universitätbonn

fiw

N50° 43' E7° 7'

Rheinische Friedrich-Wilhelms-Universität Bonn

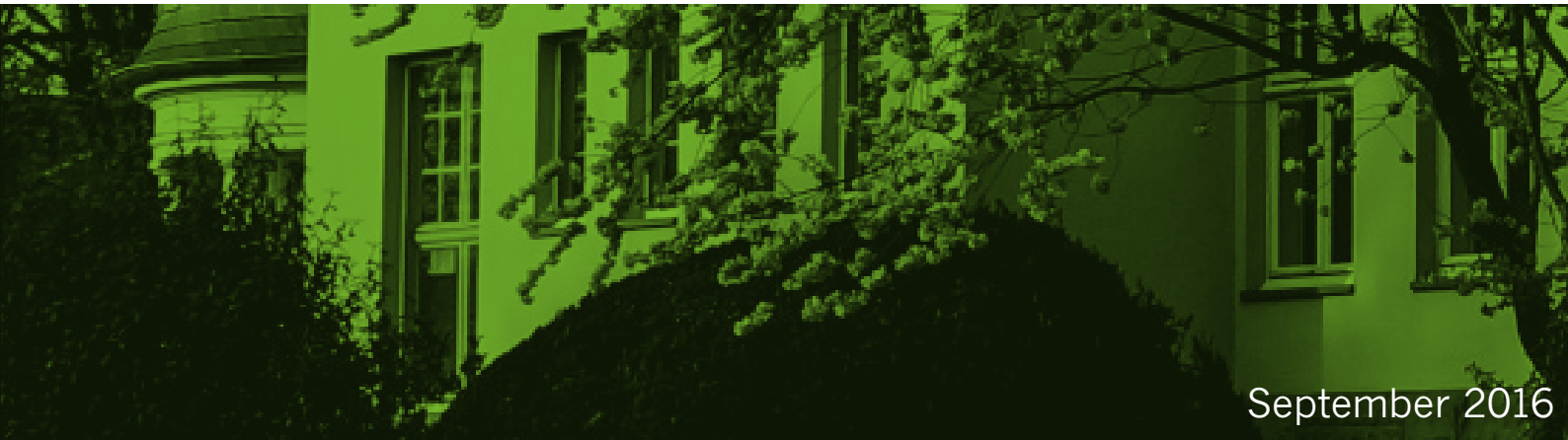
Forum Internationale Wissenschaft

FIW WORKING PAPER NO. 05

Pascal Goeke | Evelyn Moser

MARKETS, ORDER AND NOISE

TWO CONTRIBUTIONS TO A COMPREHENSIVE UNDERSTANDING OF MODERN MARKETS



September 2016

MARKETS, ORDER AND NOISE

TWO CONTRIBUTIONS TO A COMPREHENSIVE UNDERSTANDING OF MODERN MARKETS

PASCAL GOEKE
EVELYN MOSER

FIW WORKING PAPER NO. 05

Bonn, 2016 | ISBN 978-3-946306-04-7

ABSTRACT // ZUSAMMENFASSUNG

Markets are a central feature of modern society. As such, it comes as no surprise that they constitute a popular subject of research in (economic) sociology, where they are observed from various analytical perspectives and judged according to different normative positions. Yet, despite their apparent omnipresence, there seems to be no discernible consensus on how to grasp the market theoretically. As a consequence, existing analytical approaches to market phenomena shed light on important individual aspects, but overall their findings appear fragmented and incomplete. This applies in particular to modern markets, which are characterised by an immense degree of complexity and speed. Given this situation, this paper aims to push forward recent attempts in economic sociology to theorize the market by suggesting two contributions: In the first part of the paper, we take a closer look at four theoretical perspectives on markets, namely interaction, networks, institutions and performativity, investigating in detail their merits, mutual compatibilities and contradictions. The second part starts with the discussion of Weber's and Aspers' market definitions, which helps us to specify the missing piece in order to more comprehensively account for modern markets and their distinct properties. To fill this gap, we draw on some theoretical ideas of sociological systems theory that lead us to an understanding of markets as the tension between a particular form of order and a particular form of disorder or noise, which emerges if communications of exchange and observation of competitors focus on and become visible in the formation of prices.

Märkte sind ein zentrales Element der modernen Gesellschaft. Daher verwundert es nicht, dass sie ein in der (Wirtschafts-)Soziologie beliebtes Thema sind, wo sie unterschiedlich perspektiviert und auch normativ bewertet werden. Trotz dieser Präsenz ist allerdings kein Konsens zu erkennen, wie Märkte theoretisch zu fassen sind. In der Folge stellen die einzelnen Ansätze wichtige Teilaspekte von Märkten heraus, aber das Verhältnis dieser Ansätze untereinander ist fragmentiert und weitgehend ungeklärt. Dies trifft insbesondere auf moderne Märkte zu, die von immens hohen Geschwindigkeiten und Dynamiken gekennzeichnet sind. In dieser Situation versucht der Beitrag eine theoretische Klärung herbeizuführen. Zwei Vorschläge werden gemacht. Im ersten Teil untersuchen wir die vier zentralen Perspektiven auf Märkte – namentlich den Interaktions-, Netzwerk-, Institutionen- und Performativitätsansatz. Dabei stellen wir deren Verdienste, Kompatibilitäten und Widersprüche heraus. Der zweite Teil beginnt mit einer Diskussion von Webers und Aspers Marktdefinitionen, die uns dabei helfen, die fehlenden Elemente für ein umfassenderes Marktverständnis aufzuspüren. Um die identifizierten Lücken zu füllen, greifen wir auf Ideen aus der soziologischen Systemtheorie zurück. Im Effekt zeigen wir, dass Märkte eine Spannung zwischen einer bestimmten Form von Ordnung und einer bestimmten Form von Unordnung oder *noise* darstellen – Märkte emergieren, wenn Tauschkommunikation und die Beobachtung von Wettbewerbern auf Preise ausgerichtet sind *und* zur Preisbildung führen.

CONTENTS

PUBLICATION DETAILS // IMPRESSUM

Rheinische Friedrich-Wilhelms-Universität Bonn
Forum Internationale Wissenschaft
Heussallee 18-24
53113 Bonn

Tel.: +49 228 73 62986
Internet: www.fiw.uni-bonn.de/publikationen
E-Mail: fiw@uni-bonn.de
Layout: roemer und höhmann strategisches design
Satz: Jason Chumtong
ISBN 978-3-946306-04-7

INTRODUCTION[1]

There is no doubt that markets are a central feature of modern society. Considering, however, the ongoing debates about their purpose and function, their utility and disutility, and their naturalness or constructedness, it soon becomes clear that there is only little consensus within the sociology about what a modern market actually is. There certainly are some features of markets in general that are more or less commonly accepted: A market is usually understood as a socially structured real or ideal place of exchange where property rights are traded; a place where supply and demand meet, competing offers are placed, and a place where the price of an item or good is more or less homogeneous. Beyond these rather general descriptions, though, little is clear. Moreover, these statements are of little explanatory power and fall silent if the questions asked get more complicated (for general and instructive overviews see Fligstein & Dauter 2007; Fourcade 2007; Swedberg 2007; Aspers 2011).

Does a market, for example, already exist as soon as "there is competition, even if only unilateral, for opportunities of exchange among a plurality of potential parties" (Weber 1978: 635) – or do we need a focal point like prices to understand markets in their complexity and dynamics? Is it appropriate to state that all "exchange in markets is trade, but not all trade takes place in markets" (Aspers 2011: 7)? Does participation in market communication only include the exchange of the particular items that are bought or sold – or is the information that we are buying or not buying just as relevant? Is a market always an ordered structure or are uncertainty and unpredictability not equally important? Even though there have been many telling studies about different aspects of the market (e.g. Abolafia 1996; Vogel 1996; Berger 2009), little effort has been made to link the various existing insights and results in order to understand modern markets and their high complexity and dynamics.

The lack of such attempts – tellingly the International Encyclopedia of Economic Sociology (Beckert & Zafirovski 2011) does not contain an entry titled 'market' – is all the more surprising since social scientists and other observers, such as market participants, politicians, etc., seem to agree more or less intuitively on when they are dealing with a market and when they are not. Apparently, there are certain types of observations and communications that bear the hallmark of the market and are regularly recognized as conclusive indicators of its classification as such. Moreover, (non-economic) social scientists unanimously and resolutely reject the neoclassical market concept as well as the scientific programme of neoclassical economics. The latter is based on the assumption that individual actors (including organisations) construct a rational order of preference among outcomes, maximise utility or profit, and act independently on the basis of full and relevant information. The market is primarily considered as a coordinating instrument that brings together supply and demand. Under certain given conditions, it emerges naturally and the "invisible hand" (Smith 1981 [1776]: 456) makes sure that the self-interested actions of individuals automatically promote the public good. From the standpoint of the social sciences, criticism of the neoclassical concept points both towards the restrictive assumptions about the actors involved (such as complete information, transparency of market transactions and uti-

[1] Our thanks go to David Kaldewey, Rudolf Stichweh and Tobias Werron for their useful and important comments on earlier versions of this paper. We also wish to thank Deepal Doshi for proofreading.

lity functions), and towards their loss of touch with the social reality of the market and their blindness to effects like social inequality, environmental destruction or communal disintegration (e.g. Abolafia 1996: 7; Beckert et al. 2007b; Aspers 2011: 70-74). Both the 'intuitism' in economic sociology with which markets are detected and the fierce rejection of the neoclassical approach give reason to assume that there is a common denominator behind the patchwork of definitions and partial approaches, which may be captured analytically.

Recent theoretical reflections on this issue in economic sociology, however, appear unsatisfying in two respects: *Firstly*, market phenomena are obviously dealt with from various analytical perspectives and there can be no doubt that each of them convincingly highlights important aspects. None of them, however, succeeds in linking these aspects in a comprehensive framework that could account for modern markets and their complexity and dynamics. As a result, the respective findings remain fragmented and isolated, notwithstanding their individual analytical value. *Secondly*, the rare attempts to come to a general definition of the market – most notably from Weber and Aspers, whereof the latter explicitly tries to integrate different theoretical perspectives on market phenomena – appear incomplete in one important aspect: Putting the focus on the forms of order that are characteristic of markets, they seem to ignore the specific form of uncertainty or disorder, from which the seemingly ordered markets evolve. A particular form of disorder, as we will argue, is constitutive for modern markets to emerge and to unfold their immense complexity and dynamics. It therefore is an indispensable element of a comprehensive theory of the market.

Against the backdrop of these desiderata, this paper aims to push forward current research in economic sociology on this issue by suggesting two contributions to the theory of the market: In the first part of the paper, we take a closer look at the four theoretical perspectives that dominate current sociological debates on markets, namely interaction, networks, institutions and performativity **[2]**, investigating in detail their merits, mutual compatibilities and contradictions. The second part starts with the discussion of Weber's and Aspers' market definitions, which helps us to specify the missing piece in order to comprehensively account for modern markets and their distinct properties. To fill this gap, we draw on some theoretical ideas of sociological systems theory that lead us to an understanding of markets as the tension between a particular form of order and a particular form of disorder or noise. We conclude by emphasizing the integrative power of our theoretical suggestion with regard to the existing analytical approaches to the market.

[2] Other accounts use slightly different tripartite schemes. Fourcade (2007), for instance, distinguishes between network, field, and performative analysis; Fligstein and Dauter (2007) speak of networks, institutions and performativity.

PART I
FOUR THEORETICAL DIMENSIONS OF MARKET OBSERVATION

Four recurring and historically interrelated dimensions of market observation attract interest within social theory. These dimensions can be perceived as both theoretical perspectives on and empirical properties of the market.

First dimension: The market as interaction

The neoclassical and model-based understanding of the market and the advance of related rational choice concepts in the social sciences provoked a counter-movement in the 1970s and 1980s, which was grounded in the sociological study of economics. This counter-movement not only sought to eradicate the rational choice approaches or "economic imperialism" (Swedberg 1990: 5) from the social sciences, but was also explicitly aimed at demonstrating the limited explanatory power of these theories within their alleged sphere of origin, i.e. within considerations of the economy (Beckert et al. 2007a: 27). One result of this undertaking – and at the same time a variation of the embeddedness argument, which states that economic action is always embedded in social networks (Granovetter 1985) – is the emphasis on the *interactional nature* of markets. Interactional approaches move away from the idea of rational, calculative players and isolated exchange relationships. Without understanding the nature of concrete interactions among human beings, so it is claimed, it is impossible to understand markets. Interactions are, despite minor variations in definition, a kind of action or communication that occur only if two or more people are mutually aware of each other, begin to communicate with each other and define the situation reciprocally. With regard to the market, the myriads of interactions are not only considered as an essential and permanent feature of the market, but also as the reason why real markets differ from formal models.

The emphasis on human interactions as a key element of markets can be either – in a strong version – taken as an argument invalidating formal market models or – in a modest version (e.g. Knorr Cetina & Bruegger 2004) – seen as an explanation complementing such models. Notwithstanding these two interpretations, the interaction claim seeks to demonstrate that it would be highly inappropriate to ignore the interactional character of markets in general, i.e. the presence of social bonds and various forms of mutual integration that imply a reduction of degrees of freedom and thus contradict the characterization of markets as '*free* markets'. Even on global markets like the foreign exchange market, where face-to-screen communication has replaced face-to-face contact, and where seemingly anonymous electronic media and the endlessly running tickers set the tone at the first glance, market transactions occur in the form of human interactions (Knorr Cetina & Bruegger 2004). In the same track, other studies have shown how opportunism and res-

traint on Wall Street are negotiated (Abolafia 1996), have analysed the reasons why traders scream, sweat and spit (MacKenzie & Millo 2003), and have observed that some markets are characterised by fixed and others by changing roles (Geertz 1978).

Even though the interaction claim plausibly demonstrates the limits of formal market models, and even though it convincingly applies to various market events and their particular dynamics, the claim itself must be challenged in at least three aspects. Firstly, problems arise with regard to the different times at which markets, for example stock markets in different parts of the world, are open. Just like other sociological theories which focus almost exclusively on interactions, the interaction claim has difficulties in accounting for structures, i.e. social institutions that persist beyond the immediate 'here and now'. In that context, how are we to characterise the market when, for example, the stock market, the farmer's market, or the store is closed, but stock exchange prices and other offers to sell or buy can still be compared? Does the market still exist when there is no interaction, or does it flicker in and out of existence, depending on whether interactions are taking place or not? The interaction claim would have us commit to the latter but rather implausible case. Secondly, the increase in purely digital and largely automated markets questions the necessity of interactions for market processes. Obviously, the market can also exist without interaction in the sociological sense, as the increasing volumes that are traded by algorithms on electronic markets clearly indicate. Two or more computers might react to the actions of other computers or other actors, but this action or reaction cannot be understood as the result of a two-sided situational definition in terms of the concept of interaction.

Thirdly, the relevant communication processes on markets (especially under the influence of digitalisation) are very fast. The common practice to reduce communication to the interaction partners taking part in it, which has always been questionable as it is, becomes more impractical than ever. To put it the other way around, it is simply impossible to successfully identify all responsible, possible or relevant participants in a particular communicative situation (cf. Stichweh 2015: 27). This implies that concepts which are based on the idea of a market shaped by interactions will struggle to cope with questions of complexity.

In this vein it does not come as a surprise that market definitions which start with interaction – the typical examples are farmer's markets or medieval markets – soon become problematic. By setting interactions as the prime element of the market, they are hardly able to cope with the pace, complexity and the noise of modern markets. Interestingly even authors who are not part of that strand of literature, like for example Aspers (2011: 40-54), whose approach will be discussed in more detail below, or Simon (2009: 97-100), a representative of systems theory, run into that trap.

Second dimension: Markets as networks

The problems concerning structures and complexity that beset the interaction claim result from the fact that the modern market displays properties that cannot be deduced from the market participants or from concrete interactions but have to be perceived as emergent qualities. It is to the credit of network approaches that criticism of the neoclassical market concept was further substantiated and that some structures beyond mere interactions were literally made visible. However, it also has to be said that network approaches to this day usually do not bother with market definitions. Their analyses of empirical market phenomena are simply based on the assumption that market structures consist of exchange relationships. Against this backdrop, network approaches seek to make the particular patterns intelligible mainly by making use of the analytical capacities of the network paradigm (cf. Fourcade 2007: 1020; Fligstein & Dauter 2007: 107).

Despite – or perhaps due to – these simple assumptions, the study results were and still are impressive and influential. It all began with Granovetter's analysis of contacts and careers in which he demonstrated for the first time, that "much labour-market information is actually transmitted as a byproduct of other social processes" (1995 [1974]: 52). Thus for success or failure in the job search it is of utmost importance in what network position an individual is located and how the overall network is structured – the personal qualities are less important. Besides Granovetter's distinction between strong and weak ties (1973), numerous other studies exposed characteristic and insightful network patterns like structural holes (Burt 1995) or interlock centrality (Mizruchi 1996; for an extensive account of networks within economic sociology see Smith-Doerr & Powell 2005).

Since the network paradigm has not been confined to the academic world, but has proven to be a powerful analytical tool and established itself as a guiding idea within society at large, it comes as no surprise that network thinking has found resonance within companies (Swedberg 2005: 247). Uzzi, for instance, describes how firms distinguish their market interactions between market or arm's-length relationships on the one hand and special or close relationships on the other hand (1996: 677). Apparently the network approach has performative effects.

The richness of the studies should not obscure the theoretical limitations of the network paradigm. General network theory as outlined, for instance, by Burt (1982) or Granovetter (1973, 1985) is not only weak if it comes to general societal structures, but also suffers from overloading the network term. By emphasizing the absolute necessity of networks it becomes virtually impossible to distinguish networks from other possible social forms, such as organisations, interactions or markets (cf. Bommes & Tacke 2012: 179).

In the light of these limitations the merits of White's work on markets shine even brighter. Being the first to recognise the significance of observations for the structuring of markets (1981, 2002; for further elaborations on markets and second-order observation see also Esposito 2013; Stark 2013), White clearly exceeds the usual framework of network analysis and compensates for many of its weaknesses. Focussing on producer markets and guided by the basic intuition that firms are confronted with Knightian uncertainty, White argues that markets are structured by mutual observations within cliques of producers. Producers are ranked on the market in relation

to each other, with the relative quality of the products being the central parameter that is used to determine the ranking (Knorr Cetina 2004: 138-139). The resulting ranking by quality is not, however, affected directly by the producers themselves, but is designated by the observations made on the other side of the market, i.e. by the buyers. Under these conditions, individual producers (or firms) try to find access to a perceived niche of other producers and then to distinguish themselves from their fellow firms and their products within that niche (White 1981). In a case study, Zuckermann (1999) proved that if firms do not manage to engage in isomorphism so as to gain membership in a certain niche they face penalties by the audience. Eventually, the market is formed by an arrangement of niches, each characterised by the quality of the goods offered therein (White & Godart 2007: 205). Thereby, firms apparently both enact and condition their environments and are themselves conditioned by these environments, i.e. by customers, security analysts, reviewers etc. Whatever the relationships between firms themselves and their environments may look like, it is evident that a market does not only consist of exchange relationships but that actual and assumed observations are crucial for modern markets to come into being.

Third dimension: Institutions or the invisible market 'behind the back'

Disclosing market structures by the means of network analyses compensates for some of the weaknesses of the interaction approach. However, even network analyses do not come to terms with the fact that the market is a social phenomenon which persists invisibly as a backdrop to the behaviour of individual actors – even if there is no current exchange. As a type of second variation of the embeddedness argument, Bourdieu (2005a), Fligstein (1996, 2001) and others have pointed to the embeddedness of the market within what they call *institutions*. In doing so, they try to expose the fact that markets operate against a background of presuppositions, to which agents refer implicitly when they participate in markets.

In order to comprehend the phenomenon of the market, Fligstein (2001) has developed a theory of social institutions that subtly differs from the conceptualisation of institutions within economics. He emphasises that the market presupposes a great variety of formal and informal institutions. For example, constant negotiations about access to certain goods take place against a background of *property rights*. *Governance structures* refer to the general rules "that define relations of competition, cooperation, and market-specific definitions of how firms should be organized. [...] *Rules of exchange* define who can transact with whom and the conditions under which transactions are carried out" (Fligstein 1996: 658). In addition, stable environments from the perspective of the participants are provided by *conceptions of control*, i.e. the participants' cognitive understanding of how a market works (Fligstein 1996: 658). The very title of Fligstein's book, "Markets as Politics", combined with his expounded view that the formation of markets is part of state building, makes clear that the formation of market institutions and the market itself are strongly related to power. In many respects, Fligstein's approach is consistent with Bourdieu's, according to which the market is the "totality of relations of exchange between competing agents" (Bourdieu 2005a: 81). State regulation does not mandate specific economic behaviour, but provides the framework within which the participants in the market can interpret specific contexts and act. The participants' interpretations and actions are thus guided

by this framework and as a result, the seemingly silent and invisible market processes become embodied. The concrete social relations, shared knowledge and cognitive understanding of participants in the market thereby become apparent and their importance becomes evident. These structures need not be updated permanently in the form of explicit affirmation or repeated interaction between different actors: they persist unseen or maintain a latent presence behind the observable actions of the participants. As a result, references to, or possible opportunities for, economic advancement are the unspoken background context of market communications: participants implicitly know the conditions based on which they can become involved in economic communications and what the consequences would be; even if they refrain from becoming involved at a given time or deliberately avoid such communication in certain areas.

Whereas the interaction claim is extremely close to individual market participants, the institutional approach could hardly be farther away. This provokes the question of which institutional norms and rules individual actors need to know in order to participate in markets and how they become acquainted with them. There is a theoretical gap between the allegedly demanding market preconditions on the one hand, and the facility of joining the market on the other hand. Furthermore, the distinctions between individuals, institutions and the nation-state are problematic in that the market is presented as a very compact institution which is shaped almost exclusively by powerful political and economic forces. Little is said, however, about the unit act of this institution, what makes it difficult to dissect and analyse it. Moreover, the dominance of political and economic factors that shape the market leaves little space to account for other factors which might influence market evolution. At this point, the current technological development has to be mentioned. Simply put, by emphasizing the importance of institutions, i.e. by implicitly accentuating one aspect to reduce complexity, other aspects of the complex and multifaceted market structure tend to be neglected.

Fourth dimension: Performing markets

A fourth dimension conforms with the above-mentioned approaches by challenging the taken-for-grantedness of given market structures on which the neoclassical market model is based. It goes beyond the two previously introduced dimensions by asking how individual actors are brought into the market and how institutions are established within it. Thereby, particular emphasis is put on the implementation of policy advice in market affairs as an important objective for economics (Diaz-Bone 2007: 257) and on the concept of *performativity*. The relevant research originated in sociology of science and is now carried out under labels such as ‘Social Studies of Marketization‘ (Çaliskan & Callon 2009, 2010) or ‘Social Studies of Finance‘ (Kalthoff 2009: 266). With regard to markets, actor-network theory has gained some importance. This theoretical line of inquiry understands and examines the social in general as “a trail of *associations* between heterogeneous elements” (Latour 2005: 5), and seeks to do this without drawing any “distinctions between society and nature, human and non-human entities, meaningful characters and things” (Kneer 2008: 302). Its close liaison to holistic perspectives and its repeated use of a radical political terminology (Kneer 2008: 263) enable both the theory and its adopters to argue stiff and critically against markets.

The sociology of associations is accompanied by what is known as the 'performativity argument'. Taking their cue from a highly selective reading of the philosophers J. L. Austin and J. Searle, proponents of this argument hold that language does not represent, but rather yields or performs reality, i.e. brings it into existence (for variations on this position, see Krämer 2001). This argument assumes a central and dominant role within marketisation studies. These start with the assumption that, in general, human beings do not naturally have the ability to calculate and to perform economic activities, but that nevertheless, the homo economicus may be observed empirically in markets and elsewhere. Against this background, Callon investigates how such behaviour arises, and he concludes that concrete markets ('the marketplace') are brought into being in a performative way by abstract market models (as parts of 'economics') and other devices (Callon 1998a: 1). The latter, which are named *calculative* or *market devices*, can be accounting techniques, market models, basic pricing information in the supermarket or the like. They create and shape actors into 'calculative agencies' by equipping them with the appropriate tools (Callon 1998a: 26). In establishing these tools, Callon holds, economics not only observes and describes markets, but shapes and formats them and brings forth new ones (1998a: 2). Markets are socio-technical *agencements*, formed as a result of heterogeneous networking processes between rules and conventions, technical facilities, texts and discourses, technical and scientific knowledge, and people (Çaliskan & Callon 2010: 3).

Both the importance of associations and the performative power of economics and related disciplines to shape the world according to their models have been illustrated in various studies (Garcia 1986; also Muniesa et al. 2007). It has been demonstrated how (allegedly rational) structures of expectation and communicative connections emerge, change and then disappear, all under the influence of economics and experts, or economists "in the wild" (e.g. Callon et al. 2002: 196), i.e. people who have a background in academic economics and work for management consultancy firms or global organisations, such as the International Monetary Fund, etc. (see especially Beunza & Stark 2004; MacKenzie & Millo 2003).

In light of these studies, there can be no doubt that, in a way, theoretical economic models shape practical activities within the economy (see already Luhmann 1988: 81; also Plumpe 2011: 14-26). The performativity argument begins to lose its persuasiveness, however, if stronger claims are made for it (Callon 1998b; Mitchell 2005); for example, if economic models are no longer seen as one among many factors that contribute to the formation of an economic habitus (Diaz-Bone 2007: 257-258; on the economic habitus, cf. Bourdieu 2005b: 209-215), but are perceived as the one and only factor which dictates the formation and operation of markets entirely.

The fact that this argument concerning the influence of economics on markets can be so easily radicalised even though its core notion is actually fairly reasonable, is a consequence of some general architectonic weaknesses of actor-network theory (cf. e.g. Elam 1999; Mirowski & Nik-Khah 2007; Kneer 2008). It is in particular its failure or reluctance to disclose what mechanisms lead to the adoption of economic models in practice that has a strong negative effect. The theory does not state whether power, domination, discipline (Weber 1978: 53) or other evolutionary mechanisms, such as coincidence, deviance, opposition and/or innovation, can explain the alleged implementation of economic models. In line with dominant normative premises and the critical mood within this field of inquiry, this opens up the possibility of opting for a rather naïve and elsewhere already discredited notion of power; a notion that seems

to undoubtedly point towards the powerful entities. The use of transitive verbs such as *format*, *equip* and *shape* corroborates these premises and establishes, intentionally or unintentionally, economics as the scapegoat responsible for the downsides of the current economic system. In contrast to central theoretical premises that demand distance from universal laws and postulate the necessity "to specify the types of trajectories that are obtained by highly different mediations" (Latour 1996: 380), it often seems as if both 'economics' and economists 'in the wild' were considered to be the source of both power and markets. Consequently, an analysis of the mechanisms by which certain economic models are adopted and implemented in the process of communication (while others are not) is averted.

PART II
THE MARKET AS ORDER FROM SELF-INTRODUCED NOISE

Each of the dimensions that have been outlined above addresses relevant aspects of the market. None of them, however, succeeds in linking these various aspects in a comprehensive framework that could account for modern markets and their complexity and dynamics. Against this background, the current conceptualisations of the market are unsatisfying, no matter how helpful the claims might be for certain disciplines, perspectives or empirical research (for support for this conclusion, see also Swedberg 2005: 233).

Unreflected uncertainty: Market definitions and their 'blind spot'

A notable exception comes from Aspers (2011). Partly similar to our approach, he reflects on the sociological literature of markets, attempts to relate various analytical perspectives and seeks to come to terms with the plurality and diversity of empirical market phenomena. This warrants a detailed investigation into his suggestion.

To start with, Aspers is explicit about the market, which he considers as "a social structure for the exchange of rights in which offers are evaluated and priced, and compete with one another, which is a shorthand for the fact that actors – individuals and firms – compete with one another via offers" (2011: 4). Exchange on markets is not equivalent with trade, since all exchange in markets is trade, as Aspers rightly argues, but not all trade takes place in markets. This important distinction is rooted in the number of both direct and, even more important, indirect participants in an actual exchange. We can only speak about a market if there are at least two participants

on at least one of the two market sides, who compete against each other for the favour of actors from the other market side. The latter – a buyer or a seller – benefits as the tertius gaudens by deriving advantages from that competition (Aspers 2011: 7-8). A similar thought can already be found in Weber's reflection on the market. As "the archetype of all rational social action", the market exists "wherever there is competition, even if only unilateral, for opportunities of exchange among a plurality of potential parties" (1978: 635). Its "most distinctive feature" is "dickering" (*feilschen*), which makes up the core of group formation (*Vergemeinschaftung*) on the market, since the "completed barter constitutes a consociation only with the immediate partner. The preparatory dickering, however, is always a social action (*Gemeinschaftshandeln*) insofar as the potential partners are guided in their offers by the potential action of an indeterminately large group of real or imaginary competitors rather than by their own actions alone. The more this is true, the more does the market constitute social action" (Weber 1978: 635-636).

For the market to come into being, Aspers (2011: 9-10, 92-100) identifies three prerequisites to overcome uncertainty: [3] There must be clarity about the question of what is traded in the market; about the rules which determine legitimate behaviour and actions in the market; and about the mode of value assignment to the offers traded in the market. In Aspers' view the market that evolves once these conditions are met is always and obligatory an ordered market: "When the elements described are present, and the prerequisites are met, we have an ordered market. It is only when there is order that we can talk of a market" (2011: 9).

Apart from these basic statements and drawing on his own work on fashion markets (2010, 2009) and other sociological market accounts (mainly Podolny 1994; Podolny 1993; Podolny & Hsu 2003; also Garcia 1986) Aspers suggests a two-dimensional typology of markets. With regard to the social structure of the market, the first dimension distinguishes between *fixed-role* and *switched-role* markets (are the market actors' identities tied to one market side or may they change between them?) (2011: 82-86). The second dimension differentiates between *standard* and *status markets*: Standard markets are characterized by more or less objective standards through which offers are valued and can be compared, whereas order in status markets rests on the status-ranked identities assigned to the market actors (2011: 88-92). The market type (e.g. stock exchange, bazaar, consumer markets, wholesale market) influences how the above-described preconditions are met, i.e. how uncertainty is overcome.

By seriously attempting to capture the theoretical core of the market and by drawing attention to some relevant distinctions, Aspers succeeds in improving our understanding of modern markets. Notwithstanding these merits there are shortcomings. Comparable with authors like Beckert, Podolny, White and also Weber, Aspers conceptualizes the market as a response to uncertainty and complexity. This is not entirely new. Weber already recognized that individual purchase or sale decisions are related to "the potential actions of an indeterminately large group of real or imaginary competitors" (1978: 363). At the same time, however, these authors – whether on purpose or not – refrain from further scrutinizing the uncertainty and complexity. They simply take them for granted and thus miss the chance to develop a comprehensive framework for modern markets. There are, however, good reasons to assume that it is not a particular form of order alone that brings the market into being. Instead, as we will argue below, it is a particular form of disorder that proves constitutive for modern markets to emerge and to unfold their immense complexity and dynamics. To capture

[3] In a similar vein, Beckert (2009) describes three coordination problems which have to be solved by market actors in order to reduce, but not to eliminate, uncertainty: The value problem, the problem of competition, and the cooperation problem.

the particular form of disorder or uncertainty is therefore indispensable in order to comprehensively account for the market.

Against this backdrop, we suggest to conceive markets as the *tension between a particular form of order and a particular form of disorder* with the latter providing the foundation for the former (for a comparable perspective on markets in general see Baecker 2006: 85ff; on global markets see Bühler & Werron 2014). Thus it is of utmost importance to understand the particular conditions and the specific form of uncertainty and complexity on markets. In the words of Heinz von Foerster, the market is a particular form of "order from noise", i.e. a self-organizing structure "that eats energy and order from its [noisy or messy, the authors] environment" (von Foerster 2003 [1960]: 125). So what is 'eaten' by the market, and who or what introduces the 'dish'? Who or what is responsible for modern markets' immense complexity and dynamics?

In order to specify the relation between order and noise, we will proceed in four steps. Firstly, we locate the market exclusively in the economy. Secondly, we outline a cybernetic theory of observation that, thirdly, lays ground for understanding competition on markets as well as, fourthly and finally, for the meaning of prices. Some of the concepts will be taken from sociological systems theory in the tradition of Niklas Luhmann without sticking slavishly to the theory at large. The reasons for this source of inspiration are twofold. First, systems theory has transformed the classic sociological question of how social order is possible into the more general problem of how complexity arises and might be dealt with. Second, by integrating George Spencer Brown's theory of form and Heinz von Foerster's contributions to a theory of observation, systems theory seems compatible with the key aspects of the market we have discussed so far.

The market as an internal structure of the economic system

To start with, it seems useful to remember that the market is an essential feature of the economy or, more precisely, that the economy and the market are co-evolving within modern society at large. The economy, in turn, may be depicted as the communication of scarcity within society: It deals with the problem of scarce resources, and its self-declared and widely but not unanimously accepted purpose and function is the stable provision of desired goods in the future on the basis of the present distribution (Luhmann 1988: 64). Scarcity is communicated if reciprocity and calculation is implicit within the communication, i.e. if a donation is linked in calculative terms with the expectation of a donation in return. If such a calculation does not occur (and this is the boundary of economic communication), abundance rather than scarcity is communicated. A borderline case is the gift, where reciprocity is usually pending (Baecker 2006: 65). However, scarcity needs reference points that trigger its communication (Baecker 2006: 52). A first reference point is provided by property and the distribution of use rights within society: given that one is the owner of a piece of property and all others are not, the desire to own the rights to this piece of property may trigger communication (cf. Polanyi 2001 [1944]). However, the communication of scarcity in the medium of property rights is cumbersome. Thus, the coding of scarcity is doubled by the medium of money. Money is the second and much more useful

point of reference for economic communication. The possibility of payments and the open usage of money render property liquid and almost universally transformable (cf. Deutschmann 2003; Baecker 2006: 48-55; Esposito 2008: 126). Eventually and in line with Weber's definition, economic action is the "peaceful exercise of an actor's control over resources" (1978: 63).

The coding of scarcity through the medium of money facilitates the communication of scarcity, but so far nothing has been said about the structures in which the communication of scarcity occurs. There are a number of classifications of structures by or within which scarcity is communicated (see for example Polanyi 1957: 250). *In fine*, the classifications can be reduced to two distinct forms of coordination: *tightly coupled* decision communication within hierarchies, for example, within organisations or political communities (the loci classici for this are Coase 1937; and Williamson 1967), and *loosely coupled* price communication on markets (Baecker 2006: 124).

At this point, two things can be asserted. Firstly, markets provide a structure which allows market participants (basically households and companies) to change property rights (property rights against property rights or against money and also money against money on credit markets). Secondly, markets do not consist of transactions alone (or communications of exchange (*Tauschkommunikation*)), since this would disregard the mutual and interwoven observations of the actual and potential exchange of property rights and payments on markets. These observations within the context of one's own possibilities for payment precede the eventual exchange of property rights. So the market entails both communication of exchange and observations of the others and their management of scarcity. It is the latter which is the important clue in order to reconstruct market-specific uncertainty.

A recursive set of mutual observations

The emphasis on observations is not an exclusive implication of a systems-theoretical approach to markets. As mentioned above, it was Harrison White (1981, 2002) who first stressed the significance of observations for the structuring of a market. In his view, a (producer) market is an arrangement of niches, each characterised by the quality of the goods offered therein (White & Godart 2007: 205). It should be noted that the producers can only observe their own side of the market, i.e. volumes of goods sold and payments received, and perceive both buyers and their valuations as an aggregate that shows little reaction (White 1981: 520-521; White & Godart 2007: 201): "Markets are tangible cliques of producers observing each other. Pressure from the buyer side creates a mirror in which producers see themselves, not consumers" (White 1981: 543-544). Equivalent to the claim that mutual observations of the producers are decisive for the emergence and formation of a market, White considers observations by buyers as equally relevant for the structuring of a certain (producer) market: cliques of producers, whose members observe each other mutually, are formed on the basis of the observations of the buyers, who observe and evaluate certain products as comparable. Hence, the producers in a clique are regarded as comparable with regard to their properties or characteristics: a market can only be constructed by a set of producers who are arrayed compatibly according to the qualities that consumers perceive them to possess (White 1981: 519).

With regard to the interest of this article, White's reflections on the market form indeed a crucial part of our argumentation, but may be supplemented in two respects: *First*, drawing on Spencer-Brown (1972) and von Foerster (2003), we may further *concretise the concept of observation*. Following Spencer-Brown's theory of form (1972), an observation designates a selective operation which is composed of the two elements *distinction* and *indication*. Something is called to attention (and brought into being) within the intertwining of a distinction (Luhmann 1995 [1984]: 439-440). Given that no observation can denominate its own distinction, every observation has a blind spot. It is only by second-order observing, i.e. by observing the initial first-order observations with regard to the distinctions they are using, that the unspoken distinctions of the first observations can be revealed. Thus, second-order observation is about asking which distinctions are applied by other observers and which distinctions guide their observations. Almost coincidentally, the idea of stable objects is abandoned in favour of the view that seemingly stable objects emerge only operatively within distinctions that are being repeatedly used and reused (Luhmann 1993: 768), i.e. the world as we know it emerges out of recursively related observations (cf. von Foerster 2003).

If we apply this finding to the market, we become aware that by trying to reduce complexity any observation is actually increasing it. A first observation is mono-contextural: With the decision to sell a product at a certain price, for instance, the seller draws a distinction (to sell/not to sell), marks its inner state (to sell at this price), but leaves the outer state unmarked. Whether the seller would also sell at a different price is unanswerable with the observation at hand. A similar scenario can be run through for a negative sales decision as well as for the other market side. What is striking is that the mono-contextural first-order observation might reduce complexity for the respective observer but almost automatically increases the overall complexity: Other market participants might start to wonder whether higher or lower prices are also feasible, whether the buyer has decided to buy due to quality aspects or because of the price, or whether the buyer primarily expects gains in distinction etc. These second-order observations revolve around the blind spot of the first-order observation and have to acknowledge that prices alone will not tell very much. Eventually, second-order observations will lead to a disproportionate increase in overall complexity. Suddenly a poly-contextural world arises with many different distinctions, i.e. interpretations of an initial observation, and each of them might trigger even more observations. It all ends in a complex situation, i.e. "because of immanent constraints in the elements' connective capacity, it is no longer possible at any moment to connect every element with every other element" (Luhmann 1995 [1984]: 24; for second-order observations on markets see also Baecker 2006: 86-87).

As a *second* addition to White's work on markets, we would like to draw analytical *attention to the demand side and the observations of buyers*, which White, who focuses on producers, only mentions in passing. In this respect, a rarely cited article from Kasuga (1987) is instructive. It offers some answers how markets deal with the just demonstrated increase of complexity. Kasuga spells out how consumers are observing the variety of offers in terms of price and quality and how these observations prove crucial for the overall market structure. If a large variety of one type of product (e.g. shoes) is observed, so that many different prices and qualities can be compared, a broad market emerges. If in contrast, consumers observe a limited variety (with a single product being the extreme case), the market will be perceived as narrow. In both cases, the individual observers view the same market differently. Whether the variety on a market is perceived as broad or narrow depends on a number of variab-

les, which all largely defy control by producers. Relevant factors are the availability of observation tools (for example, the Internet), the (previous) knowledge of the buyers, the type of product and the like.

Kasuga's characterisation of consumers' observation implies that buyers, whether wholesalers, retailers or consumers, are at least partly able to observe the respective other side of the market. Products, and hence also producers, become distinctive by their observed characteristics. Additionally, the observation of their own side of the market is essential for buyers as well: individuals do not know what they want if they do not see what others want. This process, usually labelled as imitation, has been elaborated by René Girard in the concept of mimesis (1978). On the one hand, the term mimesis is used, because it highlights the unconscious aspect of imitative behaviour. On the other hand, Girard conceptualises mimesis as the moments of acquisition *and* appropriation. Thereby, it becomes clear that mimetic processes do not only reduce complexity and grant stability, but are, at the same time, a source of change and conflict: other people (as buyers) are both role models and rivals. Thus, current patterns of consumption are by no means determined solely by biological constants (in the form of given and unchangeable basic needs); they are shaped in social contexts. As a consequence, the observation of the other side of the market opens up a range of possibilities. Consumers then evaluate these possibilities and make their decisions while observing other consumers as references for the characteristics of the products that are on offer. Thus, actual needs are shaped by members of the demand side (buyers) observing both each other, and the members of the supply side. We now see that the aforementioned metaphor of the mirror holds for both the supply and the demand side: both suppliers and buyers focus primarily on themselves and present clear offers or demands to other suppliers and buyers. These offers and demands are based on a well-defined difference, which allows and invites comparison with other suppliers and buyers (Baecker 1987: 536).

We now return to the essential function of buyers' observation for the development of the market. If we sketch out the implications of this view, a network of recursively referring observations becomes apparent. On the producers' – or more generally on the sellers' – side, mutual observations within a clique of firms span the market. The clique itself is a result of the observation of products and their characteristics by the buyers. Products and producers – or sellers – who are perceived to be comparable by the other side of the market become members of the clique, while the rest is cut out. Observations by buyers mark the frame of reference for producers within which they have to observe other producers as serious competitors (if they want to establish themselves as a viable force in the market). Once producers have achieved comparability in the eyes of the buyers, and hence become members of a certain clique, they have to strive, in a sort of counter-movement, to develop differentiated products that will enable them to escape from their clique (White & Godart 2007: 205).

Competition as an indirect struggle and the inescapable audience

The general modes of observation described above are necessary for the rise of markets. But they are not sufficient to characterise the specific complexity of modern markets: Firstly, it can be objected that mutual observations and mimesis exist in many other social contexts as well. Thus for a comprehensive understanding of the market, we still have to ask *what forms of mutual observation* occur on the two sides of the market. Secondly, the particular forms of observation must become *effective in actual communications* so that we may speak of a market. We will deal with these two aspects in this and the following subsection.

As for the first objection, the analytical specification of the concrete *forms of mutual observation* on both sides of the market rests upon a communication-based operative understanding of competition. Following Simmel, the standard characterisation of competition as competition *for something* may be transferred to a social context (Simmel 1908: 213; see also Werron 2010: 305-307): neither does competition necessarily involve communication between the competitors, nor does it require the conscious attempt to outdo each other. More generally, and in contrast to the definition of conflict as a direct form of struggle, competition can be defined as an *indirect struggle for the scarce favour of a third party*. Werron (2010: 309) suggested to replace the notion of a third party by that of an audience as a "projection of public communication processes". It proves co-constitutive for competition, as it is perceived by competitors as a generalised third entity that cannot be segmented. Whereas conflicts arise and multiply through a chain of directly interrelated contradictions between antagonists (Werron 2010: 304-305), competition (as an indirect form of struggle) usually takes place without interactions and thus saves time and effort (Simmel 1908: 213; Luhmann 1988: 102-103).

Applying this concept of competition to the market, two implications are obvious: *First*, competition takes place on both market sides, albeit in various forms. The fact that *sellers* compete with each other for opportunities to sell their products at a certain price is easily ascertained. And this holds true, as we can plausibly assume, for different market types (such as standard or status markets or fixed-role and switch-role markets). As soon as one acts as a seller on a market, and be it only for a single transaction, one is confronted with this basic condition. The relations on the buyers' side, however, are more diverse. Three general constellations can be discerned. First, there are large areas in which buyers do not compete at all. This holds true, among others, for consumers purchasing everyday products in the supermarket, which are, at least in most "western" societies, not particularly scarce. Second, in certain contexts buyers compete – similar to sellers – with each other for advantageous access and (scarce) purchase opportunities, i.e. for the favour of the supply side. This form of buyer competition occurs, for instance, on markets where buyers are acting as intermediaries, on financial markets or on auctions. And third, there are market contexts in which buyers compete for social distinction (see also Baecker 2006: 97-98), albeit they do so not for the favour of the other market side, but for the favour of a public to which they attribute individual relevance. The reason for the multi-facetted relations among buyers in contrast to the dominance of a single competitive relationship among sellers derives from the different expectations linked to market transactions: While sellers are primarily seeking to (re)establish their solvency, buyers are aiming

at different goals. In other words, the self-referentiality of the economic system is expressed on the supply side, whereas the demand side potentially represents both self-reference and other-reference of the economic system.

A *second implication* of the social conceptualisation of competition is worth mentioning with regard to market uncertainty. Understanding competition as an indirect struggle for the scarce favour of a third party (Simmel 1908: 213) or, following Werron (2010: 309), of an audience as a „projection of public communication processes" allows for a minimal readjustment and decisive sharpening of our argument. White's metaphor of the mirror can be replaced by that of a projection screen: the audience is a projection of the relevant side of the market. It is inescapable and inherently unknown to those who are imagining it and even though it is not directly accessible it is real. To put it in von Foerster's terminology, the projection of an audience is a particular form of noise on which market order is nourishing. The indirect nature of competition explains the strong and uncontrollable internal dynamics and pace of modern markets. No physical interactions are needed. Furthermore, conceptualising the audience as a projection comprises the idea that the audience is a specific form of expectations of expectations. As such, the audience is both unknown and inescapable to those who are imagining it. It is unknown due to the lack of identifiable entry barriers or visible borders, which makes it impossible to figure out who belongs to the audience and who does not – and that means: who is observing (with which assumptions) and who is not. Thereby, this indecipherable audience is inescapable: Market participants are literally thrown back on this particular kind of projection as their main basis of decision-making, since participating in any market communication inevitably requires coping with it, i.e. to act in front of it and to react to it.

Prices as a vanishing and focal point of market observation

As indicated above, a particular form of observation alone is hardly sufficient for bringing the market into being. So how does competition, i.e. the multiple and simultaneous processes of recursively interrelated observations that are directed towards the projection of an audience, become effective in communication? The answer to this question finally brings us back to market prices, since they are the form through which the above-described observations imprint on actual communication.

Prices regulate not only those payments that are made, but also those that are not (Luhmann 1988: 19). Payments, observable in the form of prices, as the operative basis and specific elementary communicative event of the economy involve a loss of information and yet provide information in a highly condensed manner. The loss of information stems from the detachment of the price from the linkages of the good or service it designates. The price itself does not tell the story of the production preconditions, of the environmental impact or of the individual wishes and needs of buyers and sellers. In turn, information is gained by prices because by looking at them, one can inform oneself about expected and realised payments and thus how other buyers and sellers observe the market (Luhmann 1988: 18). As an instrument of second-order observation, prices can be understood as both the vanishing and focal point of the observations on both sides of the market. Communications of exchange

and observations of one's own market side become entwined within the price: sellers observe which products of varying quality may be sold for a certain price and buyers observe what is bought at a certain price and how it is used (Baecker 2006: 97). New technologies of data mining provide the chance for both sides to get more information about the other side: sellers attempt for example to spy on individual behaviour by using digital devices and try to enforce 'tailor-made' prices, i.e. prices which take into account the previous purchase behaviour of a given buyer; buyers on the other side use comparison sites to get more information.

We may conclude that prices reflect second-order observations: sellers observe the prices of other sellers and sales and infer from these prices what prices seem to be realisable, and buyers infer from realised prices what values other buyers attach to a good or service or with regard to comparison sites what prices other sellers offer. We may also say that prices are expectations of expectations in the sense of expectations of expected payments that may then be either fulfilled or not. Consequently, it becomes evident that there is no possibility of a product having an objective utility value that is reflected in its price (Baecker 2006: 93-94) and of there being a rational or an equilibrium price. Irrational (excessive or insufficient) expectations of expectations are difficult to distinguish from rational (fair) expectations of expectations: "Thus, money is involved in the general development which in every domain of life and in every sense strives to dissolve substance into free-floating processes" (Simmel 2004: 167). Even though attempts have been made with more or less complex models or with the help of other instruments of observation and calculation that aim to reduce uncertainties and render contingencies calculable, this free-floating character of money or prices cannot be eliminated.

CONCLUSION

Most sociological accounts of markets underline the aspect of order, while either completely neglecting uncertainty or simply taking it for granted. Such accounts are, as we argued, not totally wrong but insufficient, since they miss a crucial aspect of actual market phenomena. Indeed, it is a particular form of uncertainty that does not only prove constitutive for the market as a distinctive social structure, but that also causes the immense complexity and pace of modern markets.

Against this backdrop, we suggested to conceptualise market uncertainty as a recursive set of mutual observations in the form of competition on both market sides. They result in the projection of an audience, which is both inescapable and indecipherable to those imagining it. And the observations become effective through the formation of prices and sales and purchase decisions – themselves being observations. Having said this, the market, which is exclusively located in the economy, can be conceived of as the *tension between this particular form of uncertainty – or noise – and a particular form of order* (as described in detail by Aspers, Beckert, Podolny, White and others), with the former providing the foundation for the latter. Due to the different positions and projections of competitors, the market is perceived differently by each participant and is yet, objectively, the same for all (see also Luhmann 1988: 94; and Baecker 2006: 95-107). This interrelationship of communications of exchange, observation of competitors and prices might be compared with the trinity of the chicken, the egg, and the rooster (for the metaphor see von Foerster 2003: 284): neither is it possible to say what was first, nor can one close this circular argument by pointing at what was last. The market is a social phenomenon, which emerges out of recursively *generated* elements which are nothing without their counterparts – all three are needed in order to have all of them.

What are the benefits of such a comprehensive understanding of the market? To conclude our argumentation, we will emphasise three kinds of specifications, which follow from the 'uncertainty approach' suggested here. They are related to the logic of functional differentiation, to the internal structures of the economy, and to the integrative capacity with regard to the existing approaches of market research.

Firstly and relating to the *logic of functional differentiation*, considering both order and noise equally allows us to separate the market from other forms of cooperation, competition and practices of valuation occurring in other function systems of modern society. Because even though comparisons between different forms of cooperation and valuation across the realms of arts, the market and professions might show similarities at the first glance (e.g. Podolny & Hsu 2003), a closer look will reveal that they are dealing with completely different forms of uncertainty and noise.

Secondly and with respect to the *logic of the economy and different modes of communication of exchange*, the suggested approach helps to *analytically* demarcate the market against other forms of exchange communication. This is most evident when it comes to prices: The market comes into being as soon as both competition and sales or purchase decisions crystallize in prices. Not every price, however, can be taken as

evidence for economic competition and communication: In contexts of strong political regulation of the economy, where prices still exist, power instead of scarcity is communicated (for the extreme case of political price-making in the Socialist planned economy see Bornstein 1962; Kornai 1992). Also the difference between market and trade, which was touched by Weber (1978: 635-636) and later picked up, among others, by Aspers (2011: 7f), can now be readjusted and specified: Trade and market, as it follows from our argumentation, are divergent forms of communication of exchange, which differ by the presence and relevance of the projection of an audience. Thus the statement that "exchange in markets is trade, but not all trade takes place in markets" (Aspers 2011: 7) may be refined. For markets, noise, generated by mutual observations and the projection of an inescapable and indecipherable public, is a decisive factor. On the contrary, trade does not know such a projection and subsequently no noise, and therefore takes place out of the market but still within the economy. Admittedly, this analytical specification makes things *empirically* tricky, since it confronts empirical market analyses with the challenge to carefully trace the observations and projections of an audience that underlie certain prices and buyer-seller-constellations – or briefly: to provide evidence of noise. But even if the tipping point between market and trade may be hard to identify, our approach suggests an instructive shift in perspective, namely to observe empirical phenomena of economic exchange with a particular focus on the dynamics of uncertainty or noise and the respective order. Thus our approach does not negate the forms of market order identified by authors like Aspers, Beckert, Podolny or White, but it unmasks many of them as attempts to reduce uncertainty and to switch off the market-constitutive tension between order and noise. Thus, instead of generating the market as such, they are seeking to transform market communication into trade.

Thirdly and finally, we want to stress the *integrative capacity* of our argument, i.e. its ability to integrate various aspects of a phenomenon into a general picture. In doing so, neither do we deny the importance of interactions, networks, institutions, or formal models and their performance for the functioning of markets, nor the benefits of the respective analytical perspectives. We do however refute the idea, that the market itself can be understood by analysing one of these processes in isolation and that it can be reduced to one of these. What happens in interactions, for example, is potentially, but not necessarily, relevant for societal structures and vice versa. By putting interactions in their place, it becomes apparent that important market processes take place silently and out of view of the market participants. Market participants observe others, imitate them and compete with them for the favour of a third party (see Esposito 2013; also Stark 2013). The rise of (digital) observational tools accelerates, amplifies and ultimately alters these observations. One might even say that the connected computer is being established as a new communicative agent. However, none of these changes affect the core of the market definition, but it is rather that their potentials for change can be derived from the market definition. A similar line of argumentation can be made with regard to institutions. Without doubt, markets as we know them would not function without institutions. Both formal and informal institutions reduce complexity and make certain potentialities likely or unlikely; but the inner core of the market cannot be explained based on the various relevant institutions alone.

The integrative capacity of our definition can finally be demonstrated with regard to the main argument of the performativity approach that abstract models decisively shape concrete markets. We would argue that economic theory itself has to be conceptualized as a particular form of observation. As such, it has to cope with

the paradox that any cognition is based on a relation of cognition and volition, or of self- and external-reference (see for example Günther 1979): Cognition seeks to refer to something external, but has to use a distinction which inevitably refers to an observer and his volition. To ensure the validity and connectivity of its observations, i.e. of economic models, economic theory tries to exclude itself from these models and to conceal its status as an observer who suggests A and not B – otherwise economic theory would run the risk of circularity and complexity overload (Esposito 2013: 108). However, if we conceptualise economic theory as an observer, thus taking into account that economic theory "is itself part of the object it analyses" (Esposito 2013: 113), it appears on the market as one observer among others. Economic theory might be equipped with scientific authority, but just like other observers, it works with expectations and expectations of expectations in order to cope with uncertainty and to reduce complexity. In this context, the exceptional position of economic theory does not result from hegemonic power, but rather from the fact that it acts as an important point of reference within the network of mutual observations and expectations: "If observers follow a theory, then one can know what they observe and how. One can observe their observation and behave accordingly" (Esposito 2013: 116). It is this role of economic theory that may be called performative. As such it is one mode to deal with complexity. The complex market is another mode.

REFERENCES

» Abolafia, M.Y., 1996: Making Markets. Opportunism and Restraint on Wall Street. Cambridge, MA: Harvard University Press.

» Aspers, P., 2009: Knowledge and valuation in markets. Theory and Society 38: 111-131.

» Aspers, P., 2010: Orderly Fashion. A Sociology of Markets. Princeton und Oxford: Princeton University Press.

» Aspers, P., 2011: Markets. Cambridge: Polity.

» Baecker, D., 1987: Das Gedächtnis der Wirtschaft. S. 519-546 in: D. Baecker, J. Markowitz, R. Stichweh, H. Tyrell & H. Willke (Hrsg.), Theorie als Passion. Frankfurt a.M.: Suhrkamp.

» Baecker, D., 2006: Wirtschaftssoziologie. Bielefeld: Transcript.

» Beckert, J., 2009: The Social Order of Markets. Theory and Society 38: 245-269.

» Beckert, J., R. Diaz-Bone & H. Ganßmann, 2007a: Einleitung. Neue Perspektiven für die Marktsoziologie. S. 19-39 in: J. Beckert, R. Diaz-Bone & H. Ganßmann (Hrsg.), Märkte als soziale Strukturen. Frankfurt a.M.: Campus.

» Beckert, J., R. Diaz-Bone & H. Ganßmann, 2007b (Hrsg.): Märkte als soziale Strukturen. Frankfurt a.M.: Campus.

» Beckert, J. & M. Zafirovski, 2011 (Hrsg.): International Encyclopedia of Economic Sociology. London: Routledge.

» Berger, J., 2009: Der diskrete Charme des Marktes. Zur sozialen Problematik der Marktwirtschaft. Wiesbaden: VS Verlag für Sozialwissenschaften.

» Beunza, D. & D. Stark, 2004: Tools of the Trade: The Socio-Technology of Arbitrage in a Wall Street Trading Room. Industrial and Corporate Change 13: 369-400.

» Bommes, M. & V. Tacke, 2012: General and Specific Characteristics of Networks. S. 177-199 in: C. Boswell & G. D'Amato (Hrsg.), Immigration and Social Systems. Collected Essays of Michael Bommes. Amsterdam: Amsterdam University Press.

» Bornstein, M., 1962: The Soviet Price System. The American Economic Review 52: 64-103.

» Bourdieu, P., 2005a: Principles of an Economic Anthropology. S. 75-89 in: N.J. Smelser & R. Swedberg (Hrsg.), The Handbook of Economic Sociology. Princeton: Princeton University Press.

» Bourdieu, P., 2005b: The Social Structures of the Economy. Cambridge: Polity.

» Bühler, M. & T. Werron, 2014: Zur sozialen Konstruktion gobaler Märkte. Ein kommunikati-

onstheoretisches Modell. S. 271-299 in: A. Langenohl & D.J. Wetzel (Hrsg.), Finanzmarktpublika. Moralität, Krisen und Teilhabe in der ökonomischen Moderne. Wiesbaden: Springer VS.

» Burt, R.S., 1982: Towards a Structural Theory of Action. Network Models of Social Structure, Perceptions, and Action. New York: Academic Press.

» Burt, R.S., 1995: Structural Holes. The Social Structure of Competition. Cambridge, MA: Harvard University Press.

» Çaliskan, K. & M. Callon, 2009: Economization, Part 1: Shifting Attention from the Economy Towards Processes of Economization. Economy and Society 38: 369-398.

» Çaliskan, K. & M. Callon, 2010: Economization, Part 2: A Research Programme for the Study of Markets. Economy and Society 39: 1-32.

» Callon, M., 1998a: Introduction: The Embeddedness of Economic Markets in Economics. S. 1-57 in: M. Callon (Hrsg.), The Laws of the Market (=Sociological Review Monographs). Oxford.

» Callon, M., 1998b (Hrsg.): The Laws of the Market. Oxford: Blackwell.

» Callon, M., C. Méadel & V. Rabeharisoa, 2002: The Economy of Qualities. Economy and Society 31: 194-217.

» Coase, R.H., 1937: The Nature of the Firm. Economica 4: 386-405.

» Deutschmann, C., 2003: Die Verheißung des absoluten Reichtums: Kapitalismus als Religion? S. 145-174 in: D. Baecker (Hrsg.), Kapitalismus als Religion. Berlin: Kadmos.

» Diaz-Bone, R., 2007: Habitusformierung und Theorieeffekte: Zur sozialen Konstruktion von Märkten. S. 253-266 in: J. Beckert, R. Diaz-Bone & H. Ganßmann (Hrsg.), Märkte als soziale Strukturen. Frankfurt a.M.: Campus.

» Elam, M., 1999: Living Dangerously with Bruno Latour in a Hybrid World. Theory, Culture & Society 16: 1-24.

» Esposito, E., 2008: Die normale Unwahrscheinlichkeit der Medien: der Fall des Geldes. S. 112-130 in: S. Münker & A. Roesler (Hrsg.), Was ist ein Medium? Frankfurt a.M.: Suhrkamp.

» Esposito, E., 2013: The Structures of Uncertainty: Performativity and Unpredictability in Economic Operations. Economy and Society 42: 102-129.

» Fligstein, N., 1996: Markets as Politics: A Political-Cultural Approach to Market Institutions. American Sociological Review 61: 656-673.

» Fligstein, N., 2001: The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies. Princeton: Princeton University Press.

» Fligstein, N. & L. Dauter, 2007: The Sociology of Markets. Annual Review of Sociology 33: 105-128.

» Fourcade, M., 2007: Theories of Markets and Theories of Society. American Behavioral Scientist 50: 1015-1034.

» Garcia, M.-F., 1986: La construction sociale d'un marché parfait: le marché au cadran de Fontaines-en-Sologne. Actes de la Recherche en Sciences Sociales 65: 2-13.

» Geertz, C., 1978: The Bazaar Economy: Information and Search in Peasant Marketing. The American Economic Review 68: 28-32.

» Girard, R., 1978: Des choses cachées depuis la fondation du monde. Paris: Grasset.

» Granovetter, M., 1973: The Strength of Weak Ties. The American Journal of Sociology 78: 1360-1380.

» Granovetter, M., 1985: Economic Action and Social Structure: The Problem of Embeddedness. The American Journal of Sociology 91: 481-510.

» Granovetter, M., 1995 [1974]: Getting a Job. A Study of Contacts and Careers. Chicago: University of Chicago Press.

» Günther, G., 1979: Cognition and Volition. A Contribution to a Cybernetic Theory of Subjectivity. S. 203-240 in: G. Günther (Hrsg.), Beiträge zur Grundlegung einer operationsfähigen Dialektik Bd. 2. Hamburg: Felix Meiner.

» Kalthoff, H., 2009: Die Finanzsoziologie: Social Studies of Finance. Zur neuen Soziologie ökonomischen Wissens. S. 266-287 in: J. Beckert & C. Deutschmann (Hrsg.), Wirtschaftssoziologie. Wiesbaden: VS Verlag für Sozialwissenschaften. (= Kölner Zeitschrift für Soziologie und Sozialpsychologie, Sonderheft 49).

» Kasuga, J., 1987: Die Beobachtung des Marktes: asymmetrische Strukturen und generalisierte Erwartungen. S. 547-569 in: D. Baecker, J. Markowitz, R. Stichweh, H. Tyrell & H. Willke (Hrsg.), Theorie als Passion. Frankfurt a.M.: Suhrkamp.

» Kneer, G., 2008: Hybridizität, zirkulierende Referenz, Amoderne? Eine Kritik an Bruno Latours Soziologie der Assoziationen. S. 261-305 in: G. Kneer, M. Schroer & E. Schüttpelz (Hrsg.), Bruno Latours Kollektive. Frankfurt a.M.: Suhrkamp.

» Knorr Cetina, K., 2004: Capturing Markets? A Review Essay of Harrison White on Producer Markets. Socio-Economic Review 2: 137-148.

» Knorr Cetina, K. & U. Bruegger, 2004: Global Microstructures: The Virtual Societies of Financial Markets. American Journal of Sociology 107: 905-950.

» Kornai, J., 1992: The Socialist System. The Political Economy of Communism. Oxford: Clarendon Press.

» Krämer, S., 2001: Sprache, Sprechakt, Kommunikation. Sprachtheoretische Positionen des 20. Jahrhunderts. Frankfurt a.M.: Suhrkamp.

» Latour, B., 1996: On Actor-Network Theory. A few Clarifications. Soziale Welt 47: 369-381.

» Latour, B., 2005: Reassembling the Social: An Introduction to Actor-Network-Theory. New York: Oxford University Press.

» Luhmann, N., 1988: Die Wirtschaft der Gesellschaft. Frankfurt a.M.: Suhrkamp.

» Luhmann, N., 1993: Deconstruction as Second-Order Observing. New Literary History 24: 763-782.

» Luhmann, N., 1995 [1984]: Social Systems. Stanford: Stanford University Press.

» MacKenzie, D. & Y. Millo, 2003: Constructing a Market, Performing Theory: The Historical Sociology of a Derivatives Exchange. The American Journal of Sociology 109: 107-145.

» Mirowski, P. & E. Nik-Khah, 2007: Markets Made Flesh: Performativity, and a Problem in Science Studies, Augmented with Consideration of the FCC Auctions. S. 190-224 in: D. MacKenzie, F. Muniesa & L. Siu (Hrsg.), Do Economists Make Markets? On the Performativity of Economics. Princeton: Princeton University Press.

» Mitchell, T., 2005: The Work of Economics: How a Discipline Makes Its World. European Journal of Sociology 46: 297-320.

» Mizruchi, M.S., 1996: What do Interlocks do? An Analysis, Critique, and Assessment of Research on Interlocking Directorates. Annual Review of Sociology 22: 271-298.

» Muniesa, F., Y. Millo & M. Callon, 2007 (Hrsg.): Market Devices. Oxford: Blackwell.

» Plumpe, W., 2011: Wirtschaftskrisen. Geschichte und Gegenwart. München: C.H. Beck.

» Podolny, J.M., 1993: A Status-Based Model of Market Competition. American Journal of Sociology 98: 829-872.

» Podolny, J.M., 1994: Market Uncertainty and the Social Character of Economic Exchange. Administrative Science Quarterly 39: 458-483.

» Podolny, J.M. & G. Hsu, 2003: Quality, Exchange, and Knightian Uncertainty. Research in Sociology of Organizations 20: 77-103.

» Polanyi, K., 1957: The Economy as Instituted Process. S. 243-270 in: K. Polanyi, C.M. Arensberg & H.W. Pearson (Hrsg.), Trade and Market in the Early Empires. Economies in History and Theory. Glencoe: The Free Press.

» Polanyi, K., 2001 [1944]: The Great Transformation. The Political and Economic Origins of our Time. Boston: Beacon.

» Simmel, G., 1908: Soziologie. Untersuchungen über die Formen der Vergesellschaftung. Berlin: Duncker & Humblot.

» Simmel, G., 2004: The Philosophy of Money. London: Routledge.

» Simon, F.B., 2009: Einführung in die systemische Wirtschaftstheorie. Heidelberg: Carl-Auer.

» Smith, A., 1981 [1776]: An Inquiry Into the Nature and Causes of the Wealth of Nations, Vol. 1. Indianapolis: Liberty Fund. (= Glasgow Edition of the Works and Correspondence Vol. 2a).

» Smith-Doerr, L. & W.W. Powell, 2005: Networks and Econmic Life. S. 379-402 in: N.J. Smelser & R. Swedberg (Hrsg.), The Handbook of Economic Sociology. Princeton: Princeton University Press.

» Spencer-Brown, G., 1972: Laws of Form. New York: Julian Press.

» Stark, D., 2013: Observing Finance as a Network of Observations. Sociologica. Italian Journal of Sociology online 7: 1-12.

» Stichweh, R., 2015: Comparing Systems Theory and Sociological Neo-Institutionalism. Explaining Functional Differentiation. S. 23-36 in: B. Holzer, F. Kastner & T. Werron (Hrsg.), From Globalization to World Society. Neo-Institutional and Systems-Theoretical Perspectives. New York: Routledge.

» Swedberg, R., 1990: Economics and Sociology. Redefining their Boundaries: Conversations with Economists and Sociologists. Princeton: Princeton University Press.

» Swedberg, R., 2005: Markets in Society. S. 233-253 in: N.J. Smelser & R. Swedberg (Hrsg.), The Handbook of Economic Sociology. Princeton: Princeton University Press.

» Swedberg, R., 2007: Vorwort. S. 11-18 in: J. Beckert, R. Diaz-Bone & H. Ganßmann (Hrsg.), Märkte als soziale Strukturen. Frankfurt a.M.: Campus.

» Uzzi, B., 1996: The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect. American Sociological Review 61: 674-698.

» Vogel, S.K., 1996: Freer Markets, More Rules. Regulatory Reform in Advanced Industrial Countries. Ithaca: Cornell University Press.

» von Foerster, H., 2003: Understanding Understanding. Essays on Cybernetics and Cognition. New York: Springer.

» von Foerster, H., 2003 [1960]: On Self-Organizing Systems and Their Environments. S. 1-19 in: H. von Foerster (Hrsg.), Understanding Understanding. Essays on Cybernetics and Cognition. New York: Springer.

» Weber, M., 1978: Economy and Society. An Outline of Interpretive Sociology. Berkeley: University of California Press.

» Werron, T., 2010: Direkte Konflikte, indirekte Konkurrenzen. Unterscheidung und Vergleich zweier Formen des Kampfes. Zeitschrift für Soziologie 39: 302-318.

» White, H.C., 1981: Where Do Markets Come From? The American Journal of Sociology 87: 517-547.

» White, H.C., 2002: Markets from Networks: Socioeconomic Models of Production. Princeton: Princeton University Press.

» White, H.C. & F.C. Godart, 2007: Märkte als soziale Formationen. S. 197-215 in: J. Beckert, R. Diaz-Bone & H. Ganßmann (Hrsg.), Märkte als soziale Strukturen. Frankfurt a.M.: Campus.

» Williamson, O.E., 1967: Hierarchical Control and Optimum Firm Size. The Journal of Political Economy 75: 123-138.

» Zuckermann, E.W., 1999: The Categorical Imperative: Securities Analysts and the Illegitima-

ABOUT THE AUTHORS // ÜBER DIE AUTOREN

Pascal Goeke studied geography and sociology in Frankfurt/Main, Eichstätt and Nottingham. He holds a PhD in geography (Osnabrück) and attained his habilitation in Zurich. Currently he is a visiting fellow at the Forum Internationale Wissenschaft (Bonn). His most recent research is about a social theory of markets and on philanthropic foundations.

Evelyn Moser studied political sciences and economics in Mainz and Moscow. She holds a PhD in sociology from the University of Lucerne. Since 2014, she is a research fellow in the department for Comparative Research on Democracies at Forum Internationale Wissenschaft. Her research interests include the sociology of political regimes, economic sociology, the sociology of organisations and the analysis of societal change in the post-Soviet sphere.

Pascal Goeke studierte Geographie und Soziologie in Frankfurt/Main, Eichstätt und Nottingham. Er wurde in Osnabrück promoviert und habilitierte sich in Zürich. Gegenwärtig ist er Visiting Fellow am Forum Internationale Wissenschaft (Bonn). Seine jüngsten Forschungen richten sich auf Märkte und gemeinnützige Stiftungen.

Evelyn Moser studierte Politikwissenschaft und Volkswirtschaftslehre in Mainz und Moskau und promovierte in Soziologie an der Universität Luzern. Seit 2014 ist sie wissenschaftliche Mitarbeiterin der Abteilung Demokratieforschung am Forum Internationale Wissenschaft. Ihre Forschungsinteressen umfassen die Soziologie politischer Regime, Wirtschafts- und Organisationssoziologie und die Analyse gesellschaftlicher Wandlungsprozesse im postsowjetischen Raum.

FIW WORKING PAPER

Titel: Zum Forschungsprogramm des Forum Internationale Wissenschaft der Universität Bonn
Autor: Rudolf Stichweh
Datum: September 2015
ISBN: 978-3-946306-00-9

Titel: Following the Problems. Das Programm der Nachwuchsforschergruppe „Entdeckung, Erforschung und Bearbeitung gesellschaftlicher Großprobleme“
Autoren: David Kaldewey, Daniela Russ und Julia Schubert
Datum: September 2015
ISBN: 978-3-946306-01-6

Titel: Politische Demokratie und die funktionale Differenzierung der Gesellschaft. Zur Logik der Moderne
Autor: Rudolf Stichweh
Datum: April 2016
ISBN: 978-3-946306-02-3

Titel: The Soviet Organisational Society. Political Control, the Soviet Village, and World Society
Autor: Evelyn Moser
Datum: Mai 2016
ISBN: 978-3-946306-03-0

Titel: Markets, Order and Noise: Two Contributions to a Comprehensive Understanding of Modern Markets
Autor: Pascal Goeke, Evelyn Moser
Datum: September 2016
ISBN: 978-3-946306-04-7