy future, as it does not consider banks as being indispensable institutions. The gloomy conclusions of the NIE quickly reach their limits when trust, uncertainty, and power are considered, as these are not only rationally justifiable but also more reflective of economic reality than the NIE's assumptions.

E.1.4. The Internal Perspective on Banks as Monetary Institutions

The first research question considers banks merely as institutions, without taking into account the precise characteristics that (actually) distinguish banks from other institutions. In the second research question: ‘How does thinking about money influence thinking about the future of banks?’ this is changed and an attempt is made to characterise banks as special institutions of capitalism via the question of money.

In this third contribution (Section D), Hicks’ well-known quote ‘money is what money does’ was first scrutinised for its implications for thinking about money. The quote was then applied to banks. This functionalist perspective was then juxtaposed within an ontological framework, whereby the quote was reversed to ‘money does what money is’ and subsequently applied to banks. A critical examination of the prevailing narratives concerning the disintermediation of banks and the decentralisation of money, which were embedded in an economic theoretical framework, was carried out. Theories of intermediation and money creation (out of nothing) were examined in this context.

The findings of the third essay demonstrate that narratives concerning the future of banks are contingent on assumptions regarding the nature of money itself. The functionalist view of money and banks – as represented in monetarism and the theory of intermediation – has parallels in that just as money is neutral, banks are also seen as rather passive actors. Such narratives support the idea that banks could be replaced by technological innovations or other institutions rather easily. This is what is suggested, for example, by the narrative ‘Banking is necessary, banks are not.’ In contrast, an ontological view, including a theory of money creation, emphasises the central and indispensable role of banks, as they create money and credit and thus provide essential foundations of the capitalist system.

The paper makes a contribution to the central aim of this thesis by demonstrat-

ing the close linkage between narratives concerning the future of banks and implicit assumptions about money. By explicitly addressing these assumptions, it becomes apparent that the conceptualisation of the fundamental nature of banks gives rise to divergent conclusions in terms of their future outlook. While the functionalist view describes banks as interchangeable intermediaries, the ontological perspective emphasises that banks, as creators of credit money, have a performative power that shapes economic realities and sets the capitalist system in motion.

Furthermore, the paper provides new insight to the question of what banks essentially are: Following the Circuitists' School, it is argued that banks are the creators of credit money that sets the monetary cycle in motion (Graziani 1989; Bossone 2001*a*). It is shown that banks are necessary building blocks of the capitalist economic system. It is shown that, by extending the Marxist analysis of the value form to banks, banks receive a new explanation and legitimisation. They institutionalise the capital form of commercial capital and produce the homogeneous commodity of interest-bearing capital, thereby assuming a key role in capitalism.

The development of these theoretical building blocks allow clarifying the central difference between a functionalist view of banks and an ontological perspective. While the functionalist perspective reduces banks to the tasks they perform – such as intermediation between savers and borrowers – the ontological perspective goes further by viewing banks as constitutive institutions of the capitalist system. The ontological perspective asks what banks are at their core, regardless of what specific functions they have, and how they shape the economic system as producers of credit money and interest-bearing capital. It focuses less on questions of efficiency and more on the significance of the existence of banks within the framework of capitalism.

In the sense of an inferentialist approach, a normative pragmatism could also be worked out here. On the one hand, there is a functionalism that assumes relatively stable economic functions for money and banks and thus implies that

these functions can be fulfilled in different ways. On the other hand, it focuses on the systemic role of money and banks and their origins. In the functionalist view, money and banks appear as neutral and passive intermediaries, while an alternative perspective emphasises their active role and systemic indispensability.

E.1.5. The Synthesis of Perspectives

The two essays from Sections C and D complement each other. The second essay (Section C) examines banks as institutions in a market environment from an external perspective. Conversely, the third essay (Section D) examines banks from an internal perspective, utilising the concept of money.

Both contributions are aligned, on the one hand by making explicit theoretical derivations,¹²¹ in the sense of inferentialism, on the future of banks, and on the other hand by maintaining the rational choice perspective referred to in the introduction. To use Hegel's words once again, this is not about a rationality that only outlines understanding [Verstand], but also reason [Vernunft]. In this regard, understanding is defined as the capacity to infer according to established rules, while reason is defined as the ability to reflect upon these rules at a meta-level (Stekeler-Weithofer 2020, p. 32). The rational-choice theory in economics is one-sidedly focused on what can be outlined with bigoted understanding. It lacks reason and, above all, meta-level reflection. The application of blindly following formal inferences, as opposed to the recognition of material inferences in conjunction with unrealistic assumptions, results in the production of questionable results. In the field of mathematics, such an approach is inconceivable; for example, omitting the bracket calculation for reasons of simplification. It is therefore not unreasonable to demand that, in economic thinking and reasoning, the same standards should be applied. A key insight in this context should be that banks are not passive players, a re-

¹²¹ Brandom can be applied here to the economic sphere: "For what I have tried to do is in a clear and specific inferential sense make explicit what is implicit in various *economic* important concepts" (modified from Brandom 2000, p. 31, emphasis added).

alisation that is also shared by leading researchers in the field of finance, but which does not yet seem to have penetrated textbooks as well as in various narratives within the public debate.¹²²

While this thesis does not advocate a particular narrative, it does argue in favour of an examination of narratives that follows the most realistic assumptions possible and largely avoids (often overly) simplistic assumptions, as these lead to distorted images of the future.¹²³ The ‘Banking is necessary, banks are not’ narrative put forward by Bill Gates can be seen as a (somewhat oversimplified) vision of the future in this sense, based on the insights gained in this thesis.¹²⁴ This thesis attempts a step towards a holistic understanding of these narratives. Addressing ontological foundations is essential in order to draw meaningful epistemological conclusions, thus helping to avoid the ‘epistemic fallacy’ – the reduction of reality to our knowledge of it (Bhaskar 1975/2008, p. 5).

E.2. Implications

E.2.1. Utilising Narratives for Banks

Dealing with narratives may initially appear to be an unconventional approach within the context of business administration and economics, irrespective of the specific subject or topic dealt with. However, such an approach has implications on various levels, which are summarised in the following. Unless explicitly mentioned, when the term *economics* is used, it always refers to business administration as well.

¹²² “We explore the hypothesis that the financial intermediary sector, far from being passive, is instead the engine that drives the boom-bust cycle” (Adrian and Shin 2010, p. 602).

¹²³ To return to the quote from *The Name of the Rose* at the beginning of this thesis, the aim of this work was not to find as many possibilities as possible, but perhaps to identify some more convincingly than others.

¹²⁴ This position is derived from the economic categories that have been discussed thus far, without there having been a more thorough elaboration on the subject of shadow banks and the extensive and intricate regulatory framework.

For banks, the deliberate management of narratives is of paramount importance, since they not only influence the perception of the industry, but also directly set the scope for strategic decisions. Consequently, a systematic analysis of narratives is essential. To this end, it is crucial for banks to analyse narratives concerning the future of their industry, so as to understand their origins, implicit assumptions and potential impact. It enables them to recognise risks at an early stage and react proactively to problematic narratives. This approach enables them to make more informed strategic decisions and better prepare for potential changes. Furthermore, it is recommended that banks proactively cultivate and disseminate their own narratives. Positive narratives that emphasise the importance of banks as indispensable players in money creation or as drivers of sustainable innovation can help to promote trust and stability. In a context of increasing uncertainty, effective communication assumes a pivotal role. It is incumbent upon banks to employ their communication strategies with precision to fortify their narrative positioning. This encompasses the neutralisation of potentially harmful narratives that could compromise the trust placed in the banking sector.

The discourse on the ‘specialness’ of banks (e.g. Gande and Saunders 2012; Huertas 2018; Lumpkin and Schich 2020) has witnessed a resurgence in their significance, particularly in the aftermath of the 2007–2008 financial crisis. It is vital for the banking sector to proactively influence this discourse, as it underscores their distinctive role within the financial system. From an ontological perspective, banks differ from other financial actors in their ability to create money and their central position in capitalism. By highlighting their distinctive role and capabilities, banks can emphasise their unique selling proposition and effectively defend themselves against narrative attacks that question their relevance.

E.2.2. Expanding the Scope of Economic Research

It needs to be emphasized that the field of economics itself is affected by these developments. Business administration in particular sees itself as an applied, not to say practical, science. This perspective is frequently misinterpreted, leading to the misconception that research in business administration should be conducted in a manner that ensures the efficient operation of companies, enhances their profitability, or fulfils customer requirements more effectively. However, the field of business administration is not primarily designed to serve the interests of companies, nor is it responsible for conducting research on their behalf, just as geology is not concerned with ensuring the well-being of minerals in order to facilitate their pleasant existence. It is unfortunate (but all too common) to see economists who only want to solve practical problems¹²⁵ and therefore avoid dealing with theoretical questions and conceptual challenges, not to speak of scientific foundational problems.¹²⁶

A conscious approach to narratives has the potential to offer business administration the opportunity to significantly expand its reach and understanding of economic phenomena. Narratives have the capacity to influence economic decisions by creating expectations that are not necessarily grounded in reality. This shows that narratives are not merely by-products of economic processes, but they can actively shape reality. Consequently, it is imperative for business administration to systematically integrate narratives into the analysis of economic issues. In particular, the performative effect of narratives, i.e. their ability to shape markets and institutions, requires a broader perspective.

¹²⁵ Keynes also comments on this aspect: “But apart from this contemporary mood, the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back” (Keynes 1978, p. 383).

¹²⁶ It is therefore the case that if problem solving itself becomes problematic (in accordance with the established pattern), due to the formation of problematic narratives that appear to be problematic in reality, even with the best will of the scientist, the problem is no longer only unsolvable, but the scientist may even worsen the problem. In a way, it is similar to the *nine dots puzzle*.

Narratives are not merely descriptive; they are also normative and strategic. They can be used strategically to assert interests, and as such, they are an instrument of power that must be given greater attention in economics. Furthermore, narratives can be considered as an independent object of research. Their emergence, dissemination and impact on economic processes require a methodological investigation that goes beyond traditional economic analyses. Such an approach has the potential to enhance business administration by integrating interdisciplinary approaches, for example by incorporating sociological, cultural studies and communication science perspectives. Finally, narratives in business administration offer a tool for dealing with uncertainty. This is especially the case in situations where objective data is lacking or future developments are uncertain. In such situations, narratives provide orientation and a framework for action. As emphasised in Section C, uncertainty and trust play a central role in the design of narratives. Business administration can benefit from utilising this capacity to more effectively prepare organisations for future scenarios that are uncertain, and to develop long-term strategies.

Economic theories in business administration necessitate enhanced transparency and introspection regarding the underlying assumptions. Academics and practitioners should make their assumptions and the implicit narratives that arise from them explicit in order to objectify the academic and public debate. This thesis demonstrates, in accordance with inferentialism as outlined by Brandom (1994), that assumptions embedded within theories serve not only as analytical instruments, but can also exert a direct influence on future-oriented thinking and decision-making processes. In essence, these assumptions shape expectations in a performative manner, thereby conditioning decision-making processes. The thesis argues for expanding economic research beyond a purely functionalist view of institutions. Banks, in particular, can not be seen merely as intermediaries but as constitutive elements of the capitalist system. Furthermore, economic theories do not merely describe reality; they actively shape expectations and influence narratives about the future. Recognizing this

performative dimension is crucial for a more reflexive and methodologically aware approach in business administration.

The employment of narratives is not solely a form of performance,¹²⁷ it is also a reproduction of theory, as narratives are invariably – consciously or unconsciously – based on theoretical considerations. Without critical reflection on these narratives and the theories on which they are based, there is a danger that science will slip into the realm of ideology instead of being scientifically sound.

E.2.3. Rethinking the Practice of Economic Science

There are further implications for the practice of economics. The more critical the understanding of economics is, the more likely it is that these implications will meet with approval.

To put it conservatively, this work is basic research that highlights the central need to promote financial literacy more strongly. This could help to improve the general public's understanding of basic economic concepts and thus increase their ability to reflect on economic narratives. Progressively formulated, this thesis calls for a critical examination of the scientific image of economics and in particular the development process of economic theories. The thesis questions the narrow focus on efficiency and functionalism and argues in favour of critically deconstructing unrealistic assumptions and exposing their implications. A stronger understanding of the theory of science could be trained in the education and practice of economics, for example through the application of inferentialism, which emphasises how meanings arise through inferential relationships within a normative context.

The thesis advocates that the context of knowledge production should be given greater consideration. Orthodox economics often receives disproportionate attention, while heterodox theories take a back seat. A broader focus could open up new perspectives and enrich science.

¹²⁷ An idea that can also be found in linguistics (Maclean 1988, ch. 1, especially p. 41-42).

A pivotal element here is the journal system and its reform. There can be good reasons in favour of a journal system. But in its current form, it rewards those who achieve many citations – the currency of the scientific enterprise. This favours connectivity and conformity, to commit to the same derivations, while the critical reflection and deviant development of science falls by the wayside. As Brandom demonstrates, the expertise of professionals is founded on normative authority. It is furthermore noted by Brandom (1994, p. 39) that every significant performance judged as correct or incorrect results in a change in the deontic status of those involved. This practice legitimises authorities to evaluate or even sanction in a normative way (Brandom 1994, p. 166). In the prevailing journal system, this normative practice is exacerbated by strict limitations, such as page and word counts. Such restrictions often prevent intentional states and the normative significance of content from being made explicit. The judgement of what is considered correct and what is considered incorrect is then the responsibility of a few (so-called gatekeepers) who have joined a practice(!) or have committed themselves to a practice(!) and can thus exclude everything from their conception of science (their intentional states with normative significance) that does not correspond to their rules of derivation. The normative practice of economics (in this case orthodoxy) thus becomes a closed system and leads itself *ad absurdum* in terms of scientific theory.

E.3. Limitations and Future Research

E.3.1. Limitations of This Study

This thesis is not free of limitations. A fundamental danger when dealing with several theories is that they may not be presented properly. This can even lead to a caricature of the theory, i.e. a particular theory is presented in a different way that its proponents had in mind. This does not mean that individual theories cannot be criticised. Again, it is important that the criticism is appropriate

and does not present a false problem.

Another weakness of this thesis could be seen in the use of the term *bank*. Although the term was deliberately not defined further, one may ask whether banks are not too heterogeneous to be lumped together in one generic term, as is done here. This is a legitimate question, but doing otherwise would miss the point of the project. The aim was to work at a theoretical level and to derive from theory the implications for banks in their generality. The only way to do this was to use the generic term *bank*, which does not involve any further subdivision by geography (such as Anglo-Saxon, continental Europe, etc., or the distinction between city vs. country, or bricks and mortar vs. digital), size or target group.¹²⁸ Clearly, this does not mean that future research may not start there and try to analyse its implications. In Section B.4., some hints concerning the space factor were taken up. This paper, however, showed that it was not possible to identify a systematic approach to images of the future, so the more fundamental work had to be done first under the generic term *bank*.

Another conceptual ambiguity that can be found throughout the thesis is the concept of efficiency.¹²⁹ In particular, in Section C, which is concerned with market efficiency, a more precise breakdown of the concept of efficiency could facilitate a more comprehensive understanding of the divergent attitudes found in the theories. Nevertheless, it would most likely not be feasible to harmonise the NIE and the OIE either.

Other limitations concern the scope of the literature taken into account. The literature review in Section B could have been expanded to include mono-

¹²⁸ A broader range of banking business models may also have provided a more comprehensive foundation for this thesis (e.g. Ayadi 2019; Tanda and Schena 2019; Tewes et al. 2020).

¹²⁹ According to Tobin (1984), this can be divided into information-arbitrage efficiency, fundamental-valuation efficiency, full-insurance efficiency and functional efficiency. In the German-language literature, by contrast, a distinction is made between allocation efficiency (a combination of full-insurance efficiency and functional efficiency), valuation efficiency (equivalent to fundamental valuation efficiency), information efficiency (equivalent to information arbitrage efficiency) and also operational efficiency. These terms build on each other as follows: without operational efficiency, there is no information efficiency, etc. (Wiebke 1992, pp. 33-34; Bienert 1996, pp. 31-33).

graphs on banks, but above all to include sources from the news and media landscape or internet forums. In these latter spaces, the discourse surrounding the future of banks appears to be more lively and heated. This phenomenon is partly driven by a cryptocurrency community marked by both courage and overconfidence. Many within this group show little understanding of the banking system and hesitate to engage with its risks. Outside academia, statements are often made swiftly, and narratives to a certain extent rely on the unspoken and unexplained. This tendency is exemplified by the significant influence and longevity of Bill Gates' narrative. The discourse tends toward a simplistic dichotomy – 'Are you for or against?' – a framing less common in scientific debate.

The extensive literature from the broader social sciences could also have been included in more detail on the topic of narratives. Concepts such as *interpretive power* [Deutungsmacht] (Hastedt 2023), *ideology* (Eagleton 2000), and *narratives from a communication or neuroscientific perspective* (Breithaupt 2022) would have enriched this thesis. Its literature was excluded, however, since the focus should remain limited to the derivational contexts and inferences of economic theories. The thematic exploration of concepts on narratives should not be considered an end in itself.

In addition to the literature, the theories analysed could have been explored in more depth. In Section C, for example, the NIE could have been discussed in more detail.¹³⁰

¹³⁰ However, the accusation that the NIE is presented in too transaction cost-oriented manner should not be conceded. In contrast to Wagner's Rheingold, the property rights approach as another important line of the NIE does not apply to 'What you are, you are *only* by contracts.' Rather, it can be assumed that (once again) an (preceding) institution is required, namely that of the market (Rapaczynski 1996). Property rights theory, a foundational element of NIE, underscores the significance of clearly delineated and enforceable property rights as the cornerstone of economic activity. Their establishment fosters incentives for efficient resource utilisation by enabling owners to use, modify, or trade assets within the market. Through competition, the market mechanism directs resources to their most productive use, ensuring efficiency (Furubotn and Richter 2009, pp. 84–85). A key example is emissions trading, where clearly allocated pollution rights are expected to lead to efficient outcomes. Like the transaction cost and principal-agent approaches, property rights theory is thus deeply embedded in market logic and its role in resource allocation.

The subject of narratives may be considered unusual by economists, but the conceptual approach is probably even more unusual. In this sense, the absence of an empirical element can also be interpreted as a weakness of this thesis. Interviews could have been conducted, or statistical data on the ‘actual’ situation of the banks could have been prepared and analysed. However, an essential characteristic of narratives is that they do not require any ‘actual’ equivalent in reality.

Given the over-determined nature of the topic, even experts are not immune to offering narratives on the future of banks that may not correspond to their favoured theory. The emphasis was placed on the theory and its associated implications, and the utilisation of expert interviews or statistical data was considered unnecessary.

E.3.2. Directions for Future Research

It is evident that further research is a worthwhile endeavour. In addition to the categories of market, institutions and money, the following categories were mentioned in the derivation of categories for analysing narratives on the future of banks: regulation, state, technology and progress. The fact that these could not be taken into account in this project could lead to the conclusion that the work stopped just when it was getting exciting. However, the categories mentioned are complex concepts for which more space and time is needed. Nevertheless, some preliminary ideas are suggested here.

To stay within the narrative of a game, the rules of the game would be thematised with the categories of regulation and state. In this context, the analysis will and must become much more specific with regard to what can be roughly termed as shadow banking. The emergence of shadow banks is largely linked to the regulation or, more precisely, the deregulation of the financial system in recent decades. Legal aspects, which are often neglected in economic analysis, must also be considered. As with the categories analysed thus far, the starting point would be a critique of unrealistic assumptions in property rights

theory, as it is implemented in NIE. The pivotal question in this context is: Can shadow banks exist without banks? A whole series of further considerations is linked to this. Since money plays a role in the emergence of a crisis, as mentioned in Section D, (financial) crises and risk have to be part of this consideration. The role of shadow banks in the crises of the recent past cannot be ignored (Lysandrou and Nesvetailova 2015). One hypothesis, in the broadest sense, which remains to be fully developed, is that shadow banks cannot exist without banks. Shadow banks may be considered a by-product of capitalist accumulation, with the purpose of overcoming the barriers to capital accumulation. However, it is also the case that shadow banks are dependent on the money creation practices of banks, which have created a second market for loans, among other things, in order to open up new avenues for the pursuit of profit. This would imply a mutual dependency between banks and shadow banks, rather than the standard (neoclassical orthodox) form of competition.

Another facet of regulation that has not been touched in this thesis makes it difficult to paint a gloomy picture, even from a functional perspective. The regulatory hurdles for financial institutions that want to perform some or more banking functions are usually very high, requiring them to obtain a banking licence. But: if fintechs or BigTechs, which are seen as challengers to banks, become banks themselves in the course of their own transformation by obtaining a banking licence, then the question of disruption to the banking industry by challengers is less about the end of banks as an institution per se, but more about the end of certain established or ‘traditional’ banks.¹³¹ However, banks would continue existing in the sense of the generic term that has been the focus in this thesis. In conjunction with technology, Erturk and Solari’s (2007) view of ‘banks as continuous reinvention’ could be postulated here.

The categories of technology and progress can be seen as categories that change the rules of the game. In a manner analogous to the increased num-

¹³¹ In a way, this is the phenomenon of the ship of Theseus, which was replaced piece by piece with new materials, so that in the end there was nothing left of the original ship (Stekeler-Weithofer 2005, p. 137).

ber of outcomes that become possible if a dice possessed more than six sides, the integration of technology into the economic game can result in a transformation of the rules. In relation to these categories, it can be hypothesised that orthodox economics tends to have a belief in progress and, as evidenced in the essay on the market and institutions, places new technologies within an efficiency context. In the broadest sense, this phenomenon can also be attributed to an image of science according to which science gradually approaches the truth. This could be related to a Popperian falsificationism (in part also a naïve falsificationism) and a logic of scientific discovery. Structural breaks and research conducted within thought collectives (Fleck 2015), which operate more in accordance with a psychology of research, are excluded in such a manner that, as in the essay on the market and institutions, new competitors (who utilise new technology) are regarded as the perfection of the market in the sense of Panglossianism. This suggests that banks face pessimistic outlooks.¹³²

E.3.3. Limitations Beyond This Study

Finally, it should be noted that, as with any frontier, there are two sides to limitations. A limitation lies in academia itself. It remains to be assumed that such a debate is not well received and is simply ignored. In this sense, Berger can be quoted as a spokesman for a hermeneutic tradition in economics: “[T]he profession is not listening. Of course, it is typical of the profession to be more

¹³² In contrast to scientific progress, the danger of a step backwards must always be taken into account: “Scientific regression arises (a) from ignoring earlier research results, especially through textbooks, which blunt the sense of the history of science. (b) [by] avoiding scientific discussions, e.g. the avoidance of critical book reviews, as well as a renunciation of research [...] to scientific stagnation [...]. (c) The suppression of an awareness of the problems of empirical science by the comfortable elegance of mathematical techniques leads to stagnation or scientific regression if the frustrating diversity of empirical influences is pushed aside and the testability of statements that were originally logically inadequate but empirically meaningful is put to one side [...]. (d) Awareness of the problems of empirical science also reduces the tendency for science to be only application-oriented [...]. (e) The meaning statements of a scientific language concern in detail the field of investigation, the scientific goals with regard to the direction of results and the ways of obtaining results as well as the guiding principles of research” (Schneider 2001, pp. 1026–1027, author’s translation).

interested in exporting its product than in learning from other disciplines” (Berger 1989, p. 209).¹³³

The methodology of hermeneutics has only a marginal presence in economics, therefore it would be unwise to expect fanfare for this thesis. Nevertheless, this thesis calls for greater attention to narratives and critiques of established standard theories, such as the NIE, as well as references to Marxist literature. After all, a thinker who can successfully establish the connection between insight and practice, as well as theory and practice, should be given the opportunity to articulate his perspective. This appeal is not made in a presumptuous or pathetic manner, but rather in the spirit of inferentialism, as quoted here at length:

“[...] in a hermeneutical science, a certain measure of insight is indispensable, and this insight cannot be communicated by the gathering of brute data, or initiation in modes of formal reasoning or some combination of these. It is unformalizable. [...] Thus, a hermeneutical science encounters a gap in intuitions. [...] Hence the gap in intuitions doesn’t just divide different theoretical positions, it also tends to divide different fundamental options in life. The practical and the theoretical are inextricably joined here. It may not just be that to understand a certain explanation one has to sharpen one’s intuitions, it may be that one has to change one’s orientation – if not in adopting another orientation, at least in living one’s own in a way which allows for greater comprehension of others. Thus, in the sciences of man in so far as they are hermeneutical there can be a valid response to ‘I don’t understand’ which takes the form, not only ‘develop your intuitions,’ but more radically ‘change yourself.’ This puts an end to any as-

¹³³ In this context, reference should be made to the Milgram experiment, which can also be applied to economics. The rejection of certain theoretical frameworks in economic practice necessitates the acknowledgement of past missteps. However, the continuation of established practices legitimises prior actions. The belief in authority, whether it be textbooks or established networks, allows one to continue as before.

piration to a value-free or ‘ideology-free’ science of man. A study of the science of man is inseparable from an examination of the options between which men must choose. This means that we can speak here not only of error, but of illusion. We speak of ‘illusion’ when we are dealing with something of greater substance than error, error which in a sense builds a counterfeit reality of its own. But errors of interpretation of meaning, which are also selfdefinitions of those who interpret and hence inform their lives, are more than errors in this sense: they are sustained by certain practices of which they are constitutive” (Taylor 1985, pp. 53–54).

In this respect, the present thesis is a call to change the practice of business administration and economics, or more generally, the practice of the economists as such. It is a call to lift the ideological veil¹³⁴ (which results from unrealistic assumptions). It is therefore not merely an intellectual necessity to attempt to understand certain things, but *existentially* to change practice.

¹³⁴ This includes ‘the idea that scientists have of their own practice and their relationship to their own practice’ (Althusser 1985, p. 40).

Appendix

Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Beck (2001)	Journal article	Conceptual	IDEAS/RePEc		
Bossone (2001 <i>b</i>)	Journal article	Conceptual	IDEAS/RePEc		
DeYoung and Hunter (2001)	Working paper	Conceptual	IDEAS/RePEc		DeYoung and Duffy (2002)
Myers (2001)	Monetary authority institution article	Empirical	IDEAS/RePEc	Myers and Sullivan (2001)	
Myers and Sullivan (2001)	Monetary authority institution article	Empirical	IDEAS/RePEc		Myers (2001)
Baba and Hisada (2002)	Journal article	Conceptual	IDEAS/RePEc		
DeYoung and Duffy (2002)	Monetary authority institution article	Empirical	IDEAS/RePEc	DeYoung and Hunter (2001)	
Berger and Udell (2003)	Edited volume article	Conceptual	Non-systematic		
Beck (2001)	Journal article	Conceptual	IDEAS/RePEc		
Bossone (2001 <i>b</i>)	Journal article	Conceptual	IDEAS/RePEc		
DeYoung and Hunter (2001)	Working paper	Conceptual	IDEAS/RePEc		DeYoung and Duffy (2002)
Myers (2001)	Monetary authority institution article	Empirical	IDEAS/RePEc	Myers and Sullivan (2001)	
<i>Continued on the next page</i>					

Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Myers and Sullivan (2001)	Monetary authority institution article	Empirical	IDEAS/RePEc		Myers (2001)
Baba and Hisada (2002)	Journal article	Conceptual	IDEAS/RePEc		
DeYoung and Duffy (2002)	Monetary authority institution article	Empirical	IDEAS/RePEc	DeYoung and Hunter (2001)	
Berger and Udell (2003)	Edited volume article	Conceptual	Non-systematic		
Bradley and Stewart (2003)	Journal article	Empirical	Scopus		
Cobas et al. (2003)	Edited volume article	Conceptual	Non-systematic		
Cocca and Csoport (2003)	Edited volume article	Conceptual	Non-systematic		
DeYoung and Hunter (2003)	Edited volume article	Conceptual	Non-systematic		DeYoung et al. (2004)
Gischer and Jüttner (2003)	Edited volume article	Empirical	Non-systematic		
Gup (2003a)	Edited volume article	Conceptual	Non-systematic		
Gup (2003b)	Edited volume article	Conceptual	Non-systematic		
Harper and Chan (2003)	Edited volume article	Conceptual	Non-systematic		
Hine and Phillips (2003)	Edited volume article	Conceptual	Non-systematic		
Kamath et al. (2003)	Journal article	Conceptual	Scopus		

Continued on the next page

Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Seelig (2003)	Edited volume article	Empirical	Non-systematic		
Shull (2003)	Edited volume article	Conceptual	Non-systematic		
Degryse and Ongena (2004)	Journal article	Conceptual	IDEAS/RePEc		
DeYoung and Rice (2004)	Monetary authority institution article	Conceptual & Empirical	IDEAS/RePEc	DeYoung et al. (2004)	
DeYoung et al. (2004)	Journal article	Conceptual & Empirical	IDEAS/RePEc	DeYoung and Hunter (2003)	Yeager (2004); DeYoung and Rice (2004); Gilbert (2007)
Klose (2004)	Monetary authority institution article	Empirical	IDEAS/RePEc		
Myers and Robbins (2004)	Monetary authority institution article	Empirical	IDEAS/RePEc		
Shanmugam and Nair (2004)	Journal article	Conceptual	Scopus		
Yeager (2004)	Monetary authority institution article	Empirical	IDEAS/RePEc	DeYoung et al. (2004)	
<i>Continued on the next page</i>					

Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Wan et al. (2005)	Journal article	Empirical	Scopus		
Tiwari et al. (2006)	Conference paper	Empirical	IDEAS/RePEc		
Benston et al. (2007)	Practitioners magazine article	Conceptual	IDEAS/RePEc		
Gilbert (2007)	Monetary authority institution article	Empirical	IDEAS/RePEc	DeYoung et al. (2004)	
Scornavacca and Hoehle (2007)	Journal article	Conceptual & Empirical	IDEAS/RePEc		
Hardie and Howarth (2009)	Journal article	Conceptual	Scopus		
Lamberti and Büger (2009)	Journal article	Conceptual	IDEAS/RePEc		
Corner (2010)	Practitioners magazine article	Conceptual	IDEAS/RePEc		
Kodres and Narain (2010)	Monetary authority institution article	Conceptual	IDEAS/RePEc		
Wessels and Van Rooyen (2010)	Journal article	Empirical	Scopus		

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Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Bulgărea (2011)	Journal article	Conceptual	IDEAS/RePEc		
Sargu and Roman (2010)	Conference paper	Conceptual	IDEAS/RePEc		
Dailami and Adams-Kane (2012)	Monetary authority institution article	Empirical	IDEAS/RePEc		
Loncar and Rajic (2012)	Journal article	Empirical	IDEAS/RePEc		
Moshirian (2012)	Journal article	Conceptual	IDEAS/RePEc		
Balasubramanyan et al. (2013/2014)	Practioners magazine article	Conceptual	IDEAS/RePEc		
Gilbert et al. (2013)	Monetary authority institution article	Empirical	IDEAS/RePEc		Lux and Greene (2015); Chiorazzo et al. (2018)
Gjino and Ilollari (2014)	Journal article	Conceptual	IDEAS/RePEc		
Allen et al. (2015)	Journal article	Conceptual & Empirical	Scopus		
Kroszner (2015)	Conference paper	Conceptual	Non-systematic		
Lenz (2015)	Journal article	Conceptual	IDEAS/RePEc		
Lux and Greene (2015)	Working paper	Empirical	Non-systematic	Gilbert et al. (2013)	

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Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Moser (2015)	Journal article	Empirical	Scopus		
Prodanova et al. (2015)	Journal article	Empirical	Scopus		
Boot (2016)	Edited volume article	Conceptual	IDEAS/RePEc		
Claessens and van Horen (2016a)	Edited volume article	Empirical	Non-systematic		
Claessens and van Horen (2016b)	Edited volume article	Empirical	Non-systematic		
Dugan (2016)	Edited volume article	Conceptual	IDEAS/RePEc		
Fender and McGuire (2016)	Edited volume article	Conceptual	Non-systematic		
Huertas (2016)	Edited volume article	Conceptual	Non-systematic		
Jagtiani and Lemieux (2016)	Monetary authority institution article	Empirical	IDEAS/RePEc		
Marchetti (2016)	Edited volume article	Conceptual	Non-systematic		
Swagel (2016)	Edited volume article	Conceptual	IDEAS/RePEc		
Tahir et al. (2016)	Journal article	Empirical	Scopus		
Alam and Parinduri (2017)	Journal article	Empirical	Scopus		

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Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Ariff (2017)	Journal article	Conceptual	Scopus	Puschmann (2017)	Omarini (2018 <i>b</i>)
Beer et al. (2017)	Monetary authority institution article	Conceptual	IDEAS/RePEc		
Chen et al. (2017)	Journal article	Conceptual	IDEAS/RePEc		
Gärtner and Flögel (2017)	Journal article	Conceptual	IDEAS/RePEc		
Hintz and Smith (2017)	Practitioners magazine article	Conceptual	Non-systematic		
Ilie et al. (2017)	Conference paper	Conceptual	IDEAS/RePEc	Gilbert et al. (2013)	Beer et al. (2017) Broby (2021)
Miralles-Quirós et al. (2017)	Journal article	Empirical	Scopus		
Monvoisin (2017)	Edited volume article	Conceptual	Non-systematic		
Puschmann (2017)	Conference paper	Conceptual	Non-systematic		
Anagnostopoulos (2018)	Journal article	Conceptual	IDEAS/RePEc		
Chiorazzo et al. (2018)	Journal article	Empirical	Non-systematic		
Coetzee (2018)	Journal article	Conceptual	Scopus		
Cullen (2018)	Journal article	Conceptual	Scopus		

Continued on the next page

Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Ilie and Iacob (2018)	Journal article	Conceptual	IDEAS/RePEc	Chen et al. (2017); Omarini (2018a)	Omarini (2018b)
Omarini (2018b)	Journal article	Conceptual	IDEAS/RePEc		
Omarini (2018c)	Journal article	Conceptual	IDEAS/RePEc		
Omarini (2018a)	Journal article	Conceptual	Non-systematic		
Pointner and Raunig (2018)	Monetary authority institution article	Conceptual & Empirical	IDEAS/RePEc		
Selmier (2018)	Journal article	Conceptual	Scopus		
Smaghi (2018)	Journal article	Empirical	IDEAS/RePEc		
de Andrés et al. (2019)	Journal article	Conceptual	Scopus		
Dicuonzo et al. (2019)	Journal article	Conceptual	IDEAS/RePEc		
Dombret et al. (2019)	Journal article	Empirical	Scopus		
Othman et al. (2019)	Journal article	Empirical	Scopus		Feldman (2020)
Raja Rao et al. (2019)	Journal article	Conceptual	Scopus		
Sedaghatparast (2019)	Journal article	Conceptual	Scopus		
Stulz (2019)	Journal article	Conceptual	IDEAS/RePEc		Thorbecke (2020)
<i>Continued on the next page</i>					

Author(s) & Year	Form of Publication	Nature of Source	Search Results From	Author Cites	Author is Cited By
Boustani (2020)	Edited volume article	Conceptual & Empirical	IDEAS/RePEc		
Brandl (2020)	Journal article	Conceptual	Scopus		
Feldman (2020)	Journal article	Empirical	Scopus	Othman et al. (2019)	
Go et al. (2020)	Journal article	Empirical	Scopus		
Gündüz (2020)	Journal article	Conceptual	Scopus		
Hatami et al. (2020)	Private publisher article	Conceptual	Non-systematic		
Saunders (2020)	Journal article	Conceptual	IDEAS/RePEc		
Thorbecke (2020)	Discussion Paper	Empirical	IDEAS/RePEc	Stulz (2019)	
Broby (2021)	Journal article	Conceptual	Scopus	Anagnostopoulos (2018)	
Rahman and Abedin (2021)	Journal article	Empirical	Scopus		

References

- Abe, K. (2003), Microcredit for the Poorest Countries, *in* B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 317–332.
- Adrian, T. and Shin, H. S. (2010), Financial Intermediaries and Monetary Economics, *in* B. M. Friedman and M. Woodward, eds, 'Handbook of Monetary Economics Volume 3A', Elsevier, pp. 601–650.
- Alam, N. and Parinduri, R. A. (2017), 'Do Islamic Banks Shift From Markup to Equity Financing When Their Contracting Environments Are Improved?', *Applied Economics Letters* **24**(8), 545–548.
- Alchian, A. A. and Demsetz, H. (1972), 'Production, Information Costs, and Economic Organization', *The American Economic Review* **62**(5), 777–795.
- Allen, F., Gu, X. and Qian, J. Q. (2015), 'China's Financial System: Growth and Risks', *Foundations and Trends in Finance* **9**(3-4), 197–319.
- Allen, F. and Santomero, A. M. (1998), 'The Theory of Financial Intermediation', *Journal of Banking & Finance* **21**(11-12), 1461–1485.
- Allen, F. and Santomero, A. M. (2001), 'What Do Financial Intermediaries Do?', *Journal of Banking & Finance* **25**(2), 271–294.
- Althusser, L. (1985), *Philosophie und Spontane Philosophie der Wissenschaftler*, Argument-Verlag, Berlin.
- Anagnostopoulos, I. (2018), 'Fintech and Regtech: Impact on Regulators and Banks', *Journal of Economics and Business* **100**, 7–25.

- Andreani, E. and Neuberger, D. (2004), 'Relationship Finance by Banks and Non-bank Institutional Investors: A Review Within the Theory of the Firm' *Thünen-Series of Applied Economic Theory Working Paper* (No. 46), 1–37.
- Ankarloo, D. (2002), 'New Institutional Economics and Economic History', *Capital & Class* **26**(3), 9–36.
- Ankarloo, D. and Palermo, G. (2004), 'Anti-Williamson: A Marxian Critique of New Institutional Economics', *Cambridge Journal of Economics* **28**(3), 413–429.
- Arestis, P. (2004/2005), 'Washington Consensus and Financial Liberalization', *Journal of Post Keynesian Economics* **27**(2), 251–271.
- Arestis, P. (2016), Financial Liberalization, the Finance–Growth Nexus, Financial Crises and Policy Implications, in P. Arestis and M. Sawyer, eds, 'Financial Liberalisation. Past, Present and Future', Palgrave Macmillan, Cham, pp. 1–42.
- Arestis, P. and Sawyer, M. C. (2005), Financial Liberalization and the Finance–Growth Nexus: What Have We Learned?, in P. Arestis and M. C. Sawyer, eds, 'Financial Liberalization. Beyond Orthodox Concerns', Palgrave Macmillan, Houndmills, Basingstoke, Hampshire; New York, pp. 1–42.
- Ariff, M. (2017), 'Islamic Banking in Malaysia: The Changing Landscape', *Institutions and Economies* **9**(2), 1–13.
- Arksey, H. and O'Malley, L. (2005), 'Scoping Studies: Towards a Methodological Framework', *International Journal of Social Research Methodology* **8**(1), 19–32.
- Ayadi, R. (2019), *Banking Business Models: Definition, Analytical Framework and Financial Stability Assessment*, Springer International Publishing, Cham.

- Baba, N. and Hisada, T. (2002), 'Japan's Financial System: Its Perspective and the Authorities' Roles in Redesigning and Administering the System' *Institute for Monetary and Economic Studies, Bank of Japan* (April), 43–93.
- Baecker, D. (1991), *Womit handeln Banken? Eine Untersuchung zur Risikoverarbeitung in der Wirtschaft*, Suhrkamp, Frankfurt am Main.
- Balasubramanyan, L., Gallagher, S., Haubrich, J., Jenkins, S. and Wallman, N. (2013/2014), 'Focusing on the Future: Regional Banks and the Financial Marketplace', *Forefront. Federal Reserve Bank of Cleveland* **5**(1), 4–9.
- Baronian, L. (2023), *Money and Capital; A Critique of Monetary Thought, the Dollar and Post-Capitalism*, Routledge, London & New York.
- Beck, H. (2001), 'Banking Is Essential, Banks Are Not: The Future of Financial Intermediation in the Age of the Internet', *Netnomics* **3**(1), 7–22.
- Beckert, J. (2016), *Imagined Futures: Fictional Expectations and Capitalist Dynamics*, Harvard University Press, Cambridge, Massachusetts.
- Bednarek, P., Briukhova, O., Ongena, S. and von Westernhagen, N. (2023), 'Effects of Bank Capital Requirements on Lending by Banks and Non-bank Financial Institutions' *Deutsche Bundesbank Discussion Paper* (No. 26), 1–56.
- Beer, C., Gnan, E., Mayer, M. and Summer, M. (2017), 'The Financial System of the Future: Summary of the 44th Oenb Economics Conference in Vienna on May 29 and 30, 2017', *Monetary Policy & the Economy* **10**, 34–42.
- Beinhocker, E. D. (2006), *Origin of Wealth. Evolution, Complexity, and the Radical Remaking of Economics*, Harvard Business School Press, Boston.
- Benston, G. J., Eisenbeis, R. A., Horvitz, P., Kane, E. J. and Kaufman, G. G. (2007), 'Roundtable Discussion: Reflection on Twenty Years of Bank Regulatory Reform' *Economic Review* (Q1-2), 119–138.

- Benston, G. J., Eisenbeis, R. A., Horvitz, P. M., Kane, E. J. and Kaufman, G. G. (1986), *Perspectives on Safe & Sound Banking: Past, Present, and Future*, MIT Press, Cambridge, Massachusetts.
- Benston, G. J. and Smith, Jr., C. W. (1976), 'A Transactions Cost Approach to the Theory of Financial Intermediation', *The Journal of Finance* **31**(2), 215–231.
- Berger, A. N. and Udell, G. F. (2003), The Future of Relationship Lending, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 203–228.
- Berger, L. A. (1989), 'Economics and Hermeneutics', *Economics and Philosophy* **5**(2), 209–233.
- Bernanke, B. S. and Gertler, M. (1995), 'Inside the Black Box: The Credit Channel of Monetary Policy Transmission', *Journal of Economic Perspectives* **9**(4), 27–48.
- Bernstein, P. L. (2007), *Capital Ideas Evolving*, John Wiley & Sons, Hoboken, New Jersey.
- Bernstein, R. J. (1983), *Beyond Objectivism and Relativism: Science, Hermeneutics, and Praxis*, University of Pennsylvania Press, Philadelphia.
- Bertram, G. W. (2002), *Hermeneutik und Dekonstruktion: Konturen einer Auseinandersetzung der Gegenwartsphilosophie*, Fink, München.
- Bhaskar, R. (1975/2008), *A Realist Theory of Science*, Classical Texts in Critical Realism, Routledge, London & New York.
- Biebricher, T. (2018), *The Political Theory of Neoliberalism*, Currencies, Stanford University Press, Stanford, California.
- Bienert, H. (1996), *Der Marktprozeß an Aktienbörsen*, Gabler Verlag, Wiesbaden.

- Blaug, M. (1997), *Economic Theory in Retrospect*, 5th edn, Cambridge University Press, Cambridge; New York.
- Block, J. H., Colombo, M. G., Cumming, D. J. and Vismara, S. (2018), 'New Players in Entrepreneurial Finance and Why They Are There', *Small Business Economics* **50**(2), 239–250.
- Boldyrev, I. (2019), 'The Ontology of Uncertainty in Finance: The Normative Legacy of General Equilibrium', *Topoi* **40**(4), 725–731.
- Boldyrev, I. and Ushakov, A. (2016), 'Adjusting the Model to Adjust the World: Constructive Mechanisms in Postwar General Equilibrium Theory', *Journal of Economic Methodology* **23**(1), 38–56.
- Boot, A. W. A. (2016), Understanding the Future of Banking Scale and Scope Economies, and Fintech, in A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 431–449.
- Boot, A. W. A. (2017), 'The Future of Banking: From Scale & Scope Economies to Fintech', *European Economy* **3**(2), 77–95.
- Boot, A. W. A. and Thakor, A. V. (2000), 'Can Relationship Banking Survive Competition?', *The Journal of Finance* **55**(2), 679–713.
- Bossone, B. (2001a), 'Circuit Theory of Banking and Finance', *Journal of Banking & Finance* **25**(5), 857–890.
- Bossone, B. (2001b), 'Do Banks Have a Future? A Study on Banking and Finance as We Move Into the Third Millennium', *Journal of Banking & Finance* **25**(12), 2239–2276.
- Boustani, N. M. (2020), Traditional Banks and Fintech: Survival, Future and Threats, in Y. Baghdadi, A. Harfouche and M. Musso, eds, 'ICT for an Inclusive World', Springer International Publishing, Cham, pp. 345–359.

- Bradley, L. and Stewart, K. (2003), 'A Delphi study of Internet banking', *Marketing Intelligence & Planning* **21**(5), 272–281.
- Brandl, B. (2020), 'Ist Blockchain das Ende der Banken?: Zur Bedeutung von Schulden und Banken in kapitalistischen Ökonomien', *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie* **72**(4), 543–565.
- Brandom, R. B. (1994), *Making It Explicit: Reasoning, Representing, and Discursive Commitment*, Harvard University Press, Cambridge, Massachusetts.
- Brandom, R. B. (2000), *Articulating Reasons: An Introduction to Inferentialism*, Harvard University Press, Cambridge, Massachusetts.
- Breen, M. (2013), *The Politics of IMF Lending*, Palgrave Macmillan UK, London.
- Breithaupt, F. (2022), *Das narrative Gehirn: Was unsere Neuronen erzählen*, Suhrkamp, Berlin.
- Breuer, W. (1993), *Finanzintermediation im Kapitalmarktgleichgewicht*, Gabler, Wiesbaden.
- Broby, D. (2021), 'Financial Technology and the Future of Banking', *Financial Innovation* **7**(1), 1–19.
- Bromley, D. W. (2006), *Sufficient Reason: Volitional Pragmatism and the Meaning of Economic Institutions*, Princeton University Press, Princeton, New Jersey.
- Bryan, D. and Rafferty, M. (2006a), *Capitalism with Derivatives*, Palgrave Macmillan UK, London.
- Bryan, D. and Rafferty, M. (2006b), 'Money in Capitalism and Capitalist Money', *Historical Materialism* **14**(1), 75–95.
- Buch-Hansen, H. and Nielsen, P. (2020), *Critical Realism: Basics and Beyond*, Macmillan; Red Globe Press, London.

- Bulgărea, C. N. (2011), 'The Evolution and the Future Role of the Branch in Distribution of the Banking Products and Services', *Annals of the University of Petroșani. Economics* **11**(3), 15–22.
- Bunge, M. (1993), 'Realism and Antirealism in Social Science', *Theory and Decision* **35**(3), 207–235.
- Burbidge, J. W. (2020), *Aufhebung*, in M. F. Bykova and K. R. Westphal, eds, 'The Palgrave Hegel Handbook', Springer International Publishing, Cham, pp. 167–182.
- Caldwell, B. J. (1980), 'A Critique of Friedman's Methodological Instrumentalism', *Southern Economic Journal* **47**(2), 366–374.
- Callon, M. (1998), 'Introduction: The Embeddedness of Economic Markets in Economics', *The Sociological Review* **46**(1_suppl), 1–57.
- Callon, M. (2007), What Does It Mean to Say That Economics Is Performative?, in D. A. MacKenzie, F. Muniesa and L. Siu, eds, 'Do Economists Make Markets? On the Performativity of Economics', Princeton University Press, Princeton, pp. 311–357.
- Cannan, E. (1921), 'The Meaning of Bank Deposits', *Economica* **1**(1), 28–36.
- Cannan, E. (1927), *An Economist's Protest*, P. S. King & Son, Ltd., London.
- Carling, A. (1986), 'Forms of Value and the Logic of Capital', *Science & Society* **50**(1), 52–80.
- Cartelier, J. (2018), *Money, Markets and Capital. The Case for a Monetary Analysis*, Routledge, London & New York.
- Chen, Z., Li, Y., Wu, Y. and Luo, J. (2017), 'The Transition From Traditional Banking to Mobile Internet Finance: An Organizational Innovation Perspective - A Comparative Study of Citibank and ICBC', *Financial Innovation* **3**(1), 12.

- Chesnais, F. (2016), *Finance Capital Today*, Brill, Leiden; Boston.
- Chick, V. and Dow, S. C. (2013), Financial Institutions and the State: A Re-Examination, in L.-P. Rochon and M. Seccareccia, eds, 'Monetary Economies of Production', Edward Elgar Publishing, Cheltenham, UK; Northampton, MA, USA, pp. 99–111.
- Chiorazzo, V., D'Apice, V., DeYoung, R. and Morelli, P. (2018), 'Is the Traditional Banking Model a Survivor?', *Journal of Banking & Finance* **97**, 238–256.
- Claessens, S. and van Horen, N. (2016a), Banking Activity Trends Following the Financial Crisis: Expansion or Retrenchment?, in A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 125–142.
- Claessens, S. and van Horen, N. (2016b), The Role of Foreign Banks in Local Credit Booms, in A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 273–292.
- Coase, R. (1937), 'The Nature of the Firm', *Economica* **4**(16), 386–405.
- Cobas, M. G., Mote, L. R. and Wilcox, J. A. (2003), A History of the Future of Banking: Predictions and Outcomes, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 49–76.
- Cocca, T. D. and Csoport, P. (2003), The Future of Swiss Banking, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 271–316.
- Cochran, K. P. (1955), The Concept of Economic Planning in Institutional Economics, PhD thesis, Ohio State University.
- Coetzee, J. (2018), 'Strategic Implications of Fintech on South African Retail Banks', *South African Journal of Economic and Management Sciences* **21**(1), 1–11.

- Coleman, J. S. (1990), *Foundations of Social Theory*, Belknap Press of Harvard University Press, Cambridge, Massachusetts.
- Copelovitch, M. S. (2010), *The International Monetary Fund in the Global Economy: Banks, Bonds, and Bailouts*, Cambridge University Press, Cambridge; New York.
- Corner, G. (2010), 'The Changing Landscape of Community Banking' *Central Banker, Federal Reserve Bank of St. Louis* (Fall), 1–12.
- Crotty, J. (1985), The Centrality of Money, Credit, and Financial Intermediation in Marx's Crisis Theory: An Interpretation of Marx's Methodology, in S. Resnick and R. Wolff, eds, 'Rethinking Marxism. Essays for Harry Magdoff & Paul Sweezy', Autonomedia, New York, pp. 45–82.
- Culbertson, J. M. (1958), 'Intermediaries and Monetary Theory: A Criticism of the Gurley-Shaw Theory', *The American Economic Review* **48**(1), 119–131.
- Cullen, J. (2018), 'Securitisation, Ring-Fencing, and Housing Bubbles: Financial Stability Implications of UK and EU Bank Reforms', *Journal of Financial Regulation* **4**(1), 73–118.
- Dailami, M. and Adams-Kane, J. (2012), 'What Does the Future Hold for the International Banking System?' *The World Bank. Economic Premise* (No. 94), 1–8.
- de Andrés, P., Reig, R. and Vallelado, E. (2019), 'European Banks' Executive Remuneration Under the New European Union Regulation', *Journal of Economic Policy Reform* **22**(3), 208–225.
- De Araujo, P., O'Sullivan, R. and Simpson, N. B. (2013), 'What Should be Taught in Intermediate Macroeconomics?', *The Journal of Economic Education* **44**(1), 74–90.
- De Brunhoff, S. (1976), *Marx on Money*, Urizen Books, New York.

- De Brunhoff, S. (1978), *The State, Capital and Economic Policy*, Pluto Press, London.
- De Brunhoff, S. (2005), Marx's Contribution to the Search for a Theory of Money, in F. Moseley, ed., 'Marx's Theory of Money: Modern Appraisals', Palgrave Macmillan, New York, pp. 209–221.
- De Brunhoff, S. and Foley, D. K. (2007), Karl Marx's Theory of Money and Credit, in P. Arestis and M. C. Sawyer, eds, 'A Handbook of Alternative Monetary Economics', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 188–204.
- De Vroey, M. (1998), 'Is the Tâtonnement Hypothesis a Good Caricature of Market Forces?', *Journal of Economic Methodology* **5**(2), 201–221.
- De Vroey, M. (1999), 'The Marshallian Market and the Walrasian Economy: Two Incompatible Bedfellows', *Scottish Journal of Political Economy* **46**(3), 319–338.
- Dean, K., Joseph, J., Roberts, J. M. and Wright, C., eds (2006), *Realism, Philosophy and Social Science*, Palgrave Macmillan, Basingstoke, UK; New York.
- Degryse, H. and Ongena, S. (2004), 'The Impact of Technology and Regulation on the Geographical Scope of Banking', *Oxford Review of Economic Policy* **20**(4), 571–590.
- Deppe, H.-D. (1964), 'Der Bankbetrieb als Gegenstand von Wachstumsanalysen', *Zeitschrift für Betriebswirtschaft* **34**, 353–381.
- Dequech, D. (1997), 'A Brief Note on Keynes, Unknown Probabilities and Uncertainty in a Strong Sense', *History of Economic Ideas* **5**(2), 101–110.
- Dequech, D. (2006), 'The New Institutional Economics and the Theory of Behaviour Under Uncertainty', *Journal of Economic Behavior & Organization* **59**(1), 109–131.

- Desai, M. (1974), *Marxian Economic Theory*, Lectures in Economics, Gray-Mills, London.
- DeYoung, R. and Duffy, D. J. (2002), 'The Challenges Facing Community Banks: In Their Own Words' *Federal Reserve Bank of Chicago. Economic Perspectives* (4Q).
- DeYoung, R. and Hunter, W. C. (2001), 'Deregulation, the Internet, and the Competitive Viability of Large Banks and Community Banks' *Working Paper*, 1–37.
- DeYoung, R. and Hunter, W. C. (2003), Deregulation, the Internet, and the Competitive Viability of Large Banks and Community Banks, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 173–202.
- DeYoung, R., Hunter, W. C. and Udell, G. F. (2004), 'The Past, Present, and Probable Future for Community Banks', *Journal of Financial Services Research* **25**(2), 85–133.
- DeYoung, R. and Rice, T. (2004), 'How Do Banks Make Money? A Variety of Business Strategies', *Federal Reserve Bank of Chicago. Economic Perspectives* **28**(4), 52–68.
- Diamond, D. W. (1984), 'Financial Intermediation and Delegated Monitoring', *The Review of Economic Studies* **51**(3), 393–414.
- Dicuonzo, G., Galeone, G., Zappimbulso, E. and Dell'Atti, V. (2019), 'Risk Management 4.0: The Role of Big Data Analytics in the Bank Sector', *International Journal of Economics and Financial Issues* **9**(6), 40–47.
- Dodd, N. (2018), 'The Social Life of Bitcoin', *Theory, Culture & Society* **35**(3), 35–56.
- Dombret, A., Gündüz, Y. and Rocholl, J. (2019), 'Will German Banks Earn Their Cost of Capital?', *Contemporary Economic Policy* **37**(1), 156–169.

- Dopfer, K., Foster, J. and Potts, J. (2004), 'Micro-meso-macro', *Journal of Evolutionary Economics* **14**(3), 263–279.
- Dorman, P. (1991), 'Marxism, Methodological Individualism and the New Institutional Economics: Further Considerations', *Journal of Institutional and Theoretical Economics (JITE) / Zeitschrift für die gesamte Staatswissenschaft* **147**(2), 364–374.
- dos Santos, P. (2009), 'On the Content of Banking in Contemporary Capitalism', *Historical Materialism* **17**(2), 180–213.
- Dosi, G. and Egidi, M. (1991), 'Substantive and Procedural Uncertainty: An Exploration of Economic Behaviours in Changing Environments', *Journal of Evolutionary Economics* **1**(2), 145–168.
- Dow, G. K. (1987), 'The Function of Authority in Transaction Cost Economics', *Journal of Economic Behavior & Organization* **8**(1), 13–38.
- Dow, S. C. (2002), *Economic Methodology: An Inquiry*, Oxford University Press, Oxford; New York.
- Dow, S. C. (2006), Endogenous Money: Structuralist, in P. Arestis and M. Sawyer, eds, 'A Handbook of Alternative Monetary Economics', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 35–51.
- Dow, S. C. (2012), 'What Are Banks and Bank Regulation For? A Consideration of the Foundations for Reform', *European Journal of Economics and Economic Policies: Intervention* **9**(1), 39–56.
- Draghi, M. (2012), 'Speech by Mario Draghi, President of the European Central Bank at the Global Investment Conference in London 26 July 2012'.
- Drüe, H., Hackenesch, C., Jaeschke, W., Neuser, W. and Schnädelbach, H., eds (2016), *Hegels "Enzyklopädie der Philosophischen Wissenschaften" (1830): Ein Kommentar zum Systemgrundriss, Bd. 3*, Suhrkamp, Frankfurt am Main.

- Dugan, J. C. (2016), Four Key Factors Affecting the Future of Large, Internationally Active Banks, *in* A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 451–460.
- Dugger, W. M. (1979), 'Methodological Differences between Institutional and Neoclassical Economics', *Journal of Economic Issues* **13**(4), 899–909.
- Dugger, W. M. (1980), 'Power: An Institutional Framework of Analysis', *Journal of Economic Issues* **14**(4), 897–907.
- Dugger, W. M. (1983), 'The Transaction Cost Analysis of Oliver E. Williamson: A New Synthesis?', *Journal of Economic Issues* **17**(1), 95–114.
- Dugger, W. M. (1988a), 'An Institutional Analysis of Corporate Power', *Journal of Economic Issues* **22**(1), 79–111.
- Dugger, W. M. (1988b), 'Radical Institutionalism. Basic Concepts', *Review of Radical Political Economics* **20**(1), 1–20.
- Dugger, W. M. (1988c), 'A Research Agenda for Institutional Economics', *Journal of Economic Issues* **22**(4), 983–1002.
- Dugger, W. M. (1990), 'The New Institutionalism: New But Not Institutionalist', *Journal of Economic Issues* **24**(2), 423–431.
- Dugger, W. M. (1994), Williamson, Oliver E., *in* G. M. Hodgson, W. Samuels and M. Tool, eds, 'The Elgar Companion to Institutional and Evolutionary Economics, Vol. 2', Edward Elgar Publishing, Aldershot, Hants, England; Brookfield, Vermont, USA, pp. 378–380.
- Dugger, W. M., ed. (1989), *Radical Institutionalism: Contemporary Voices*, Greenwood Press, New York.
- Dunn, S. P. (2000), 'Fundamental Uncertainty and the Firm in the Long Run', *Review of Political Economy* **12**(4), 419–433.

- Dunn, S. P. (2001), 'Bounded Rationality Is Not Fundamental Uncertainty: A Post Keynesian Perspective', *Journal of Post Keynesian Economics* **23**(4), 567–587.
- Durand, C. (2017), *Fictitious Capital. How Finance Is Appropriating Our Future*, Verso, London; New York.
- Eagleton, T. (2000), *Ideologie: Eine Einführung*, Metzler, Stuttgart.
- Eco, U. (1984), *The Name Of The Rose*, Picador, London.
- Erlei, M., Leschke, M. and Sauerland, D. (2016), *Institutionenökonomik*, 3. edn, Schäffer-Poeschel Verlag, Stuttgart.
- Erturk, I. and Solari, S. (2007), 'Banks as Continuous Reinvention', *New Political Economy* **12**(3), 369–388.
- Esfeld, M. (2002), Was besagt semantischer Holismus? Zwei Möglichkeiten der Konzeptualisierung, in G. W. Bertram and J. Liptow, eds, 'Holismus in der Philosophie: Ein zentrales Motiv der Gegenwartsphilosophie', Velbrück Wissenschaft, Weilerswist, pp. 41–58.
- Fama, E. F. (1980), 'Banking in the Theory of Finance', *Journal of Monetary Economics* **6**(1), 39–57.
- Fama, E. F. (1985), 'What's Different About Banks?', *Journal of Monetary Economics* **15**(1), 29–39.
- Farasoo, A. (2024), 'The Question of Epistemic Fallacy in Practical Research: The Case of IR', *Journal of Critical Realism* **23**(2), 121–143.
- Feldman, T. (2020), 'The Big Short Redux and FinTech', *The Journal of Index Investing* **10**(4), 37–48.
- Fender, I. and McGuire, P. (2016), Patterns in International Banking and Their Implications for Prudential Policies, in A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 187–211.

- Fine, B. and Saad-Filho, A. (2016), *Marx's 'Capital'*, 6th edn, Pluto Press, London.
- Fleck, L. (2015), *Entstehung und Entwicklung einer wissenschaftlichen Tatsache: Einführung in die Lehre vom Denkstil und Denkkollektiv*, 10. edn, Suhrkamp, Frankfurt am Main.
- Fleetwood, S. (2000), A Marxist Theory of Commodity Money Revisited, in J. Smithin, ed., 'What Is Money?', Routledge, London & New York, pp. 174–193.
- Fontana, G. (2009), *Money, Uncertainty and Time*, number 50 in 'Routledge International Studies in Money and Banking', Routledge, London & New York.
- Foster, J. B. (2010), 'Konzentration und Zentralisation', *Historisch-Kritisches Wörterbuch des Marxismus* 7/II, 1719–1727.
- Fourie, F. C. v. N. (1991), The Nature of the Market. A Structural Analysis, in G. M. Hodgson and E. Screpanti, eds, 'Rethinking Economics. Markets, Technology and Economic Evolution', Edward Elgar Publishing, Aldershot, Hants, England ; Brookfield, Vermont, USA, pp. 40–57.
- Fourie, F. C. v. N. (1993), In the Beginning There Were Markets, in C. Pitelis, ed., 'Transaction Costs, Markets and Hierarchies', Blackwell, Oxford, UK; Cambridge, Massachusetts, pp. 41–65.
- Freixas, X. (2005), 'Deconstructing Relationship Banking', *Investigaciones económicas* 29(1), 3–31.
- Freixas, X. and Rochet, J.-C. (2008), *Microeconomics of Banking*, 2nd ed edn, MIT Press, Cambridge, Massachusetts.
- Friedman, M. (1953), The Methodology of Positive Economics, in 'Essays in Positive Economics', The University of Chicago Press, Chicago; London, pp. 3–43.

- Friedman, M. (1968), 'The Role of Monetary Policy', *The American Economic Review* **58**(1), 1–17.
- Fullbrook, E. (2016), *Narrative Fixation in Economics*, number Vol. 9 in 'World Economics Association Book Series', College Publications, London.
- Furubotn, E. G. and Richter, R. (2009), *Institutions and Economic Theory: The Contribution of the New Institutional Economics*, 2nd edn, The University of Michigan Press, Ann Arbor, Michigan.
- Gabriel, M. (2012), *Die Erkenntnis Der Welt - Eine Einführung in Die Erkenntnistheorie*, Verlag Karl Alber, Freiburg.
- Gande, A. and Saunders, A. (2012), 'Are Banks Still Special When There Is a Secondary Market for Loans?', *The Journal of Finance* **67**(5), 1649–1684.
- Gärtner, S. and Flögel, F. (2017), 'Zur Bedeutung und Zukunft dezentraler Banken für die KMU-Finanzierung in Deutschland', *ZfKE – Zeitschrift für KMU und Entrepreneurship* **65**(1-2), 41–60.
- Gerstenberger, H. (2017), *Markt Und Gewalt: Die Funktionsweise Des Historischen Kapitalismus*, Westfälisches Dampfboot, Münster.
- Gilbert, R. A. (2007), 'The Future of Small Banks' *Report to the Banking Supervision and Regulation Division Federal Reserve Bank of St. Louis* (2007-02), 1–29.
- Gilbert, R. A., Meyer, A. P. and Fuchs, J. W. (2013), 'The Future of Community Banks: Lessons from Banks That Thrived During the Recent Financial Crisis', *Federal Reserve Bank of St. Louis Review* **95**(2), 115–144.
- Gischer, H. and Jüttner, D. J. (2003), Lessons from a Bank Profitability Study for the Future of Banking, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 229–248.

- Gjino, G. and Ilollari, O. (2014), 'Mobile Banking - Near Future of Banking', *Review of Applied Socio- Economic Research* **7**(1), 43–51.
- Go, E. J., Moon, J. and Kim, J. (2020), 'Analysis of the Current and Future of the Artificial Intelligence in Financial Industry With Big Data Techniques', *Global Business & Finance Review* **25**(1), 102–117.
- Goethe, J. W. v. (1941), *Faust: A Tragedy (Translated by Bayard Taylor, 1808)*, The Macmillan Company, New York.
- Goy, I. (2015), Kritik der reinen Vernunft, in M. Willaschek, J. Stolzenberg, G. Mohr and S. Bacin, eds, 'Kant-Lexikon', De Gruyter, Berlin; Boston, pp. 1323–1340.
- Granovetter, M. (1985), 'Economic Action and Social Structure: The Problem of Embeddedness', *American Journal of Sociology* **91**(3), 481–510.
- Graziani, A. (1989), 'The Theory of the Monetary Circuit' *Thames Papers in Political Economy* (Spring), 1–26.
- Graziani, A. (1997), 'The Marxist Theory of Money', *International Journal of Political Economy* **27**(2), 26–50.
- Graziani, A. (2003), *The Monetary Theory of Production*, Cambridge University Press, Cambridge.
- Greenbaum, S. I., Thakor, A. V. and Boot, A. W. A. (2019), *Contemporary Financial Intermediation*, 4th edn, Academic Press, London.
- Gross, M. and Siebenbrunner, C. (2019), 'Money Creation in Fiat and Digital Currency Systems' *IMF Working Paper*, 1–40.
- Gross, M. and Siebenbrunner, C. (2022), Money Creation and Liquid Funding Needs Are Compatible, in G. Vallet, S. Kappes and L.-P. Rochon, eds, 'Central Banking, Monetary Policy and the Future of Money', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 154–186.

- Gündüz, S. (2020), 'Development and Promotion of Islamic Banking System and Its Role in the Global Banking Sector', *Universidad y Sociedad* **12**(2), 336–340.
- Gup, B. E. (2003a), Creative Destruction, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 1–18.
- Gup, B. E. (2003b), Electronic Banking, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 131–152.
- Gurley, J. G. and Shaw, E. S. (1955), 'Financial Aspects of Economic Development', *The American Economic Review* **45**(4), 515–538.
- Gurley, J. G. and Shaw, E. S. (1956), 'Financial Intermediaries and the Saving-Investment Process', *The Journal of Finance* **11**(2), 257–276.
- Gurley, J. G. and Shaw, E. S. (1960), *Money in a Theory of Finance*, The Brookings Institution, Washington, D.C.
- Guttman, R. (1994), *How Credit-Money Shapes the Economy: The United States in a Global System*, Routledge, London & New York.
- Guttman, R. (1996), 'Die Transformation des Finanzkapitals', *PROKLA. Zeitschrift für kritische Sozialwissenschaft* **26**(103), 165–195.
- Guttman, R. (2016), *Finance-Led Capitalism*, Palgrave Macmillan US, New York.
- Guttman, R. (2018), The Transformation of Banking, in A. Nesvetailova, ed., 'Shadow Banking: Scope, Origins and Theories', Routledge, London & New York, pp. 25–39.
- Hahnel, R. (2007), 'The Case Against Markets', *Journal of Economic Issues* **41**(4), 1139–1159.
- Halaburda, H., Sarvary, M. and Haeringer, G. (2022), *Beyond Bitcoin: Economics of Digital Currencies and Blockchain Technologies*, 2nd edn, Palgrave Macmillan, Cham.

- Hall, M. (1992), 'On the Creation of Money and the Accumulation of Bank-Capital', *Capital & Class* **16**(3), 89–114.
- Hamada, K. (2012), 'Uncertainty and Horizontal Mergers', *Journal of Institutional and Theoretical Economics* **168**(2), 252–265.
- Hands, D. W. (1998), Positivism, in J. B. Davis, D. W. Hands and U. Mäki, eds, 'The Handbook of Economic Methodology', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 374–378.
- Hardie, I. and Howarth, D. (2009), 'Die Krise but not La Crise ? The Financial Crisis and the Transformation of German and French Banking Systems', *JCMS: Journal of Common Market Studies* **47**(5), 1017–1039.
- Harper, I. R. and Chan, T. C. H. (2003), The Future of Banking: A Global Perspective, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 31–48.
- Harvey, D. (1982/2006), *The Limits to Capital*, Verso, London; New York.
- Harvey, D. (2010), *A Companion to Marx's Capital*, Verso, London; New York.
- Hastedt, H. (2023), *Zurück zum Fortschritt: Deutungsmacht und die Wende zum Möglichen*, Meiner, Hamburg.
- Hatami, A., Pejic, I., Lewis, R. and Pedersen, N. (2020), 'What Will the Future of Banking Look Like, Post COVID-19?' *Kogan Page*, 1–20.
- Haugen, R. A. (2002), *The Inefficient Stock Market: What Pays off and Why*, 2nd edn, Prentice Hall, Upper Saddle River, New Jersey.
- Hausman, D. M. (1992), *Essays on Philosophy and Economic Methodology*, Cambridge University Press, Cambridge.
- Hedström, P. and Swedberg, R. (1998), Social Mechanisms: An Introductory Essay, in P. Hedström and R. Swedberg, eds, 'Social Mechanisms. An An-

- alytical Approach to Social Theory', Cambridge University Press, Cambridge, pp. 1–31.
- Hegel, G. W. F. (1985), *Gesammelte Werke, Band 21: Wissenschaft der Logik. Erster Band. Die Lehre vom Sein (1832)*, Meiner, Hamburg.
- Heidegger, M. (1967), *Sein und Zeit*, 11., unveränderte (von 1927) edn, Max Niemeyer Verlag, Tübingen.
- Heilmann, C., Szymanowska, M. and Vergara-Fernández, M. (2024), Financial Economics: What Kind of Science Is It?, in J. Sandberg and L. Wareski, eds, 'The Philosophy of Money and Finance', Oxford University Press, Oxford, pp. 111–128.
- Heinrich, M. (1988), 'Was ist die Werttheorie noch wert?: Zur neueren Debatte um das Transformationsproblem und die Marxsche Werttheorie.', *PROKLA. Zeitschrift für kritische Sozialwissenschaft* **18**(72), 15–38.
- Heinrich, M. (2001), 'Monetäre Werttheorie. Geld und Krise bei Marx', *PROKLA. Zeitschrift für kritische Sozialwissenschaft* **31**(123), 151–176.
- Helleiner, E. (1994), *States and the Reemergence of Global Finance: From Bretton Woods to the 1990s*, Cornell University Press, Ithaca, New York.
- Hicks, J. (1967), *Critical Essays in Monetary Theory*, Clarendon Press, Oxford.
- Hine, S. and Phillips, R. J. (2003), The New Institutional Structure of Banking: A Framework for Survival in the Digital Age, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 153–172.
- Hintz, B. and Smith, R. C. (2017), 'The Troubled Future of Global Banking' *The Capco Institute Journal of Financial Transformation* (No. 45), 164–176.

- Hodgson, G. M. (1988), *Economics and Institutions: A Manifesto for a Modern Institutional Economics*, Polity Press; B. Blackwell, Cambridge, UK; Oxford, UK.
- Hodgson, G. M. (1991), 'Economic Evolution: Intervention Contra Pangloss', *Journal of Economic Issues* **25**(2), 519–533.
- Hodgson, G. M. (1993), Transaction Costs and the Evolution of the Firm, in C. Pitelis, ed., 'Transaction Costs, Markets and Hierarchies', Blackwell, Oxford, UK; Cambridge, Massachusetts, pp. 77–100.
- Hodgson, G. M. (1994), Institutionalism, 'Old' and 'New', in G. M. Hodgson, W. Samuels and M. Tool, eds, 'The Elgar Companion to Institutional and Evolutionary Economics, Vol. 1', Edward Elgar Publishing, Aldershot, Hants, England; Brookfield, Vermont, USA, pp. 397–402.
- Hodgson, G. M. (1996), Corporate Culture and the Nature of the Firm, in J. Groenewegen, ed., 'Transaction Cost Economics and Beyond', Kluwer Academic Publishers, Boston; Dordrecht; London, pp. 249–270.
- Hodgson, G. M. (1999a), *Evolution and Institutions: On Evolutionary Economics and the Evolution of Economics*, Edward Elgar Publishing, Cheltenham, UK; Northampton, MA, USA.
- Hodgson, G. M. (1999b), Institutions and Habits, in P. A. O'Hara, ed., 'Encyclopedia of Political Economy. Vol. 1: A-K', Routledge, London & New York, pp. 535–538.
- Hodgson, G. M. (2000), From Micro to Macro: The Concept of Emergence and the Role of Institutions, in L. Burlamaqui, A. C. Castro and H.-J. Chang, eds, 'Institutions and the Role of the State', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 103–126.
- Hübenbecker, U. (2020), Wechselwirkungen zwischen orthodoxer Wirtschaftswissenschaft und Neoliberalismus. Die Epistemologie der

- orthodoxen Wirtschaftswissenschaft als Grundlage für den Neoliberalismus, in 'Ökonomie in der Krise. Analyse - Kritik - Umgestaltung', number 31 in 'Ökonomie und Gesellschaft', Metropolis Verlag, Marburg, pp. 149–171.
- Hübenbecker, U. (2024), 'Is Nobody Interested in the Future of Banks? A Scoping Literature Review on the State of the Debate', *Management Review Quarterly* **74**(3), 1283–1326.
- Hübenbecker, U. and Homölle, S. (2025), 'How Thinking about Markets and Institutions Influences Thinking about the Future of Banks' *Credit and Capital Markets – Kredit und Kapital*, 1–32.
- Huertas, T. F. (2016), Global Banks: Good or Good-Bye?, in A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 67–75.
- Huertas, T. F. (2018), 'Are Banks Still Special?', *The Journal of Financial Perspectives* **5**(1), 1–15.
- Hutchison, T. W. (1984), 'Institutionalist Economics Old and New', *Zeitschrift für die gesamte Staatswissenschaft / Journal of Institutional and Theoretical Economics* **140**(1), 20–29.
- Iber, C. (2005), *Grundzüge der Marx'schen Kapitalismustheorie*, Parerga, Berlin.
- Ilie, O.-M. and Iacob, S. E. (2018), 'The Impact Of Digital Technology On The Banking Organization', *The Journal Contemporary Economy. Revista Economica Contemporană* **3**(2), 80–83.
- Ilie, O.-M., Popescu, C. and Iacob, S. E. (2017), Transforming the Banking Organization in the Context of Digital Economy, in '18th Edition of the Conference "Risk in Contemporary Economy" RCE2017, June 9-10, 2017, Galati, Romania', pp. 284–292.

- Ingham, G. K. (2004), *The Nature of Money*, Polity, Cambridge, UK; Malden, MA, USA.
- Ingrao, B. and Sardoni, C. (2019), *Banks and Finance in Modern Macroeconomics: A Historical Perspective*, Edward Elgar, Cheltenham, UK; Northampton, MA, USA.
- Itoh, M. and Lapavistas, C. (1999), *Political Economy of Money and Finance*, Macmillan Press, Houndmills.
- Ivanova, M. N. (2013), 'The Dollar as World Money', *Science & Society* **77**(1), 44–71.
- Ivanova, M. N. (2020), 'Marx's Theory of Money: A Reappraisal in the Light of Unconventional Monetary Policy', *Review of Radical Political Economics* **52**(1), 137–151.
- Jaeschke, W. and Arndt, A. (2012), *Die Klassische Deutsche Philosophie nach Kant: Systeme der reinen Vernunft und ihre Kritik, 1785-1845*, Beck, München.
- Jagtiani, J. and Lemieux, C. (2016), 'Small Business Lending After the Financial Crisis: A New Competitive Landscape for Community Banks', *Federal Reserve Bank of Chicago. Economic Perspectives* **40**(3), 1–30.
- Jakab, Z. and Kumhof, M. (2015), 'Banks are Not Intermediaries of Loanable Funds And Why this Matters' *Bank of England Working Paper* (No. 529), 3–57.
- Jakab, Z. and Kumhof, M. (2019), 'Banks are Not Intermediaries of Loanable Funds — Facts, Theory and Evidence' *Bank of England Staff Working Paper* (No. 761), 1–44.
- Jennings, A. (1999), Instincts, in P. A. O'Hara, ed., 'Encyclopedia of Political Economy. Vol. 1: A-K', Routledge, London & New York, pp. 518–520.

- Jensen, M. C. and Meckling, W. H. (1976), 'Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure', *Journal of Financial Economics* **3**(4), 305–360.
- Jevons, W. S. (1875), *Money and the Mechanism of Exchange*, D. Appleton and Company, New York.
- Julmi, C. (2020), '„Nun sag, wie hast du's mit den Geisteswissenschaften? Ein Review wissenschaftstheoretischer Grundlagen deutschsprachiger Lehrbücher der Allgemeinen Betriebswirtschaftslehre', *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung* **72**(1), 95–120.
- Kaja, F., Martino, E. D. and Paccas, A. M. (2021), Fintech and the Law and Economics of Disintermediation, in I. H.-Y. Chiu and G. Deipenbrock, eds, 'Routledge Handbook of Financial Technology and Law', Routledge, London & New York, pp. 78–95.
- Kaldor, N. (1970), 'The New Monetarism', *Lloyds Bank Review* **97**(1), 1–18.
- Kamath, K. V., Kohli, S. S., Shenoy, P. S., Kumar, R., Nayak, R. M., Kuppuswamy, P. T. and Ravichandran, N. (2003), 'Indian Banking Sector: Challenges and Opportunities', *Vikalpa* **28**(3), 83–100.
- Kastrop, C. (1993), *Rationale Ökonomik? Überlegungen zu den Kriterien der ökonomischen Theoriendynamik*, Duncker & Humblot, Berlin.
- Keynes, J. M. (1978), *The Collected Writings of John Maynard Keynes: Volume 7: The General Theory of Employment, Interest and Money*, Cambridge University Press for the Royal Economic Society, Cambridge.
- Kincaid, J. (2022), Money and Finance, in B. Skeggs, S. R. Farris, A. Toscano and S. Bromberg, eds, 'The SAGE Handbook of Marxism', SAGE Publications, Los Angeles; London; New Delhi; Singapore; Washington DC; Melbourne, pp. 102–117.

- Kindleberger, C. P. (1983), 'International Banks as Leaders or Followers of International Business: An Historical Perspective', *Journal of Banking & Finance* 7(4), 583–595.
- King, B. (2014), *Breaking Banks: The Innovators, Rogues, and Strategists Rebooting Banking*, Wiley, Hoboken.
- King, B. (2019), *Bank 4.0: Banking Everywhere, Never at a Bank*, Wiley, Chichester, West Sussex, UK.
- Klein, M. A. (1971), 'A Theory of the Banking Firm', *Journal of Money, Credit and Banking* 3(2), 205–218.
- Klose, D. (2004), 'From the Mountains to the Prairies: The Banking Environment in the Tenth Federal Reserve District' *Federal Reserve Bank of Kansas City. Financial Industry Perspectives* (Q4), 1–11.
- Koch, A. F. (2014), *Die Evolution des logischen Raumes: Aufsätze zu Hegels Nichtstandard-Metaphysik*, Mohr Siebeck, Tübingen.
- Koch, A. F. (2018), Das Sein. Erster Abschnitt. Die Qualität, in M. Quante, ed., 'Kommentar Zu Hegels Wissenschaft Der Logik', Felix Meiner, Hamburg, pp. 43–144.
- Kodres, L. and Narain, A. (2010), 'Redesigning the Contours of the Future Financial System' *IMF Staff Position Notes*, 2010 (No. 10), 1–18.
- Kolozsi, P. P., Lehmann, K. and Szalai, Z. (2022), Is CBDC Strengthening the Monetary Transmission Mechanism?, in G. Vallet, S. Kappes and L.-P. Rochon, eds, 'Central Banking, Monetary Policy and the Future of Money', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 94–119.
- Kotz, D. M. (1991), 'Accumulation, Money, and Credit in the Circuit of Capital', *Rethinking Marxism* 4(2), 119–133.
- Krätke, M. (1995), 'Bank', *Historisch-Kritisches Wörterbuch des Marxismus* 2, 1–22.

- Krätke, M. R. (2000), 'Geld, Kredit, und verrückte Formen' *MEGA-Studien* (2000/1), 64–99.
- Kroszner, R. S. (2015), 'The Future of Banks: Will Commercial Banks remain central to the Financial System?' *Working Paper*, 1–29.
- Kysucky, V. and Norden, L. (2016), 'The Benefits of Relationship Lending in a Cross-Country Context: A Meta-Analysis', *Management Science* **62**(1), 90–110.
- Lamberti, H.-J. and Büger, M. (2009), 'Lessons Learned: 50 Years of Information Technology in the Banking Industry – The Example of Deutsche Bank AG', *Business & Information Systems Engineering* **1**(1), 26–36.
- Lange, O. (1942), Say's Law: A Restatement and Criticism, in O. Lange, F. McIntyre and T. O. Yntema, eds, 'Studies In Mathematical Economics And Econometrics. In Memory of Henry Schultz', The University of Chicago Press, Chicago, pp. 49–68.
- Langlois, R. N. (1984), Internal Organization in a Dynamic Context: Some Theoretical Considerations, in M. Jussawalla and H. Ebenfield, eds, 'Communication and Information Economics: New Perspectives', North Holland, Amsterdam; New York; Oxford, pp. 23–49.
- Lapavitsas, C. (1991), 'The Theory of Credit Money: A Structural Analysis', *Science & Society* **55**(3), 291–322.
- Lapavitsas, C. (1994), 'The Banking School and the monetary thought of Karl Marx', *Cambridge Journal of Economics* **18**(5), 447–461.
- Lapavitsas, C. (2003a), Money as Money and Money as Capital in a Capitalist Economy, in A. Saad-Filho, ed., 'Anti-Capitalism: A Marxist Introduction', Pluto Press, London; Sterling, Virginia, pp. 59–72.
- Lapavitsas, C. (2003b), 'Money As 'Universal Equivalent' And Its Origin In Commodity Exchange' *Working Paper*, 1–23.

- Lapavitsas, C. (2003c), *Social Foundations of Markets, Money and Credit*, Routledge, London & New York.
- Lapavitsas, C. (2006), 'Relations of Power and Trust in Contemporary Finance', *Historical Materialism* **14**(1), 129–154.
- Lapavitsas, C. (2007), 'Information and Trust as Social Aspects of Credit', *Economy and Society* **36**(3), 416–436.
- Lapavitsas, C. (2011), 'Theorizing Financialization', *Work, Employment and Society* **25**(4), 611–626.
- Lapavitsas, C. (2013), *Profiting Without Producing. How Finance Exploits Us All*, Verso, London; New York.
- Lapavitsas, C. (2017), *Marxist Monetary Theory: Collected Papers*, Brill, Leiden; Boston.
- Lapavitsas, C. and Aguila, N. (2020), 'Modern Monetary Theory on Money, Sovereignty, and Policy', *The Japanese Political Economy* **46**(4), 300–326.
- Lapavitsas, C. and dos Santos, P. (2008), 'Globalization and Contemporary Banking: On the Impact of New Technology', *Contributions to Political Economy* **27**(1), 31–56.
- Lapavitsas, C. and Saad-Filho, A. (2000), 'The Supply of Credit Money and Capital Accumulation: A Critical View of Post-keynesian Analysis', *Value, Capitalist Dynamics and Money* **18**, 309–334.
- Lavoie, M. (2006), Endogenous Money: Accommodationist, in P. Arestis and M. Sawyer, eds, 'A Handbook of Alternative Monetary Economics', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 17–34.
- Lavoie, M. and Seccareccia, M. (2016), Money and Banking, in L.-P. Rochon and S. Rossi, eds, 'An Introduction to Macroeconomics: A Heterodox Approach to Economic Analysis', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 97–115.

- Lawson, T. (1997), *Economics and Reality*, Routledge, London & New York.
- Lawson, T. (2003), *Reorienting Economics*, Routledge, London & New York.
- Lawson, T. (2005), 'The Nature of Institutional Economics', *Evolutionary and Institutional Economics Review* **2**(1), 7–20.
- Lee, F. S. and Keen, S. (2004), 'The Incoherent Emperor: A Heterodox Critique of Neoclassical Microeconomic Theory', *Review of Social Economy* **62**(2), 169–199.
- Leland, H. E. and Pyle, D. H. (1977), 'Informational Asymmetries, Financial Structure, and Financial Intermediation', *The Journal of Finance* **32**(2), 371–387.
- Lenz, R. (2015), 'Banking 2025 - Die Bank der Zukunft', *Betriebswirtschaftliche Forschung und Praxis* **67**(5), 509–529.
- Loncar, D. and Rajic, V. (2012), 'Concentration and Competitiveness of the Banking Market in Serbia: Current Situation and Possible Future Changes Under the Influence of Market Consolidation', *Ekonomika preduzeća* **60**(7-8), 372–385.
- Lukes, S. (1974), *Power: A Radical View*, Macmillan Education UK, London.
- Lumpkin, S. and Schich, S. (2020), 'Banks, Digital Banking Initiatives and the Financial Safety Net: Theory and Analytical Framework', *Journal of Economic Science Research* **3**(1), 24–46.
- Lux, M. and Greene, R. (2015), 'The State and Fate of Community Banking' *M-RCBG Associate Working Paper Series* (No. 37), 1–31.
- Lysandrou, P. and Nesvetailova, A. (2015), 'The Role of Shadow Banking Entities in the Financial Crisis: A Disaggregated View', *Review of International Political Economy* **22**(2), 257–279.
- MacKenzie, D. A. (2006), *An Engine, Not a Camera: How Financial Models Shape Markets*, Inside Technology, MIT Press, Cambridge, Massachusetts.

- Maclean, M. (1988), *Narrative as Performance: The Baudelairean Experiment*, Routledge, London & New York.
- Mäki, U. (2009), Realistic Realism About Unrealistic Models, in H. Kincaid and D. Ross, eds, 'The Oxford Handbook of Philosophy of Economics', Oxford University Press, Oxford; New York, pp. 68–98.
- Marchetti, J. A. (2016), The International Banking Landscape: Developments, Drivers, and Potential Implications, in A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 97–111.
- Marx, K. (1962), *Werke. Band 23: Das Kapital, Band 1*, Dietz Verlag, Berlin.
- Marx, K. (1976), *Capital. A Critique of Political Economy, Volume 1*, Penguin Classics, Penguin books, London.
- Marx, K. (1981), *Capital. A Critique of Political Economy, Volume 3*, Penguin Classics, Penguin books, London.
- Marx, K. and Engels, F. (1990), *Werke. Band 13: Januar 1859 Bis Februar 1960*, 11. edn, Dietz Verlag, Berlin.
- Matthews, K. and Thompson, J. L. (2008), *The Economics of Banking*, 2nd edn, Wiley, Chichester, West Sussex, England.
- McCloskey, D. N. (1998), *The Rhetoric of Economics*, Rhetoric of the Human Sciences, 2nd edn, The University of Wisconsin Press, Madison, Wisconsin.
- McMillan, J. (2014), *The End of Banking: Money, Credit, and the Digital Revolution*, Zero/One Economics GmbH, Zurich.
- Menger, K. (1892), 'On the Origin of Money', *The Economic Journal* 2(6), 239–255.

- Menger, K. (1936), *The Collected Works of Carl Menger, Volume IV: Schriften Über Geldtheorie Und Währungspolitik*, The London School of Economics and Political Science, London.
- Meramveliotakis, G. and Milonakis, D. (2010), 'Surveying the Transaction Cost Foundations of New Institutional Economics: A Critical Inquiry', *Journal of Economic Issues* **44**(4), 1045–1072.
- Milios, J. (2018), *The Origins of Capitalism as a Social System. The Prevalence of an Aleatory Encounter*, Routledge, London & New York.
- Minois, G. (1998), *Geschichte der Zukunft: Orakel, Prophezeiungen, Utopien, Prognosen*, Artemis & Winkler, Düsseldorf.
- Minsky, H. P. (2008), *Stabilizing an Unstable Economy*, McGraw-Hill, New York.
- Miralles-Quirós, M. d. M., Miralles-Quirós, J. L. and Daza-Izquierdo, J. (2017), 'Gibrat's Law Test on Brazilian Commercial Banks', *Contaduría y Administración* **62**(5), 1657–1669.
- Mirowski, P. (1981), 'The Rise (and Retreat) of a Market: English Joint Stock Shares in the Eighteenth Century', *The Journal of Economic History* **41**(3), 559–577.
- Mirowski, P. (1984), 'Physics and the 'Marginalist Revolution'', *Cambridge Journal of Economics* **8**(4), 361–379.
- Mirowski, P. (1989), *More Heat Than Light: Economics as Social Physics, Physics as Nature's Economics*, Historical Perspectives on Modern Economics, Cambridge University Press, Cambridge.
- Mirowski, P. (2007), 'Markets Come to Bits: Evolution, Computation and Markomata in Economic Science', *Journal of Economic Behavior & Organization* **63**(2), 209–242.

- Mishkin, F. S. (2019), *The Economics of Money, Banking and Financial Markets*, 12th edn, Pearson, New York.
- Miyata, K. (2016), Karl Marx's Credit Theory. The Relation between the Accumulation of Monied Capital and the Accumulation of Real Capital, in 'Marx-Engels-Jahrbuch 2015/16', De Gruyter; Akademie Forschung, Berlin; Boston, pp. 10–27.
- Mollo, M. d. L. (1999), 'The Endogeneity of Money. Post-Keynesian and Marxian Concepts Compared', *Research in Political Economy* **17**, 3–26.
- Monvoisin, V. (2013), 'What's the use of banks, especially after the crisis?', *Review of Keynesian Economics* **1**(2), 195–209.
- Monvoisin, V. (2017), Rethinking the Role of Banks, in L.-P. Rochon and S. Rossi, eds, 'A Modern Guide to Rethinking Economics', New Directions in Post-Keynesian Economics, Edward Elgar Publishing, Cheltenham, UK; Northampton, MA, USA, pp. 182–198.
- Moosa, I. A. and Moosa, N. (2019), *Eliminating the IMF: An Analysis of the Debate to Keep, Reform or Abolish the Fund*, Springer International Publishing, Cham.
- Moschandreas, M. (1997), 'The Role of Opportunism in Transaction Cost Economics', *Journal of Economic Issues* **31**(1), 39–58.
- Moser, F. (2015), 'Mobile Banking: A Fashionable Concept or an Institutionalized Channel in Future Retail Banking? Analyzing Patterns in the Practical and Academic Mobile Banking Literature', *International Journal of Bank Marketing* **33**(2), 162–177.
- Moshirian, F. (2012), 'The Future and Dynamics of Global Systemically Important Banks', *Journal of Banking & Finance* **36**(10), 2675–2679.
- Myers, F. (2001), 'Management and Staffing Challenges' *Federal Reserve Bank of Kansas City. Financial Industry Perspectives*, 13–21.

- Myers, F. and Robbins, E. (2004), 'The 2004 Survey of Community Banks in the Tenth District' *Federal Reserve Bank of Kansas City. Financial Industry Perspectives* (Q4), 13–24.
- Myers, F. and Sullivan, R. J. (2001), 'The 2001 Survey of Commercial Banks in the Tenth Federal Reserve District: Changes and Challenges' *Federal Reserve Bank of Kansas City. Financial Industry Perspectives* , 1–12.
- Nersisyan, Y. and Wray, L. R. (2010), 'The Global Financial Crisis and the Shift to Shadow Banking', *Intervention* 7(2), 377–400.
- Neuberger, D. (2019), Kann Karl Marx die Finanzkrise 2007/2008 erklären? Eine Einordnung der Marxistischen Geld-und Kredittheorie, in U. Kern and D. Neuberger, eds, 'Karl Marx: Aspekte seines Wirkens', Springer Gabler, Wiesbaden, pp. 109–138.
- Nicoletti, B. (2021), *Banking 5.0: How Fintech Will Change Traditional Banks in the 'New Normal' Post Pandemic*, Palgrave Studies in Financial Services Technology, Springer International Publishing, Cham.
- Nitzan, J. and Bichler, S. (2009), *Capital as Power: A Study of Order and Creorder*, Routledge, London & New York.
- Noorderhaven, N. G. (1996), Opportunism and Trust in Transaction Cost Economics, in J. Groenewegen, ed., 'Transaction Cost Economics and Beyond', Kluwer Academic Publishers, Boston; Dodrecht; London, pp. 105–128.
- North, D. C. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, Cambridge.
- North, D. C. and Thomas, R. P. (1973), *The Rise of the Western World: A New Economic History*, Cambridge University Press, Cambridge.
- Novarese, M. and Zimmermann, C. (2008), 'Heterodox Economics and Dissemination of Research Through the Internet: The Experience of RePEc and NEP', *On the Horizon* 16(4), 198–204.

- Nutzinger, H. G. (1982), The Economics of Property Rights - A New Paradigm in Social Science?, in W. Stegmüller, W. Balzer and W. Spohn, eds, 'Philosophy of Economics', Springer-Verlag, Berlin; Heidelberg; New York, pp. 169–190.
- Omarini, A. (2018a), 'The Retail Bank of Tomorrow: A Platform for Interactions and Financial Services. Conceptual and Managerial Challenges', *Research in Economics and Management* 3(2), 110–133.
- Omarini, A. E. (2018b), 'Banks and Fintechs: How to Develop a Digital Open Banking Approach for the Bank's Future', *International Business Research* 11(9), 23–36.
- Omarini, A. E. (2018c), 'Fintech and the Future of the Payment Landscape: The Mobile Wallet Ecosystem - A Challenge for Retail Banks?', *International Journal of Financial Research* 9(4), 97–116.
- O'Neill, O. (1996), *Towards Justice and Virtue. A Constructive Account of Practical Reasoning*, Cambridge University Press, Cambridge.
- Orhangazi, Ö. (2011), "Financial" vs. "Real": An Overview of the Contradictory Role of Finance, in P. Zarembka and R. Desai, eds, 'Revitalizing Marxist Theory for Today's Capitalism', Emerald Group Publishing Limited, pp. 121–148.
- Ostroy, J. M. and Starr, R. M. (1990), The Transactions Role of Money, in B. M. Friedman and F. H. Hahn, eds, 'Handbook of Monetary Economics', Vol. 1, Elsevier, pp. 3–62.
- Otani, T. (2018), *A Guide to Marxian Political Economy*, Springer International Publishing, Cham.
- Othman, A. H. A., Alhabshi, S. M., Haron, R. and Noor, A. B. M. (2019), 'The Future of the Banking System under the Dominance and Development of the Cryptocurrency Industry: Empirical Evidence from Cointegration Analysis', *The Journal of Wealth Management* 22(2), 109–127.

- Ötsch, W. O. (1991), ‘Gibt es eine Grundlagenkrise der neoklassischen Theorie?’, *Jahrbücher für Nationalökonomie und Statistik* **208**(6), 642–656.
- Ötsch, W. O. (2019), *Mythos Markt. Mythos Neoklassik: Das Elend des Marktfundamentalismus*, Metropolis Verlag, Marburg.
- Palermo, G. (2000), ‘Economic Power and the Firm in New Institutional Economics: Two Conflicting Problems’, *Journal of Economic Issues* **34**(3), 573–601.
- Palermo, G. (2007a), ‘Misconceptions of Power: From Alchian and Demsetz to Bowles and Gintis’, *Capital & Class* **31**(2), 147–185.
- Palermo, G. (2007b), ‘The Ontology of Economic Power in Capitalism: Mainstream Economics and Marx’, *Cambridge Journal of Economics* **31**(4), 539–561.
- Palermo, G. (2019), ‘Power: A Marxist View’, *Cambridge Journal of Economics* **43**(5), 1353–1375.
- Palley, T. I. (1996), *Post Keynesian Economics: Debt, Distribution and the Macro Economy*, Macmillan Press; St. Martin’s Press, Houndmills, Basingstoke, Hampshire; New York.
- Panzarino, H. and Hatami, A. (2020), *Reinventing Banking and Finance: Frameworks to Navigate Global Fintech Innovation*, Kogan Page Inc, New York.
- Paré, G., Trudel, M.-C., Jaana, M. and Kitsiou, S. (2015), ‘Synthesizing Information Systems Knowledge: A Typology of Literature Reviews’, *Information & Management* **52**(2), 183–199.
- Patnaik, P. (2009), *The Value of Money*, Columbia University Press, New York.

- Perelman, M. (1999), *The Natural Instability of Markets: Expectations, Increasing Returns, and the Collapse of Capitalism*, St. Martin's Press, New York.
- Petrakis, P. E. (2020), *Theoretical Approaches to Economic Growth and Development: An Interdisciplinary Perspective*, Springer International Publishing, Cham.
- Pitelis, C. N. (1998), 'Transaction Costs and the Historical Evolution of the Capitalist Firm', *Journal of Economic Issues* **32**(4), 999–1017.
- Pluder, V. (2013), *Die Vermittlung von Idealismus und Realismus in der Klassischen Deutschen Philosophie: Eine Studie zu Jacobi, Kant, Fichte, Schelling und Hegel*, Frommann-Holzboog, Stuttgart-Bad Cannstatt.
- Pointner, W. and Raunig, B. (2018), 'A Primer on Peer-To-Peer Lending: Immediate Financial Intermediation in Practice' *Monetary Policy & the Economy* (Q3), 36–51.
- Poitras, G. (2018), 'The Pre-history of Econophysics and the History of Economics: Boltzmann Versus the Marginalists', *Physica A: Statistical Mechanics and its Applications* **507**, 89–98.
- Polanyi, M. (1966), *The Tacit Dimension*, Routledge, London.
- Pozsar, Z., Adrian, T., Ashcraft, A. and Boesky, H. (2012), 'Shadow Banking' *Federal Reserve Bank of New York Staff Report* (No. 458).
- Preda, A. (2009), *Information, Knowledge, and Economic Life: An Introduction to the Sociology of Markets*, Oxford University Press, Oxford; New York.
- Prodanova, J., San-Martín, S. and Jiménez, N. (2015), 'The Present and the Future of M-Banking According to Spanish Bank Customers' *Universia Business Review* (46), 94–117.

- Puschmann, T. (2017), Banking Without Banks: Will Technology Transform Financial Intermediation?, in '44th Economics Conference 2017 of the OeNB in Cooperation with SUERF', pp. 27–32.
- Rahman, A. and Abedin, M. J. (2021), 'The Fourth Industrial Revolution and Private Commercial Banks: The Good, Bad and Ugly', *International Journal of Organizational Analysis* **29**(5), 1287–1301.
- Raja Rao, M. V. L. N., Sumallika, T., Raju, P. V. M. and Alekya, V. (2019), 'IoT Enabled Smart Banking System – A Technological Revolution', *International Journal of Recent Technology and Engineering* **8**(2), 4313–4318.
- Rapaczynski, A. (1996), 'The Roles of the State and the Market in Establishing Property Rights', *Journal of Economic Perspectives* **10**(2), 87–103.
- Realfonzo, R. (1998), *Money and Banking: Theory and Debate (1900-1940)*, Edward Elgar, Cheltenham, UK; Northampton, MA, USA.
- Reuter, N. (1996), *Der Institutionalismus: Geschichte und Theorie der evolutionären Ökonomie*, 2. edn, Metropolis Verlag, Marburg.
- Ricciardi, J. M. (2019), Marx on Financial Intermediation: The Promise of Money as Command Over Future Labor, in M. Silver, ed., 'Confronting Capitalism in the 21st Century. Lessons from Marx's Capital', Palgrave Macmillan, Cham, pp. 179–190.
- Rochon, L.-P. and Rossi, S. (2017), *Horizontalism and Structuralism: A Suggested Reinterpretation*, Edward Elgar Publishing, Cheltenham, UK; Northampton, MA, USA, pp. 379–397.
- Rochon, L.-P. and Rossi, S. (2018), Teaching Money and Banking With Regard to the History of Economic Thought, in D. Tavasci and L. Ventimiglia, eds, 'Teaching the History of Economic Thought', Edward Elgar, Cheltenham, UK; Northampton, MA, USA, pp. 91–107.

- Runde, J. (1997), Abstraction, Idealization and Economic Theory, in P. Arestis, M. C. Sawyer and G. Palma, eds, 'Markets, Unemployment and Economic Policy: Essays in Honour of Geoff Harcourt, Volume Two', Routledge, London & New York, pp. 16–29.
- Rutherford, M. (1989), 'What Is Wrong With the New Institutional Economics (And What Is Still Wrong With the Old)?', *Review of Political Economy* 1(3), 299–318.
- Rutherford, M. (1994), *Institutions in Economics: The Old and the New Institutionalism*, Cambridge University Press, Cambridge.
- Ryan-Collins, J., Greenham, T., Werner, R. and Jackson, A. (2012), *Where Does Money Come From? A Guide to the UK Monetary and Banking System*, 2nd edn, New Economics Foundation, London.
- Samuelson, P. A. (1948), *Economics*, McGraw-Hill, New York.
- Sandner, P., Gross, J., Grale, L. and Schulden, P. (2020), 'The Digital Programmable Euro, Libra and CBDC: Implications for European Banks' *Working Paper*, 1–32.
- Sargu, A. C. and Roman, A. (2010), The Role And The Implications Of Retail Payment Innovations For The European Banking System, in 'Financial and Monetary Stability in Emerging Countries (11th International Conference)', pp. 682–689.
- Saunders, A. (2020), 'Big Banks, Low Margins: What Is The Future Of Banking?', *Journal of Financial Management, Markets and Institutions* 8(1), 2075001.1–2075001.5.
- Sawyer, M. (2013), 'What Is Financialization?', *International Journal of Political Economy* 42(4), 5–18.
- Sawyer, M. C. (1989), *The Challenge of Radical Political Economy: An Introduction to the Alternatives to Neo-Classical Economics*, Harvester Wheatsheaf, New York.

- Sayer, R. A. (1992), *Method in Social Science: A Realist Approach*, 2nd edition edn, Routledge, London & New York.
- Sayer, R. A. (2000), *Realism and Social Science*, Sage, London, UK; Thousand Oaks, California, USA.
- Schneider, D. (2001), *Betriebswirtschaftslehre. Band 4: Geschichte und Methoden der Wirtschaftswissenschaft*, Oldenbourg, München; Wien.
- Scholtens, B. and van Wensveen, D. (2000), 'A Critique on the Theory of Financial Intermediation', *Journal of Banking & Finance* **24**(8), 1243–1251.
- Scholtens, B. and van Wensveen, D. (2003), 'The Theory of Financial Intermediation: An Essay on What It Does (Not) Explain' *SUERF Studies* (No. 2003/1).
- Schubert, A. (2012), *Die Praxis des Wissens: Können als Quelle der Erkenntnis*, Ontos Verlag, Frankfurt am Main.
- Schurz, G. (2014), *Einführung in die Wissenschaftstheorie*, 4. edn, WBG, Darmstadt.
- Schurz, G., ed. (1988), *Erklären und Verstehen in der Wissenschaft*, Scientia Nova, Oldenbourg, München.
- Scornavacca, E. and Hoehle, H. (2007), 'Mobile Banking in Germany: A Strategic Perspective', *International Journal of Electronic Finance* **1**(3), 304–320.
- Sealey, Jr., C. W. and Lindley, J. T. (1977), 'Inputs, Outputs, and a Theory of Production and Cost at Depository Financial Institutions', *The Journal of Finance* **32**(4), 1251–1266.
- Sedaghatparast, E. (2019), 'A Meta-Synthesis Approach to Specify Components of Future Banking', *Foresight* **21**(4), 482–496.

- Seelig, S. A. (2003), The Future of Banking in Developed and Less Developed Countries, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 19–30.
- Selmier, W. T. (2018), 'Why Chinese Bank Internationalisation Is Gradual - An Historical Institutional Perspective', *Transnational Corporations Review* **10**(4), 318–332.
- Shaikh, A. (1991), Centralization and Concentration of Capital, in T. Bottomore, ed., 'A Dictionary of Marxist Thought', 2nd edn, Blackwell Reference, Oxford, UK; Cambridge, Massachusetts, pp. 76–77.
- Shaikh, A. (2016), *Capitalism: Competition, Conflict, Crises*, Oxford University Press, Oxford; New York.
- Shanmugam, B. and Nair, M. (2004), 'Mergers and Acquisitions of Banks in Malaysia', *Managerial Finance* **30**(4), 1–18.
- Shiller, R. J. (2019), *Narrative Economics: How Stories Go Viral and Drive Major Economic Events*, Princeton University Press, Princeton.
- Shull, B. (2003), Financial Modernization Under the Gramm-Leach-Bliley Act: Back to the Future, in B. E. Gup, ed., 'The Future of Banking', Quorum Books, Westport, Connecticut; London, pp. 77–100.
- Simon, H. A. (1972), Theories of Bounded Rationality, in C. B. McGuire and R. Radner, eds, 'Decision and Organization: A Volume in Honor of Jacob Marschak', North-Holland, Amsterdam, pp. 161–176.
- Simon, H. A. (1976), From Substantive to Procedural Rationality, in S. J. Latsis, ed., 'Method and Appraisal in Economics', Cambridge University Press, Cambridge; New York, pp. 65–86.
- Smaghi, L. B. (2018), 'What Future for the European Banking System?', *Vierteljahrshefte zur Wirtschaftsforschung* **87**(4), 141–151.

- Smithin, J. (2013), *Essays in the Fundamental Theory of Monetary Economics and Macroeconomics*, World Scientific, New Jersey.
- Solow, R. M. (1956), 'A Contribution to the Theory of Economic Growth', *Quarterly Journal of Economics* **70**(1), 65–94.
- Somers, M. R. (1998), 'Symposium on Historical Sociology and Rational Choice Theory "We're No Angels": Realism, Rational Choice, and Relationality in Social Science', *American Journal of Sociology* **104**(3), 722–784.
- Stekeler-Weithofer, P. (2005), *Philosophie des Selbstbewusstseins: Hegels System als Formanalyse von Wissen und Autonomie*, Suhrkamp, Frankfurt am Main.
- Stekeler-Weithofer, P. (2008a), Formal Truth and Objective Reference in an Inferentialist Setting, in P. Stekeler-Weithofer, ed., 'The Pragmatics of Making It Explicit', John Benjamins, Amsterdam; Philadelphia, pp. 7–34.
- Stekeler-Weithofer, P. (2008b), *Formen der Anschauung: Eine Philosophie der Mathematik*, Walter de Gruyter, Berlin.
- Stekeler-Weithofer, P. (2014), *Hegels Phänomenologie des Geistes. Ein dialogischer Kommentar, Band 1*, Meiner, Hamburg.
- Stekeler-Weithofer, P. (2020), *Hegels Wissenschaft der Logik. Ein dialogischer Kommentar, Band 1*, Meiner, Hamburg.
- Stekeler-Weithofer, P. (2022), *Das Wissen der Person: Eine Topographie des menschlichen Geistes*, Meiner, Hamburg.
- Stockhammer, E. (2004), 'Financialisation and the Slowdown of Accumulation', *Cambridge Journal of Economics* **28**(5), 719–741.
- Stulz, R. M. (2019), 'FinTech, BigTech, and the Future of Banks', *Journal of Applied Corporate Finance* **31**(4), 86–97.

- Stützle, I. (2021), 'Money makes the World go green? Eine Kritik der Modern Monetary Theory als geldtheoretisches Konzept', *PROKLA. Zeitschrift für kritische Sozialwissenschaft* **51**(202), 71–94.
- Swagel, P. (2016), The Last Crisis, the Next Crisis, and the Future of Large Banks, in A. Demirgüç-Kunt, D. D. Evanoff and G. G. Kaufman, eds, 'The Future of Large, Internationally Active Banks', World Scientific, pp. 461–472.
- Swedberg, R. (2003), *Principles of Economic Sociology*, Princeton University Press, Princeton.
- Tahir, M., Shah, S. S. A. and Afridi, M. A. (2016), 'Assessing Nature of Competition in Banking Sector of Pakistan', *The Journal of Finance and Data Science* **2**(4), 244–253.
- Tanda, A. and Schena, C.-M. (2019), *FinTech, BigTech and Banks: Digitalisation and Its Impact on Banking Business Models*, Palgrave Macmillan Studies in Banking and Financial Institutions, Springer International Publishing, Cham.
- Taylor, C. (1985), Interpretation and the Science of Man, in 'Philosophy and the Human Sciences', Cambridge University Press, Cambridge, pp. 15–57.
- Tewes, S., Niestroj, B. and Tewes, C., eds (2020), *Geschäftsmodelle in die Zukunft denken: Erfolgsfaktoren für Branchen, Unternehmen und Veränderer*, Springer Fachmedien Wiesbaden, Wiesbaden.
- Thakor, A. V. (2020), 'Fintech and Banking: What Do We Know?', *Journal of Financial Intermediation* **41**, 100833.
- Thiemann, M. (2018), *The Growth of Shadow Banking: A Comparative Institutional Analysis*, Cambridge University Press.
- Thorbecke, W. (2020), 'Non-traditional Monetary Policy and the Future of the Financial Industries' *RIETI Discussion Paper Series* (20-E-025).

- Tiwari, R., Buse, S. and Herstatt, C. (2006), Customer on the Move: Strategic Implications of Mobile Banking for Banks and Financial Enterprises, in 'The 8th IEEE International Conference on E-Commerce Technology and The 3rd IEEE International Conference on Enterprise Computing, E-Commerce, and E-Services (CEC/EEE'06)', IEEE, San Francisco, CA, USA, pp. 1–8.
- Tobin, J. (1984), 'On the Efficiency of the Financial System' *Lloyds Bank Annual Review* (153), 1–15.
- Toulmin, S. E. (1981), *Voraussicht und Verstehen: Ein Versuch über die Ziele der Wissenschaft*, Suhrkamp, Frankfurt am Main.
- Valentinov, V. (2012), 'The Institutional Implications of the General Systems Theory: The Societal Role of the Market', *Systems Research and Behavioral Science* **29**(3), 253–262.
- Varian, H. R. (2016), *Grundzüge der Mikroökonomik*, 9. edn, De Gruyter Oldenbourg, Berlin; Boston.
- Veblen, T. (1898), 'The Instinct of Workmanship and the Irksomeness of Labor', *American Journal of Sociology* **4**(2), 187–201.
- Veblen, T. (1909), 'The Limitations of Marginal Utility', *Journal of Political Economy* **17**(9), 620–636.
- Veblen, T. (2011), *The Essential Writings of Thorstein Veblen*, Routledge, London & New York.
- Vreeland, J. R. (2003), *The IMF and Economic Development*, Cambridge University Press, New York.
- Wall Street Journal (2013), 'The Government Won on Financial Reform: The Financial System Is More Regulated Than Ever, but Also No Safer', <https://www.wsj.com/articles/SB10001424127887324665604579079271887262900>.

- Wan, W. W., Luk, C.-L. and Chow, C. W. (2005), 'Customers' Adoption of Banking Channels in Hong Kong', *International Journal of Bank Marketing* **23**(3), 255–272.
- Weeks, J. (2010), *Capital, Exploitation and Economic Crisis*, Routledge, London & New York.
- Weeks, J. (2012), *The Irreconcilable Inconsistencies of Neoclassical Macroeconomics: A False Paradigm*, Routledge, London & New York.
- Werner, J. (1986), *Darstellung als Kritik: Hegels Frage nach dem Anfang der Wissenschaft*, Bouvier, Bonn.
- Werner, R. A. (2016), 'A Lost Century in Economics: Three Theories of Banking and the Conclusive Evidence', *International Review of Financial Analysis* **46**, 361–379.
- Wessels, B. and Van Rooyen, J. H. (2010), 'Bank Strategic and Risk Management: A Survey to Determine the Impact of the Current World Financial Crisis on Future Bank Management in South Africa', *Corporate Ownership and Control* **8**(1), 390–401.
- Westphal, K. R. (1989), *Hegel's Epistemological Realism: A Study of the Aim and Method of Hegel's Phenomenology of Spirit*, Kluwer Academic, Dordrecht; Boston.
- Westphal, K. R. (2018), *Grounds of Pragmatic Realism: Hegel's Internal Critique and Reconstruction of Kant's Critical Philosophy*, Brill, Leiden; Boston.
- Whalen, C. J. (2021), Storytelling and Institutional Change: The Power and Pitfalls of Economic Narratives, in C. J. Whalen, ed., 'Institutional Economics: Perspectives and Methods in Pursuit of a Better World', Routledge, London & New York, pp. 247–270.
- Wiebke, H. (1992), *Aktienindex-Terminkontrakte*, Deutscher Universitätsverlag, Wiesbaden.

- Williamson, O. E. (1975), *Markets and Hierarchies: Analysis and Antitrust Implications a Study in the Economics of Internal Organization*, The Free Press, New York; London.
- Williamson, O. E. (1985), *The Economic Institutions of Capitalism*, The Free Press, New York; London.
- Williamson, O. E. (1991), The Logic of Economic Organization, in O. E. Williamson and S. G. Winter, eds, 'The Nature of the Firm: Origins, Evolution, and Development', Oxford University Press, New York; Oxford, pp. 90–116.
- Williamson, O. E. (1996), Efficiency, Power, Authority and Economic Organization, in J. Groenewegen, ed., 'Transaction Cost Economics and Beyond', Kluwer Academic Publishers, Boston; Dordrecht; London, pp. 11–42.
- Winter, S. G. (1991), On Coase, Competence, and the Corporation, in O. E. Williamson and S. G. Winter, eds, 'The Nature of the Firm: Origins, Evolution, and Development', Oxford University Press, New York; Oxford, pp. 179–195.
- Wrenn, M. V. (2016), 'Immanent Critique, Enabling Myths, and the Neoliberal Narrative', *Review of Radical Political Economics* **48**(3), 452–466.
- Yeager, T. J. (2004), 'Economies of Integration in Banking: An Application of the Survivor Principle' *Federal Reserve Bank of St. Louis Supervisory Policy Analysis Working Paper*, 2004 (No. 04), 1–25.
- Young, D. (2002), The Meaning and Role of Power in Economic Theories, in G. M. Hodgson, ed., 'A Modern Reader in Institutional and Evolutionary Economics', Edward Elgar Publishing, Cheltenham, UK; Northampton, MA, USA, pp. 48–61.
- Zoglauer, T. (1993), *Das Problem der theoretischen Terme: Eine Kritik an der strukturalistischen Wissenschaftstheorie*, Vieweg, Wiesbaden.

Eidesstattliche Versicherung

Ich erkläre hiermit, dass ich die vorliegende Arbeit ohne unzulässige Hilfe Dritter und ohne Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe; die aus fremden Quellen direkt oder indirekt übernommenen Gedanken sind als solche kenntlich gemacht.

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