Historical Social Research
Historische Sozialforschung

The Official Journal of **QUANTUM** and **INTERQUANT**

Der Brillenmacher

Special Issue:

Markets and Classifications. Categorizations and Valuations as Social Processes Structuring Markets

HSR Vol. 42
2017
No. 1

The Journal: **Scope & Imprint**

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Charles Tilly (1929-2008)

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«Historical Social Research – Historische Sozialforschung» (HSR)
An International Journal for the Application of Formal Methods to History

Editorial Office:
Executive Editor: Dr. Philip Jost Janssen
Journal Manager: Sandra Schulz M.A.
Editorial Assistant: Elise Kammerer M.A.

Published by:
GESIS – Leibniz Institute for the Social Sciences
Unter Sachsenhausen 6-8, 50667 Cologne, Germany
Phone: +49 (0)221-47694-141/ -164
E-Mail: hsr@gesis.org
Web: http://www.gesis.org/hsr

ISSN HSR: 0172-6404

ISSN HSR Supplement: 0936-6784

Historical Social Research
Historische Sozialforschung

Special Issue

Karoline Krenn (Ed.)

Markets and Classifications. Categorizations and Valuations as Social Processes Structuring Markets

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No. 159

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Markets and Classifications – Constructing Market Orders in the Digital Age. An Introduction

Karoline Krenn *

Abstract: *»Märkte und Klassifikationen – die Konstruktion von Marktordnungen im digitalen Zeitalter. Eine Einführung.«* In this special issue of *Historical Social Research* markets are considered as observable constellations of exchange and competition structured by classification and valuation procedures. Such a classification perspective on markets not only links the economy to culture by highlighting the role of a cognitive order for the engagement in economic action, but it also clarifies the moral character of markets. The introduction to this HSR Special Issue contextualizes this market perspective by first placing it in relation to disciplinary discontinuities in the sociological study of the economy, by outlining its new topicality arising from digital technologies, by discussing principal limitations or fallacies of classifications and measurements and, finally, by introducing the contributions of this special issue.

Keywords: Market classifications, market sociology, market order, categorization, measurement, digitalization.

1. Taking a Market Perspective

The content of the contributions in this HSR Special Issue revolves around the constitution of markets through various forms of sorting, categorizing and valuating of economic subjects and objects, procedures which I propose summarizing under the title *market classifications*.[1] To contribute to a sociological debate on markets, clarifying the market perspective seems like a good start. The point of departure for a sociology of markets is typically the neo-classic market model that looks at the market as an abstract locus of exchange isolated

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* Karoline Krenn, Department of Sociology, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne, Switzerland; karoline.krenn@doz.unilu.ch.

1 This publication originates from a conference on "Classification Situations in Markets" that I organized in June 2015 at the Humboldt University Berlin. I want to thank all conference participants for their substantial engagement, Julian Jürgenmeyer for his assistance in organizing, and the Fritz Thyssen Foundation for funding this event. I am also grateful for the support of this publication provided by Future Concept resources of Humboldt University Berlin through the Excellence Initiative of the German Federal Government and its Federal States.

from society. In ideal markets, access is open to everyone, market participants compete for scarce goods without any restraints, and perfect information is directly translated into prices. Each of these and other assumptions is scrutinized by various traditions of sociological critique grounded on real market observations, whereby markets are conceptualized from a variety of angles. The discussion is too vast to cover here (for a broader discussion see Swedberg 1994; Fourcade 2007; Fourcade and Healy 2007; Beckert 2009; Aspers 2011). Therefore I will roughly outline a few perspectives without being able to adequately portray their efforts or claim completeness. The historic concept is that of a town marketplace or trade fair where goods are exchanged (Braudel 1982; Swedberg 2003). The earliest critical writings look at the market (economy) as a type of society (Polanyi 1944; Marx 1967 [1894]) that grounds human relations on competition and exploitation. A more functional perspective views the market as a social subsystem (Parsons 1951; Parsons and Smelser 1984 [1956]). Other literature sees in markets socially, culturally and structurally embedded patterns of economic action (Granovetter 1985; Zukin and DiMaggio 1990). This shifts the perspective to markets as complex interdependent social structures (Swedberg 1994). From a related angle, markets are regarded as a form of coordination (Williamson 1975; Powell 1990) or as a coordination principle (Boltanski and Thévenot 2006). Besides, from their different subdisciplinary origins, these approaches also delimit markets differently. For the former, markets are distinguished from networks and hierarchies as different structures of social organization. For the latter, markets are seen as an order of worth (among others such as the domestic or industrial order of worth) upon which justifications for human engagements are built. Besides these differences, both of these lines of thought address the problem of order or uncertainty in markets. This focus on uncertainty is seen as the starting point of the New Economic Sociology (Beckert 1996).

The market perspective chosen in this special issue regards markets as observable constellations of exchange and competition structured by classification and valuation procedures. It draws on a value-orientated sociology of markets (Zelizer 1988; Fourcade and Healy 2007; Karpik 2010; Aspers 2011; Aspers and Beckert 2011; Beckert and Musselin 2013), the French approach of economics of conventions (Storper and Salais 1997; Favereau and Lazega 2002; Boltanski and Thévenot 2006; Diaz-Bone and Salais 2012) and historical as well as contemporary approaches in the sociology of science, measurement and valuation (Hacking 1990; Porter 1995; Desrosières 1998; Espeland and Stevens 1998; Lamont 2012; Diaz-Bone and Didier 2016).

In doing so, this HSR Special Issue addresses the question of order and uncertainty in markets by turning to classifications as fundamental practices in the involvement with the social world (Durkheim 1915; Durkheim and Mauss 1963; Lévi-Strauss 1966), as a way of ordering the world (Douglas 1966) and expressing hierarchies (Foucault 1979; Bourdieu 1984). Market differentiations centrally concern the question of what markets are about (Aspers 2010). This is obvious if we turn to submarkets such as the labor market, producer markets, consumer markets, and financial markets. But also in each of these submarkets we find further categories such as professional categories in the labor market (Desrosières and Thévenot 1979) or regional classification systems for wine (Fourcade 2012) that sort, group, and rank subjects and goods. A key to this matter is to look at those dimensions that are meaningful to the actors involved. Differentiations along those dimensions provide an answer to the question of how market identities come about (White 2002; Aspers 2010). Hence classifications shape market patterns and give markets their special character by making them identifiable. They provide grounds for producer and consumer group identities. Market classifications also centrally address the question of what is valued, or in other words, how quality is constructed (Beckert and Musselin 2013). The assessment of qualities is a central coordination factor in markets (Callon, Méadel and Rabeharisoa 2002). This involves the construction of categories, their allocation of goods to these categories, and the establishment of quality differences (Beckert and Musselin 2013). So classifications are immanent to any situation where problems are to be solved or decisions are to be made on the basis of evaluations. Different valuations of market identities, as for example through third party recommendations (Zuckerman 1999), influence decision processes and individual choices in markets.

Studying market classifications and quality constructions in markets emphasizes the making and shaping of markets. Such an approach draws attention to the circumstance that categories and quality markers are socially shaped, that the significance of assessments on distinction and quality is determined by the reputation of the "judge", and, finally, that categories and qualities are open to contestation. The contestation of valuations is traced back to different modes of justification. Rainer Diaz-Bone's contribution to this special issue portrays how the economics of conventions argues for this. It could also be traced back to the variety of quality judgment devices (Karpik 2010; see also Chiapello and Godefroy 2017, in this HSR Special Issue), or also to the overall contingencies connected with evaluations. Struggles about classifications are not only struggles about the worth of goods in terms of price but also about worth in terms of value(s) (Beckert and Aspers 2011; Beckert and Musselin 2013).

A classification perspective on markets not only links economy to culture by highlighting the role of a cognitive order and understanding in the engagement in economic action (DiMaggio 1994), but it also clarifies the moral character of markets. The works of Viviane Zelizer, Marion Fourcade, and Kieran Healy have pushed a theoretical agenda to reveal the moral aspects of markets. A central claim of this literature is that moral judgments constitute markets, and conversely, markets establish moral orders. What makes markets moral affairs is not alone the fact that market outcomes might be morally beneficial or harmful. As it is argued, this wouldn't reach beyond a *doux commerce* argument as cultivated by economic theory. The economic order itself is regarded as "explicitly moral projects, saturated with normativity" (Fourcade and Healy 2007, 299 et seq.). We find this idea also in the economics of conventions (Boltanski and Thévenot 2006) that starts from the premise that a moral order is the overall baseline for social coordination. Empirically, this moral view on markets is influenced by the investigation into "concerned markets" where exchange provokes moral opposition such as with regard to markets for children (Zelizer 1985), intimacy (Zelizer 2005), organ donations (Healy 2006) or the pricing of environmental disasters (Fourcade 2011). This literature also focuses on the relational aspect of valuing, in other words, the varying social meanings economic activities (such as for example giving money) may have (Zelizer 1989). The study of markets as moral projects thereby takes on three problem foci (Fourcade and Healy 2007):

a) the creation of moral boundaries which position persons, products and society in markets and also determine market boundaries,
b) social technologies deployed in the constitution of the market, and
c) explicit moralizing with regard to the rules of economic exchange and (re-)distribution.

All three are relevant for inquiries into market classifications.

The introduction and the contributions to this Special Issue of *Historical Social Research* draw on various facets of market classifications. The next sections further contextualize this market perspective by first placing it in relation to disciplinary discontinuities in the sociological study of the economy, by outlining its new topicality, by discussing fallacies of classifications and by introducing the contributions of this special issue.

2. A Historical Placement: Parson's Pact and the Dark Ages for a Value-Oriented Study of Markets

A moral view on the economy was already a genuine element in the early writings of the founding authors of sociology. Investigations into the economy were entrenched within society. Questions about the constitution of markets were a central part of the discussion of civil society: as seen for example in the fact that the sociological debate on markets dealt with the stratification of society and the unequal distribution of resources, and that economic conflicts were looked upon as driving forces of social change (Marx), or that modernization and differentiation were examined in relation not just to the production process but to the organization of society as such (Durkheim, Weber), or the way that money as exchange medium altered social relations (Simmel).[2]

However during 20th century sociology, the sociological engagement with markets had topical discontinuities. Mid-century sociology marked a turning point with what Stark (2009) calls Parsons' Pact. Talcott Parsons proposed a demarcation of the sociological discipline from economics in the 1930s and the 1940s, which was widely recognized and followed. In various influential articles (Parsons 1934, 1935) he argued for a non-economic imagination of society (Velthuis 1999; Fourcade 2007). He approved of the attempt of Robbins (1932) to define the field for economy, and he sought to do the same for sociology. Sociology ought to deal with values, and accordingly with institutions (Parsons 1935), economy with means and ends. The division of labor between economy and sociology is formulated by Stark as follows: "You, economists, study value; we, the sociologists, will study values. You will have claim on the economy; we will stake our claim on the social relations in which economies are embedded" (Stark 2009, 7). Although in the early writings this was intended as disciplinary complementing, it eventually led to a void in the study of economic institutions altogether (Swedberg 1987; Velthuis 1999). The discursive shift away from economics was even intensified in the 1940s with the work on *The Social System* (Parsons 1951; Brick 2000). By then, it likewise accommodated the spirit of the postwar age and inhibited social criticism and debate on capitalism. Influenced by Freudian ideas, Parsons regards the latter as an "'ideological distortion' of public discourse" (Brick 2000, 506). So it was only consistent that his Department of Social Relations for a New Social Science at Harvard, founded in 1946, lead the way in incubating a new conception of social study with a clear focus on community and culture. It also significantly influenced the re-import of the discipline to the European continent.

Conceivably related to the economic crisis of the 1970s and the break-off of the peace settlement between labor and capital (Streeck 2014), upcoming debates in the late 1970s and 1980s called the sociological disengagement with the economic field into question. The new economic sociology, mainly identified with the work of American scholars like Mark Granovetter (1985) and Richard Swedberg (1987), shifted the sociological focus back to the economy. This lead to a new spread of market studies with a focus on embeddedness and social pre-requisites of economic action (culture, institutions, and networks) (Swedberg 2005). However, critics remark that in ongoing alignment with Parsons' Pact the lion's share of this work seemingly still had lost interest in societal issues (Fourcade 2007). In the US the intellectual barriers for sociology were transgressed mostly due to authors such as White (1981, 2002) and Zelizer

[2] This type of analysis continued in political market studies such as in the work of Karl Polanyi, first and foremost in *The Great Transformation* (1944), which elaborated the dehumanizing effect of industrial capitalism.

(1988, 2011) who claimed that markets are not only embedded in the social but basically constituted by it. Since this return to an integrated perspective on economy, markets and society, as employed by the classic authors, socio-theoretical debates on economic affairs have reached a new abundance. Particularly literature that underlines the strong nexus between economic worth, social value and moral values has gained new prominence in economic sociology (Boltanski and Thévenot 2006; Beckert and Aspers 2011; Zelizer 2011; Beckert and Musselin 2013; Fourcade, Steiner, Streeck and Woll 2013; Orléan 2014; Antal, Hutter and Stark 2015; Fourcade 2016; and others).

3. The New Topicality of a Classification Perspective

Market classifications presently have a new topicality. The reasons are new technologies for digital data processing and related to that, new patterns of organizing markets that construct novel moral boundaries. In their award-winning article (Fourcade and Healy 2013, reprinted in this issue: Fourcade and Healy 2017a), Fourcade and Healy argue that neoliberal era market institutions increasingly use new techniques to sort individuals in what they call "classification situations". Their example is scoring technologies that classify people according to credit risk. The point is that these newly generated distinctions result in a cumulative pattern of advantage and disadvantage that shape life-chances (also Rona-Tas 2017, in this issue). Consequently, these market operations act as a leveling force and as a condenser of new forms of social differentiation and the formation of social hierarchies. In close reference to the notion of "classification situations" this Special Issue takes up this discussion of the emergence and pervasiveness of a valuation regime that conditions the access to the economy.

A distinct significance is given to digital surveillance (also Sevignani 2017, in this HSR Special Issue). Digital data is as close as never before to where social life happens (Wagner-Pacifici, Mohr and Breiger 2015). Digital footprints leave information about transactions, geo-locations, social media behavior, administrative data and institutional records, or registrations on websites or apps, along with the cross-referencing between all those activities and more. The point is that the emergence and expansion of methods of tracking and scoring these data and metadata of consumer behavior directly affects stratification. Based on the tracking of past individual behavior, the pooling of this data, and the creation of addressable consumer profiles, companies predict future outcomes and risks. As a consequence, hidden screenings and personalized offers condition the access to economic and other resources, from health care and credit to employment and insurance. In her conference keynote address “Seeing Like a Market” (Fourcade and Healy forthcoming) to the conference “Classification Situations in Markets”,[3] held in Berlin in June 2015, Fourcade suggests a novel terminology to describe this form (or state) of capital, *Ubercapital*. The concept tries to capture the proliferation of algorithmic classifications in various settings of social life and their use in contexts for which they were not originally intended (Akos Rona-Tas 2017, in his contribution to this Special Issue also speaks of off-label use). One aspect hereby is the individual attribution (replacing nominal boundaries of exclusion) in the justification of these discriminations, which defines the specific moralizing character of these market classifications (Poon 2009; Fourcade 2016; Juergenmeyer and Krenn 2016 for a more detailed discussion of the conference). Digital status reports of being “out of normal position” compared to a normal state are put to immediate use. Often regardless of context or relevance, the conformity of personal choices is classified and sanctioned.

Generally, the recurring primacy of stratifying differentiation can be observed throughout society (Fourcade 2016). But the development described above also indicates a historical transformation of techniques of governmentality (Fourcade 2007; Fourcade and Healy 2013). A fundamental critique of these data-based stratification dynamics objects to their opacity, regarded as an example of the politics of (in)visibility prevailing in the “Black Box Society” (Pasquale 2015). Fourcade and Healy stress this point in their concluding comment to this HSR Special Issue (Fourcade and Healy 2017b).

Sociological concerns about the social implications of these developments are even more fundamental and are closely connected to the principal limitations of classifications and measurements.

4. The Fallacies of Classification and Measurement

In its sociological origins, the concept of classification refers to a cognitive system of social representation (Durkheim 1915; Durkheim and Mauss 1963). For an extensive discussion on the classification concept and its varying meanings in different literatures see also Krüger and Reinhart (2017, in this issue). Classification provides an informational infrastructure (Bowker and Star 2000). Once it is established, its categories accepted and boundary drawings institutionalized, its ordering capacity starts running (Douglas 1966; Beckert and Musselin 2013). However, there is a second side to this. The common-sense character of classifications (Berger and Luckmann 1966; Schütz 1972) obscures the immanent fallacies of these procedures, which has been the subject a

3 In appreciation of funding by the Fritz Thyssen Foundation.

variety of literature on classifications and raises a fundamental problem in the sociology of knowledge.

The (Natural) Boundary Fallacy

Classifications operate under the assumption that boundaries between categories are clear-cut and discrete (Bowker and Star 2000). The contingencies with regard to the choice of boundary criteria often stay out of consideration (Lamont and Molnar 2002; Pachucki, Pendergrass and Lamont 2007). In many cases, the distinctive character of boundaries seems only valid for paradigmatic examples. As Boltanski and Thévenot (1983) showed in an early experimental study on job classifications in France (*cadres*) the initial act of category-building is less clear-cut than it appears (see also Diaz-Bone in this special issue). In many cases different placements are possible. In contrast, the naming (or labeling) of a category carries commonly held social images and attributions that lead to a certain positioning in social space. Important insights on cognitive processes active in the formation of categories come from Zerubavel (1991, 1996) who demonstrates that carving discrete categories out of experiential continua goes along with the blurring of heterogeneity as well as the enforcement of differences. The ambiguity and blurring in the initial work of boundary-building and categorization are addressed by the contributions of Chiapello and Godefroy (2017), the problem of the translation of continuous differences in categorical distinctions by the contribution of Rona-Tas (2017), and the messiness of the employment of categories by Pridmore and Hämäläinen (2017) in this HSR Special Issue.

An interrelated issue is the naturalization of categories. Categories give the appearance of a simple observation of prior natural differences that only have to be identified. However, instead of being accurate identifications, categorizations are social procedures that initially create those groups they aim at identifying. A telling example of this is the history of the IQ test (Carson 2007). This naturalization of categories falsely renders its own construction invisible. However, categorization is nothing natural, it is a social convention (Zerubavel 1996).

In this context, the literature emphasizes the power dimension of classifications. Classifications are instruments of distinction that reflect power differences (Bourdieu 1984). Moreover, the sorting into hierarchical categories makes actors governable and facilitates domination (Foucault 1979). The naturalization of social categories is hereby strongly connected to the approval and legitimation of an unequal distribution of scarce resources and power (Tilly 1998; Lamont and Molnar 2002; Tilly 2005; see also Schiller-Merkens 2017, in this HSR Special Issue).

The Measurement Fallacy

A second assumption is that categories are just the result of neutral measurement procedures. The imagination of a rational calculation of human action, reasoning with regularities and probabilities, is nothing new. Thinking of measures and statistical patterns as explanatory per se became widely popular already in the 19th century (Hacking 1975, 1990; Duncan 1984). It is strongly connected to intellectuals such as Broussais, Condorcet, Quetelet and Comte who advanced the project of empirical moral science, which likewise gave birth to *sociology*. Based on an "avalanche of printed numbers" (Hacking 1990) distributions and regularities of attributes and behaviors were measured. The advent of official state statistics, bureaucracies gathering data on the population, gave rise to a rational theory of individuals and society (Porter 1995; Desrosières 1998). An important facet pointed out by Desrosières is the co-construction in unison of the idea of the state and the quality of statistics, and its change over time (Desrosières 2011). As Weber would argue later, the idea of rationalization and calculation was significant for the 19th century. It characterized the modern rule. Even then it was not only an intellectual tradition but was accompanied by interventions in the social organization of lives. Famous examples are Weber's own study of bureaucracy (Weber 1972 [1921/22]) and Taylor's principles for a scientific management of the workplace (Taylor 1911). Measuring techniques and quantifications in general were celebrated as a major scientific achievement (Porter 1995). In historical reflection the idea of statistical laws of society seemed very modern and appeared to overcome indeterminism. Statistics operated on the imagination of objective knowledge and fueled a doctrine of necessity (Hacking 1990). The legitimation of sorting by statistical properties was unquestioned. At its heart was the idea of a normal social state, in a descriptive as well as an evaluative sense. However, as is shown by critical science studies, measurement operations use "technologies of persuasion." They disguise their interventional character and appear as "a way of making decisions without seeming to decide" (Porter 1995, 8). To put it in a nutshell, quantifying operations are a case of "investment in form" rather than accurate measurement (Thévenot 1984, 2009). With regard to markets, Science and Technologies Studies have also shown that technologies are not neutral measuring instruments, but rather conversely, that the employment of calculative devices performs the economy (Callon 1998; MacKenzie 2006).

Debates on the assumptions underlying quantifications meanwhile cover a comprehensive transdisciplinary field (Diaz-Bone and Didier 2016). Relevant for our context is the fact that quantifications not only support the idea of a neutral valuation regime but also warrant standardization and commensuration (Espeland and Stevens 1998). It is on this understanding that, although this erases certain quality differences, it also conveys hierarchies and quality assessments (with regard to conformity and deviance).

Social life, and consequently also markets, rests on the ability to distinguish, compare and commensurate. However, the fallacies just mentioned mean that classifications merit suspicion, and, particularly with a view on their social implications regarding stratification, (in)equality, and privacy, are a matter for critical sociological inquiry. The underlying assumptions of classifications make them appear categorically neutral or "fair", although their real drivers are often of a different nature such as profitability (Krenn 2017, in this HSR Special Issue). Studying (market) classifications is even more important, as there is no opting-out of being classified. Providing no data means defying classification, and "defying classification invites penalties" (Zuckerman 1999, 1399). This unavoidability is present in existential social activities.

A key issue is that market classifications produce a representation of the economic world that seems to be becoming globally more and more powerful, particularly with regard to the chief tendencies in contemporary capitalism such as economization (Çalişkan and Callon 2009), marketization (Djelic 2006) and financialization (Krippner 2005; Chiapello 2015). The articles in this special issue help to break down the shaping of markets by classifications and the blocking of market access and to reveal the contingencies and indeterminacies of category-building.

5. Contributions in this HSR Special Issue

This HSR Special Issue "Market Classification" presents a collection of contributions from scholars from different fields in sociology and marketing studies who examine market classifications across a range of economic settings. The first group of contributions takes up the argument by Marion Fourcade and Kieran Healy (2013; reprinted in this issue) that economic classifications have stratifying effects, and discusses the classification of consumers under the aspects of discrimination, (in)equality and exploitation. A second group of contributions analyses classification practices in the newly emerging market niches of finance, fashion and high-end beverages. Empirically, a multiplicity of national and transnational markets are targeted beginning with the US consumer market (Rona-Tas), Dutch marketing companies (Pridmore and Hämäläinen), German financial services (Krenn), French impact investment (Chiapello and Godefroy), the British fashion industry (Schiller-Merkens), the transnational market for high-end beverages (Diaz-Bone) and the global sustainability accounting and reporting field (Nagel, Hiss, Woschnack, and Teufel). Finally, the third group of contributions has a pronounced theoretical focus (Diaz-Bone, Krüger and Reinhart, Fourcade and Healy).

The article by *Akos Rona-Tas* (San Diego) exhibits the operation of data brokers and "off-label use" of credit classification of consumers in the US in insurance, house rental and job hiring activities and the resulting harmful effects and cumulative disadvantages. He particularly criticizes the strong assumptions underlying these practices. *Sebastian Sevignani* (Jena) builds on the class-theoretical part of Fourcade's and Healy's argument. By connecting critical surveillance studies with class theory he conceptualizes the usage and monetization of digital data as an exploitation relation characterizing informational capitalism. *Jason Pridmore* and *Lalu Hämäläinen* (Rotterdam) point to the limitations of digital segmentation practices applied in Dutch social media marketing and social customer relationship management. They juxtapose marketing discourse rhetorics with marketing practices and expose their divides. The article by *Karoline Krenn* (Lucerne) relates dominant advice concepts in German financial services to client segmentation practices and thereby emphasizes the role of classifications in the context of market intermediation. Next follow two contributions that deal with the financial market classification system. By looking at the case of French impact investment *Eve Chiapello* and *Gaëtan Godefroy* (Paris) illustrate the dual function of judgement devices, first, for the initial work of market-building, and second, for the ranking of things traded in the same market segment. *Sebastian Nagel*, *Stefanie Hiss*, *Daniela Woschnack* and *Bernd Teufel* (Jena) offer a review of the adaption of financial classification technologies to measure sustainability performance and examine the heterogeneous data handling between sustainability reporting and sustainability accounting activities. *Simone Schiller-Merkens* (Cologne) analyzes the complex dynamics of self-categorizations in the British ethical fashion industry and highlights its dependence on a powerful audience. *Rainer Diaz-Bone* (Lucerne) portrays the French approach of the economics of convention (EC). His contribution applies the EC to the analysis of classificatory procedures in the high-end market for wine and coffee. *Anne Krüger* and *Martin Reinhart* (Berlin) bring together literature from different fields of sociological analysis such as classic work by Durkheim, Simmel, and Dewey, sociology of science and Science and Technology Studies and elaborate an integrated conceptual framework for the study of valuation which also allows us to answer questions about the sociology of markets.

In their concluding comment, *Marion Fourcade* (Berkeley) and *Kieran Healy* (Durham) recapitulate the main features of new classification situations that describe modern institutions. New classifiers potentiate the already powerful mechanism of traditional classifications. Specifically, the authors emphasize the matter of opacity of these procedures as forefront problem.

By attending to the emergence, formation, and contestation of categories and their social implications, all articles in this HSR Special Issue contribute to a sociological perspective on the economy, demonstrating the social character of underlying processes in market classifications or classification-based market operations.

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Classification Situations: Life-Chances in the Neoliberal Era

Marion Fourcade & Kieran Healy *

Abstract: *»Klassifikations-Lagen. Lebenschancen in der neoliberalen Ära«*. This article examines the stratifying effects of economic classifications. We argue that in the neoliberal era market institutions increasingly use actuarial techniques to split and sort individuals into classification situations that shape life-chances. While this is a general and increasingly pervasive process, our main empirical illustration comes from the transformation of the credit market in the United States. This market works as both as a leveling force and as a condenser of new forms of social difference. The U.S. banking and credit system has greatly broadened its scope over the past twenty years to incorporate previously excluded groups. We observe this leveling tendency in the expansion of credit amongst lower-income households, the systematization of overdraft protections, and the unexpected and rapid growth of the fringe banking sector. But while access to credit has democratized, it has also differentiated. Scoring technologies classify and price people according to credit risk. This has allowed multiple new distinctions to be made amongst the creditworthy, as scores get attached to different interest rates and loan structures. Scores have also expanded into markets beyond consumer credit, such as insurance, real estate, employment, and elsewhere. The result is a cumulative pattern of advantage and disadvantage with both objectively measured and subjectively experienced aspects. We argue these private classificatory tools are increasingly central to the generation of „market-situations", and thus an important and overlooked force that structures individual life-chances. In short, classification situations may have become the engine of modern class situations.

Keywords: Market classifications, market sociology, market order, categorization, credit scores.

* Marion Fourcade, Department of Sociology, University of California, Berkeley, CA 94720-1980, USA; fourcade@berkeley.edu.
Kieran Healy, Department of Sociology, Duke University, Durham, NC 27708, USA; kjhealy@soc.duke.edu.
The article is reprinted with the kind permission from Elsevier B. V. Reprint of: Fourcade, Marion, Kieran Healy. 2013. Classification situations: Life-chances in the neoliberal era. *Accounting, Organizations, and Society* 38 (8): 559-72. doi: 10.1016/j.aos.2013.11.002.

1. Introduction[1]

Academics often remind others that familiar categories are difficult to question, but they are hardly immune to the problem themselves. Consider the case of social class. In general, contemporary approaches see classes as rooted in production, specifically the employment relation. This view descends from Marx, who argued that the beginning of class is one's relationship to the means of production. Notwithstanding the nuanced analysis of class relations in his political writings (e.g., in *The 18th Brumaire* and elsewhere), what stuck with sociologists was Marx and Engels's insistence that class analysis is, at its core – or "in the last instance," as people used to say – a matter of owning or not owning the means of production. Classes are defined antagonistically on that basis. Capitalists call the shots in the labor market and workers are forced to accept the terms on offer.

The core problem for later theorists has been to make sense of the rise of service and managerial occupations within this underlying relational structure. Scholars edged towards a Weberian view (Breen 2005; Wright 1985), eschewing a scheme of intrinsically antagonistic classes in favor of a more refined spectrum of class situations, or life chances, on various markets. People own (or do not own) different sorts of property, or they bring different skills to the market, or have different services to buy or sell.

In their efforts to build on Weber's insights and to reconcile theory with data, contemporary formulations of class theory became more precise, and tableaux of class membership more complex. Sociology's most influential statements on the subject, such as Wright (1985), Erikson and Goldthorpe (1993), and Grusky and Sørensen (1998), set out to operationalize the concept of class in a way that connected it to the process of socio-economic attainment. Largely framed by the methods and concerns of Anglo-American mobility research, the challenge was to develop a class-based analysis that could make sense of the elusive "middle" of the American occupational structure. But this meant that

[1] We thank Steven Barley, Irene Bloemraad, Bruce Carruthers, David Cooper, Eve Chiapello, Matthew Desmond, Marie-Laure Djelic, Derek Hoff, Andreas Kalyvas, Daniel Kluttz, Jeanne Lazarus, Roi Livne, Bruno Palier, Alex Roehrkasse, Matthias Thiemann, Loïc Wacquant, Erik Olin Wright, Valery Yakubovich, two anonymous AOS reviewers for helpful comments on an earlier version of this article or insights about its subject. This work was presented at the annual conferences of the American Sociological Association (2011), the Social Science and History Association (2011), the Society for the Advancement of Socio-Economics (2011), the Interdisciplinary Perspectives on Accounting Conference (2012), the "Politics of Markets" conference (Berkeley 2009), the conference on "Economic Modernity in the 21st century" (Barcelona 2012) and the Max-Planck-Sciences Po Center inaugural conference (Paris 2012), as well as in talks at Duke University, ESSEC Business School, Harvard University, Princeton University, Sciences-Po, the University of California Berkeley, the University of Chicago, and the University of Pennsylvania.

contemporary class analysis remained close to its origins in that it still began with an analysis of the structure of positions in occupations, firms, and labor markets. We shall argue that this has made it hard to connect these theories to processes of social stratification that originate outside the sphere of production, in settings such as consumer credit systems, education, health services, and housing.

Of course, research on inequality shows other forms of social division beside class structure shape people's access to and experience of basic social institutions. Reliably, specific social groups – the poor, minorities, women, young people, and others, whether singularly or in various intersections and combinations – face a more restrictive set of choices, receive worse treatment, and experience worse outcomes than dominant groups in practically every institutional domain (Massey 2008). The durability of these inequalities is explained, variously, by rational choices on the part of vendors trying to avoid catering to riskier individuals (Becker 1971), the persistence of straightforward prejudice, or more subtle processes of symbolic violence, pragmatic disqualification, or systemic "über" discrimination (Reskin 2012). In this view, modern markets reproduce inequalities that originate elsewhere in the social structure, in historical legacies, and in longstanding attitudes that differentiate between categories of people. The action of markets themselves does not contribute much to the formation of social hierarchies.

What if it did? What if we could make the recording, splitting and categorizing work done by markets and market technologies "good to think with" for the study of social inequality? The point is in some ways familiar. Occupational markets have long been structured by institutional devices such as licensing and credentialing systems, in addition to rules oriented to exclude certain kinds of people. But what makes the new market instruments so interesting is that they seem so much more democratic. Indeed, historically their appeal came, in part, from their purported ability to keep older forms of arbitrary or categorical discrimination at bay (Hyman 2011; Poon 2013). These new markets draw distinctions, too, but in a different way. Rather than protecting certain groups through the creation of rents and monopolies, they thrive on the market's competitive logic, demanding that people be measured against one another, and then separating and recombining them into groups for efficiency and profit. As with class, the process of differentiation is endogenous to the market itself. But unlike class, the action happens on the consumption side of the economy, rather than on the production side.

In this article, we focus more particularly on how the emergence and expansion of methods of tracking and classifying consumer behavior affect stratification through the allocation of credit. On the supply side, scoring agencies slice consumers into behaviorally-defined risk groups, and price offerings to them accordingly. On the demand side, consumers find themselves more or less comfortably fitting into these categories – which, by design, are not constructed from standard demographic classifications such as race and gender. At the intersection of this supply and demand, the increasing sophistication of credit scoring generates what we call *classification situations*: positions in the credit market that are consequential for one's life-chances, and that are associated with distinctive experiences of debt. These range from the exploitative to the dutiful, and from the dutiful to the almost liberating. Some feel weighed down or crushed by debt, others feel the pressure both to acquire and pay off certain sorts of loan, and still others embrace credit as a means of asset accumulation and mobility. These classification situations are not merely approximations to pre-existing social groups, though of course they may overlap substantially in specific cases. Rather, they are independently, even "artificially" generated classifications that can come to have distinctive and consequential class-like effects on life-chances and social identities.

2. The Crucible of Class

2.1 The Standard View

We begin with Weber and his concept of life chances. It is worth quoting his definition of "economic class" at length:

> We may speak of a "class" when (1) *a number of people have in common a specific causal component of their life chances* (…). This is "class situation." (…) Property or "lack of property" [are] the basic categories of all class situations. …Within these categories, however, class situations are further differentiated: on the one hand, *according to the kind of property that is usable for returns; and, on the other hand, according to the kinds of services that can be offered in the market*. Class situation is, in this sense, ultimately market situation. (Weber 1978a, 927-8, emphasis added)

Notoriously, Weber was not very specific about what he meant by "chance in the market." However, he does offer a telling empirical illustration. Rather than pursuing the more Marxist line of analysis he begins with (the distribution of material property and skills or "services offered"), Weber ends the passage on "economic classes" in *Economy and Society* with a cryptic reference to the credit market: The creditor-debtor relation becomes the basis of "class situation" first in the cities, where a "credit market", however primitive, with rates of interest increasing according to the extent of dearth and factual monopolization of lending in the hands of a plutocracy could develop Weber 1978a, 928).

This suggests that Weber's view of class situation as life chances in a market should be much more broadly applied than it typically has been in the literature on class analysis. (And, quite possibly, more broadly than Weber himself envisioned – but our purposes here are not exegetical.) Our claim is that many institutional settings may be analyzed as systems of market-situations, each with its own dynamic of social stratification and its own claim on the making of social class.

The standard picture in stratification research is that a person's life-chances are rooted in their position in the occupational structure, and expressed in their pathway through it. One's occupation (or that of one's parents) may affect one's health, the likelihood of arrest or prison, the availability of educational opportunities, and so on. Often, the model is made more complex by the addition of alternative bases of stratification, such as racial, ethnic, gender, religion, age or family structure.

In Weber's view what ultimately determines one's life chances – one's specific market-situation – are individual endowments of various kinds. We would now think of these endowments as various sorts of capital. People own (or do not own) different sorts of property, they bring different skills (or no skills) to the market, they buy and sell various services (or not). It is this individualizing tendency in Weber's theory of stratification – its tendency to unravel class into a set of individual locations on a spectrum – that has long been resisted by his Marxian critics.

2.2 From Class Situation to Classification Situation

What is missing from this view is the notion that allocation to particular market-situations might depend on some formal, institutionalized classification procedures. Weber recognizes the power and significance of bureaucratic records and rules, but does not connect this to his analysis of the market. In Weber's time, insofar as this organizational means was available at all, it was almost exclusively a tool of the state bureaucracy. Scholars interested in the intersection of rationalized bureaucracy and logics of classification have thus looked primarily to the state and its official classifications, which are public in nature and carry implications for government policy, identity-formation, and collective action (Hacking 1986; Loveman 2013; Schor 2009; Starr 1992; Steensland 2010). But many important classificatory systems are now embedded in markets. They are by nature private, even to the point of being trade secrets. They are oriented toward the extraction of profit and often manufactured and managed in a quasi-monopolistic manner. For instance one company, FICO – originally Fair, Isaac and Company – produces many variants of its FICO score, which it claims are used in ninety percent of lending decisions in the United States. Combining the fine-grain of Weberian market-situations with rationalized organizational methods, these forms of commensuration and categorization have institutionalized and diffused rapidly. As such, they have become powerful "market devices" whose broader social effects are still not well understood (Carruthers 2013; Muniesa, Millo, and Callon 2007). To emphasize our modification of the Weberian framework, we call the outcomes produced by these new technologies *classification situations*, as distinct from class situations.

The starting point for our analysis is thus the operation of market institutions, not the *a priori* identification of fundamental social categories. In that respect our perspective contrasts not only with theories of inequality centered on labor-markets, but also with approaches emphasizing the intersectional consequences of cross-cutting memberships in racial, class, and gender categories Collins, 1990; Massey 2008; Tilly 1999). Second, by paying attention to explicit, "objective" classificatory techniques rather than implicit, "subjective" schemes of perception and action, our approach also differs from Pierre Bourdieu's analysis of the relevance of classificatory struggles to class analysis in the last chapter of *Distinction* (1984). In our case, the classificatory mechanism is both more palpable (classifications are bought and sold) and less so (the mechanics of classification is impersonal, confidential, and does not allow for individual interpretation).

Rather than seeing how basic social-categorical differences "play out", are "expressed in", or "distort" institutions, we thus seek to identify, in a manner not unlike Bowker and Star (2000), how institutions systematically sort and slot people *into new types of* categories (which we may call "market categories") with different economic rewards or punishments attached to them. On this view, the labor market is only one among many institutions that structure life chances. Education, health-care, credit, and commodity markets classify their participants too, in ways that generate social inequalities rather than simply reproducing them. We also expect configurations of classificatory institutions in different societies to display similarities and complementarities among themselves (DiMaggio and Powell 1983; Hall and Soskice 2001). This means we must attend to the systemic linkages between classificatory mechanisms, institutional development, and the wider social environment.

We argue that dramatic changes in market organization, triggered by the decollectivization of social services and risk in the neoliberal era (Hacker 2008), have both expanded the supply of services and increased the classifying activities of institutions. Both credit and higher education, for instance, provide good illustrations of these trends with a rapid expansion of access (reversed only very recently) and a subsequent internal diversification of supply by price and quality. In both cases, providers have learned to tailor their products in specific ways in an effort to maximize rents, transforming the sources and forms of inequality in the process.

Substantively, the approach we advocate here has three main implications. *Comparatively*, we should investigate the role of actuarial technologies (Mikes 2009; Power 2011) in sorting people into a diversified set of life trajectories. In this article, we focus on the U.S. credit market as a useful and important empirical site for studying how these new, "classificatory," mechanisms of social stratification operate. But it is worth emphasizing, again, that the point applies much more broadly. These technologies may be less salient or differently implemented in some countries, and thus their effects on stratification may vary too. *Historically*, we should document how the neoliberal shift transformed institutions – in our case, institutions devoted to the provision of consumer credit – in ways that facilitated the action of classificatory engines. Behind the longitudinal inquiry is the argument that recent changes in the organization of many markets have affected people's lives in ways that are often not well captured by traditional analyses. And theoretically, we ought to reflect on what these changes mean for theories of stratification in the neoliberal era.

3. Kinds of Classification Situations

There have been two historical forces behind the development of classification situations. The first is technology, namely the growing availability of individual-level data, on the one hand, and the development of statistical models of risk on the other. The second is the market economy. As representatives of the collective good, states tend to be politically oriented toward universal mandates. Under state rule, risks were collectivized, socialized, even though the *management* of such risks became increasingly individualized over time, though not necessarily more differentiated (Bauman 2000; Burchell, Gordon, and Miller 1991). Private corporations, however, are oriented to profit. In an earlier era, some of the risks faced by private credit institutions might have been socialized through cross-subsidization. Money lost administering small loans in poor neighborhoods, for instance, might have been made up by high profits on large loans in richer neighborhoods. More often, however, banks turned away from the most destitute places if they could, leaving behind so-called "banking deserts" (Leyshon and Thrift 1995).[2]

The new actuarial technologies have changed all that, allowing capitalist firms to systematically make *individual* assessments of risk, and to turn those assessments into economic opportunities through sharply differentiated pricing strategies. No wonder, then, that classification situations are especially well-developed in liberal market economies (Hall and Soskice, 2001), where private markets, rather than states, are the main providers of access to primary goods and services such as healthcare, money, insurance or the law, and education.

3.1 Seeing like a Market

Weberian sociologists and Chicago-school economists alike argue that markets are blind to differences in social status. In the former case, the market "knows

[2] This prompted legislation, in 1977, to oblige banks to have a presence in poor communities (Community Reinvestment Act).

nothing of honor" (Weber 1978b, 936); in the latter, it is an unbiased engine of preference aggregation. We suggest instead that markets see social differences very well, and thrive on them. Like states, market technologies make societies more "legible", to use Scott's (1999) phrase. Contemporary market institutions, in particular, are inveterate classifiers. They count, rank, measure, tag, and score on various metrics of varying degrees of sophistication, automation, and opacity. The data collected in these procedures becomes grist for analytical machines devoted to further refining the classification system itself, and the engine for allocating individuals to some tier or group on the basis of that classification.

Fueled by the growing availability of demographic and non-demographic data over the last 30 years or so, classificatory efforts by corporations have concentrated on the production of increasingly fine-grained knowledge about populations of would-be customers. This data is sometimes provided by states (demographic data), sometimes bought from market intermediaries (e.g. purchasing histories, employment and medical data, records of online behavior, credit scores), or generated by specialists (various forms of market research). This knowledge is incorporated into all kinds of actions, from decisions about the location of shopping outlets to product segmentation to marketing tactics to pricing strategies. Social scientists have been keen to notice the new forms of calculability, governmentality and moral regulation embedded in these techniques. But they have stopped short of examining their broader social implications.

3.2 Boundary Classifications

Market institutions produce two main kinds of classification situations. The first distinguishes people who are "in" from those who are "out." For instance, people may be qualified to open a bank account – or be denied the ability to do so; buy health or car insurance – or not; have access to credit – or not. Let us refer to this type of situation, quite simply, as "exclusion" or *boundary classification*. In much of the world, simple lack of access to goods and services, whether provided by the state or the market, is of course the dominant form of consumption-based classification. It is most obvious where supporting institutions are absent or substandard, as they often are in the developing world.

Boundary classifications can be collective or individual. A good example of collective boundary classifications is the once widespread practice of redlining. Redlining excludes entire neighborhoods from services on the basis of some undesirable social characteristic, usually race. Such collective forms of exclusion, obviously structured by long histories of institutionally-supported racial segregation,[3] are now formally outlawed as discriminatory.[4] But their effects are still being felt in the form of reversed patterns of geographical location of bank branches and "predatory" lenders in white and black neighborhoods (Graves 2003), in African-Americans' weaker personal ties to mainstream financial institutions, and in the persistence of more insidious, but pervasive, forms of reluctance to lend to African-American individuals and communities (Oliver and Shapiro 2006).

Modern boundaries tend to be drawn individually, for legal as well as technological reasons. For economists, institutions classifying at the boundary address the problem of adverse selection. In a situation of uncertain information, they separate cases that are "presumed good" from those that are "presumed bad" – the smart from the dull, healthy from unhealthy, lazy from hard-working, prudent from spendthrift. These categories may sound clean and clear-cut, but sorting people is a messy business in practice. In earlier times, the bank or retail finance officers who carried out the work of assessing the creditworthiness of individuals relied primarily on personal judgment. They met potential clients in person, and evaluated them based partly on their physical appearance, their demeanor, and their conversation. They encouraged and listened to local gossip. And thus lending decisions were typically grounded in the agents' opinions and their practical experience with various "social types" and the assumed personal morality of various classes of customers. With the growth of these businesses and the accumulation of payment records by companies, the process became more quantitative. The first credit reporting companies had emerged in the 19th century, collecting rough information about companies (and then individuals), and using it to place borrowers within a standardized, ordinal classification scheme for the convenience of lenders (Carruthers and Cohen 2010; Ruef and Patterson 2009). By the 1950s, credit rating moved to probabilistic predictions based on statistical analyses of historical population data. But large quantities of non-financial personal information continued to be incorporated, such as marriages, promotions, and arrests (Furletti 2002). In the 1970s, with financial institutions and retailers now routinely reporting their lending activities, U.S. government institutions endorsed credit scoring – the numerical evaluation of a person's reliability and integrity based on his or her individual credit file – as a neutral, objective way of assessing creditworthiness that would promote fairness in credit markets and eliminate race-based discrimination (Marron 2009). The new forms of classifi-

3 The Federal Housing Authority aggressively promoted the use of racial categories in mortgage finance and home building from its inception up until the 1970s (Freund 2010).

4 In the United States, for instance, redlining on the basis race, color, religion, national origin, sex, handicap, or familial status has been illegal in housing since 1968 (Fair Housing Act), credit lending since 1974 (Equal Credit Opportunity Act), and banking since 1977 (Community Reinvestment Act). It arguably survives in insurance.

cation were thus based on data about individual rather than group credit histories; they included provisions that made the collection and use of certain demographic data illegal; and they were impersonally administered.[5]

Market classifications are part of a general movement toward the institutionalization of "mechanized objectivity" (Porter 1995). Because they increase trust (Guseva and Rona-Tas 2001) and efficiency, there is ample evidence that these new techniques have increased equality *ex ante* by broadening formal access to the financial system and shrinking the percentage of people excluded from services.[6] Carefully graded assessments could now balance heightened risk with higher prices, and so the new classification technologies fueled a huge expansion of products specifically marketed to traditionally disadvantaged (and excluded) categories of people.[7]

3.3 The Shifting Boundary: The Expansion of Credit in the United States

The rise of credit scoring systems can also be seen as part of a long trend towards the expansion of access to formal credit and the financial system more generally. As Cooper and Sherer put it, "any accounting contains a representation of a specific social and political context" (1984, 208). In the twentieth century, American policy elites generally regarded market exclusion, or lack of access to conventional market institutions, as both unfair and inefficient. Since the Progressive period, reformers of all stripes in the United States saw the expansion of mainstream credit access as a requirement of a well-functioning economic democracy. They also supported the moral argument that people ought to be protected from exploitative financial dealings. During the interwar

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[5] The Equal Credit Opportunity Act of 1974 makes it unlawful to discriminate applicants on the basis of the following categories: age, marital status, race, color, religion, national origin, receipt of public assistance, and good faith exercise of any Consumer Credit Protection Act right (Hsia, 1978). In spite of these legal precautions, practices that are on face value-neutral may still have a disparate impact across populations because the characteristics recorded by scoring systems are not evenly distributed across subpopulations (Cohen-Cole 2011; FRB 2007).

[6] Nevertheless, scoring has been shown to result in significant disadvantages for certain categories of the population. Minorities are more likely to be excluded from credit altogether, or to receive worse treatment than their white counterparts, net of other differences (FRB 2007). As Marron (2007, 111) puts it, "scoring undercuts the coherent identity of being "female" or "black" within which oppression or marginalization is experienced, displacing credit decisions onto an array of discrete characteristics or attributes seemingly innocent within themselves and seemingly individually predictive of repayment performance, independent of subjective will."

[7] See Mian and Sufi (2009) on the mortgage market. They find considerable evidence that mortgages were actively marketed in subprime ZIP codes between 2002 and 2005, despite sharply declining relative income growth in those areas. See also Fligstein and Goldstein (2010).

period, for instance, experts from the Russell Sage Foundation actively and successfully mobilized to reform and develop the small loan industry (Anderson 2008; Carruthers, Guinnane, and Lee 2012). They reasoned that raising legal interest rates just slightly above usury law levels would attract mainstream lenders to the small loans business and drive out illegal predatory lenders. By the late 1930s, most states had followed their recommendation.[8]

In addition to these private efforts, federal agencies also endorsed the "democratization" of credit. Expanding access became an explicit policy goal toward the end of the Great Depression, and from then on successive generations of policy makers embraced it as a means to accelerate social mobility, and, increasingly, generate economic growth (Quinn 2011). One of the most significant factors in the more recent development of the US credit market was a 1978 Supreme Court decision (*Marquette National Bank of Minneapolis v. First of Omaha Service Corporation*) ruling that state anti-usury laws regulating interest rates cannot be enforced against nationally-chartered banks based in other states. The Marquette decision caused national banks to relocate to states with the most lenient usury laws. This fueled a competitive race among states to attract banking business, which resulted in a weakening of usury regulation and surveillance across the country (Langley 2009, 145; Sherman 2009). Further deregulation in the 1980s (such as the phasing out of Regulation Q) again increased competition among financial institutions, contributing to the Savings & Loan collapse, and to a wave of mergers and consolidation in the banking sector (Krippner 2012).

What effects did these changes have on the relationship of households to the banking system? The data for this period is complex, and at times contradictory, but two trends are clear. Since the late 1980s there has been increased inclusion at the boundary, and increased segmentation within the market. The percentage of U.S. households with a transaction account has increased significantly over the last three decades, particularly among the most socially disadvantaged categories of households (from 85% to 92% of all households between 1989 and 2007, but from 56% to 75% of households in the bottom quintile of the income distribution).[9] Having a checking account is hardly equivalent to the democratization of access to credit, of course. In fact, the new banking inclusion notwithstanding, the percentage of people who report having difficulty accessing regular credit has also grown since the mid-1980s in practically every social category except the most privileged. So how was the unfulfilled desire for credit met? Framing the problem as if everyday borrowing had "a clear and unambiguous inclusive side, on the one hand, and an excluded outside, on the other" misses a big part of the picture (Langley 2009, 168).

[8] Note that a very similar logic played out to legitimize micro-lending in the developing world. See, e.g., Roy (2010).

[9] Federal Reserve Board, Survey of Consumer Finances, 1989-2010.

Instead of the inclusive expansion of credit for the poor envisaged by early credit reformers, a new landscape has developed at the bottom end of the income scale, which is marked by a blurring of boundaries between mainstream and fringe lenders. In particular, access to formal banking has set the stage for the rapid growth of payday lending (a form of salary advance), which – unlike earlier forms of marginal credit, such as pawning – requires the borrower have a bank account (Caskey 1994).

The rapid and largely unfettered expansion of payday lending, of other expensive small scale credit providers, and of high fee credit services offered by banks did not take place in a political vacuum. It reflects, in part, the growing reliance of American political authorities on individual responsibility against top-down regulation in moralizing markets. In the consumers' republic that flourished in the postwar period, protecting people from abuses by fettering markets ex ante was perceived as political and economic suicide, given prevailing ideologies and the fact that domestic consumption drove over two-thirds of the national economic machine.[10] Instead, better information and disclosure rules, as laid out in the Fair Credit Reporting Act of 1970 or in the Equal Credit Opportunity Act of 1974, were trusted to guard presumably rational consumers against the deceptive and high cost business practices that inevitably arose in this expanding market. These policies gained the upper hand in spite of numerous studies and repeated congressional hearings documenting the low levels of financial literacy among the US population, particularly the poor and minorities (Lusardi and Tufano 2009).[11] Unsurprisingly, the effect of these changes on equality has been much more questionable than promised. Inequities in the market are thus now "less a matter of access to credit and abandonment, and more a matter of the differential interest rates that borrowers pay to lenders across both mainstream and alternative networks of borrowing" (Langley 2009, 168). By enabling and facilitating the differential pricing of people, scoring has expanded the reach of the market while opening the door to new forms of classification with powerful stratifying effects. The market expands at the boundary and then differentiates internally. We now turn to the latter process.

3.4 Within-Market Classifications

> Individuals viewed through statistics no longer need to be classified as either 'in' or 'out' of the market. Armed with a gradated sliding scale, people all along a spectrum of risk can be offered specially designed products at alternative terms and prices. (Poon 2009, 167)

[10] Data from the World Bank (Household consumption as a percentage of GDP).

[11] Even face-to-face financial advice meant to teach consumers about the relative risks and benefits of different products is fraught with social tensions. See the very interesting work by Vargha (2011) on Hungary and by Lazarus (2012) on France.

These new forms are *within-market classifications*. Rather than dividing people into two mutually exclusive groups, the new devices position them in a categorical framework or on a continuous scale, the latter usually having key cut-points or thresholds. Categories and thresholds restrict access to certain goods and services, specify their price, or both. Within-market classifications are very widespread, reaching ever more broadly across spheres of life and ever deeper into population segments. Companies keep records on their customers' purchasing behavior (or buy these from other firms), thus enhancing the pertinence and power of marketing and data collection. From an economic point of view this is the problem of managing moral hazard. The classifying institutions are meant to be performative. They steer behavior toward some desirable goal, and encourage people to stay on top of their commitments. There are incentives for compliance, material or symbolic rewards for success, and sanctions for failure. Rewards and punishments are often themselves acts of reclassification. Punitive reclassification, for instance, may entail higher premiums, loss of privileges, poorer service, or higher interest rates.

Much of the regulation in neoliberal, and, importantly, *post-segregation* markets must come from within, from self-monitoring subjects: its accounting infrastructure is oriented to the responsible and efficient functioning of "calculating selves" (Cooper and Sherer 1984, 208; Hopwood 1994; Miller 1992; Miller and O'Leary 1987). Credit scores in particular have a moral aspect, tracking a person's consumption choices dynamically, and reflecting on his or her evolving moral self. In this world, redemption for those who have failed is always available in principle. Only proper self-management is required. This sorting and scoring of people is disciplinary and productive. Its underlying structure and effects are subjectively incorporated. Both the scored and the score-users orient themselves to these measures and strategize about them, in a "reactive" effort to gain control (Espeland and Sauder 2007). For instance, fraudulent companies may send a flurry of unnecessary credit inquiries right before negotiating a loan with a customer, because they know an inquiry without a subsequent loan will affect this person's credit score negatively and thus boost the interest rate they can charge. For individuals, there is an advice industry that teaches how to manage (or game) one's credit score, or how to keep fees and premiums low. This knowledge is offered freely or packaged as a product by advocates online and in newspaper articles; by banks, debt consolidation companies, bankruptcy lawyers, consultants, and firms marketing "FICO security toolkits". Other sources of knowledge include government agencies, nonprofit organizations, academics concerned with financial literacy, and more.

Self-monitoring within the system of credit classification has its limits. At the bottom end of the scoring scale are those who either do not have a score (because they do not use the mainstream credit system) or whose score is so low that it only serves to permanently maintain them outside of the system (and is thus less likely give rise to a form of deliberate management). The exclusionary boundary still cuts through the inclusive world of credit scoring in the form of a stubborn stratum of unscorable, unscored, and underscored individuals – a *Lumpenscoretariat* composed mostly of poor people. In the National Financial Capability Study (FINRA, 2009), 56% of the people surveyed with incomes above $75,000 had obtained a credit report, as compared with 18% of those with incomes below $25,000. Economists typically explain this discrepancy in self-surveillance in terms of disparities in "economic literacy" or, worse, sheer behavioral irrationality (e.g. Bertrand and Morse 2011). But what this difference captures, fundamentally, is the objective and subjective marginalization of the less privileged from the world of mainstream credit. Because credit behavior is recorded and interpreted as a sequence of individual choices, the vagaries of harsh circumstance, the power of differentiated markets, and the pressure of social competition – all of which powerfully structure how, where and when people borrow and repay – magically disappear from view.

3.5 The Three Worlds of Credit in America

As is clear from the examples and data we have discussed so far, the institutional machinery for generating classification situations is to be found in its most developed form in the United States. The way the credit-scoring process erases circumstance seems an extraordinary irony in a country where people rely extensively on credit to compensate for the cover over holes in the welfare system (Prasad 2013). A 2009 Federal Deposit Insurance Corporation survey of underbanked[12] consumers in the United States found that 38% of them relied on highly exploitative "fringe" lenders (payday, for instance) to cover basic expenses, and a further 19% used them to cover medical expenses, child care expenses, and lost income (FDIC 2009b, 42). For African-Americans especially, the incidence of these services increased markedly with the number of children in the household.[13]

It is the combination of weak social welfare provision and the abundance of variably-priced credit that makes classification situations consequential in liberal market economies. As Prasad (2013, 234-5) remarks, "there is a relationship between credit and the welfare state, such that where we see greater growth in credit we see less growth in the welfare state since the 1980s." Furthermore, "regulation suppresses credit in less well-developed welfare states,

[12] In contrast with "unbanked" consumers, who do not have a bank account, the "underbanked" (as defined by the FDIC) have a bank account but rely also on fringe lending to meet their day-to-day credit needs.

[13] The incidence of having used a payday lender in the past year, for instance, varied from 7% for African-American households with one child to 14% for households with four children (FDIC, 2009a).

while deregulation allows the credit-financed consumption of goods and services that would be provided by the welfare state elsewhere."

Credit scores of the sort calculated by the U.S. credit bureaus are much less common in countries with more developed welfare states. Many have no private credit reporting organizations at all. The information recorded by their public credit registries is extremely limited, and generally confined to identifying seriously delinquent accounts (Miller 2003). Against the American view of credit as an instrument of individual empowerment, public authorities in France and Germany perceive loans to be threatening and dangerous (Trumbull 2012). Consequently, interest rate caps and levels of personal indebtedness are much lower, as is the market penetration of credit cards. About nine million personal credit cards circulate in France (about 0.17 per adult), compared to about 75 million in the United Kingdom (about 1.4 per adult) and close to 1.2 billion in the United States (about 5.2 cards per adult).[14]

In the United States, credit has long been seen as a "welfare-enhancing right" (Trumbull 2012). Earlier models of popular credit had a strong solidaristic basis. The first thrifts were "highly personal nonprofit associations" of "small groups of individuals [cooperating through structured savings] to achieve the common goal of home ownership" (Haveman and Rao 1997, 1616-17). The bureaucratization of thrift in the early part of the twentieth century eroded the culture of personal relations and structured discipline by stressing to voluntary savings schemes. Still, mutual ideologies persisted through the development of credit unions, mutual savings banks, and community development banks. Since the 1970s, however, the normative basis of the case for credit has shifted. While the total number of customers served by mutualistic organizations did not decline substantially, its underlying organization changed. The older patchwork of local financial institutions disappeared. Credit unions gradually consolidated. Mutual savings banks were converted to a stock-ownership model. As the institutional form changed, and as lenders started reaching into new categories of previously excluded people, the moral life of credit changed, too. The idea that the poor ought to qualify for more favorable terms because they were poor was gradually replaced by the idea – now almost completely taken-for-granted – that the terms of credit ought to depend solely on one's prior credit-related behavior, as recorded in an increasingly mechanized reporting system.[15]

Credit scores quantify individual performance, determining which services can be obtained, in terms of type (home equity, credit card, or payday loans), volume (how much credit is extended), and price (the interest rate, required

[14] Source: US Census Bureau, 2012 projections. This is down from a peak of close to 1.5 billion in 2006. See <http://www.census.gov/compendia/ statab/2012/tables/12s1188.pdf>.

[15] We are grateful to Eve Chiapello for helping us articulate this point.

origination or balloon payments, and other fees).[16] For instance, here is a crude but honest recommendation from the British industry publication *The Banker*:

> Stop trying to lend at low margin to accountants, lawyers and civil servants who are reliable but earn the bank peanuts. Instead, find the customers who used to be turned away; by using modern techniques, in credit scoring and securitization, they can be transformed into profitable business." (Langley 2009, 473)

The modern credit enterprise relies on the systematic measurement and exploitation of social differences, by way of scoring systems. The flipside of market inclusion has been an acceleration of market segmentation. Populations have been incorporated and then matched to tailored industries and products. As a result, credit functions differently and is experienced differently across positions in the social structure.

3.6 The Perils of Exploitation: Weighed Down by Necessity

The normalization of high-interest credit products is one of the distinctive features of the relatively weakly regulated American credit economy that the United States represent. Fueled by the post-*Marquette* regulatory environment at the national level and the gutting of usury laws at the state level, the widespread diffusion of "subprime" loans and the flourishing of the so-called "fringe" banking economy transformed the credit environment among borrowers with low to moderate credit scores. The discrepancy between the interest rates paid by high credit-score borrowers and low credit-score borrowers has enormously increased since the late 1980s across all major product types, such as mortgages, car loans, and consumer loans (Grow and Epstein 2007).

This trend was facilitated by the increased visibility of those on the low end of the social scale. They became better incorporated into the banking system but remained poorly served by it, with high barriers of entry into savings and investment products (Schneider and Tufano 2007) and continued difficulties in securing credit. The implied market opportunity was not lost on the most dynamic parts of the fringe-banking industry. As states relaxed laws against high-cost, short-term borrowing, reputable, professional, rationalized market actors replaced the loan sharks of yesteryear. So-called "alternative financial services" (AFS) have grown rapidly in the United States and other liberal market economies, expanding and diversifying the supply of legitimate credit for previously excluded categories of people while also increasing its cost. For instance, the number of payday loan storefronts in the United States rose by an order of

[16] For details on scoring technologies see Leyshon and Thrift (1999), Marron (2007) and Poon (2007).

magnitude between 1996 and 2007, from 2000 stores to 23,600.[17] Lending in anticipation of tax refunds, which grew out of the tax preparation business, has also flourished. The Jackson Hewitt Corporation, which pioneered these expensive short-term loans in advance of expected tax refunds, saw business grow from about 900 storefronts in 1993 to 6,000 in 2011. Not unlike the loan sharks they replaced, lenders of this kind remain relatively vulnerable to shifting political moods. In the midst of the recession, AFS services have become easy targets of legislative and popular anger – see for instance changes in IRS regulations,[18] or recent state and federal actions against payday lenders, which have resulted in a sharp decline in the number of stores since the 2007 peak.[19] But this decline masks a shift toward online lending and more mainstream financial services. Indeed, payday lending's business model has been so successful that banks (whose action was initially confined to bankrolling the AFS industry) have adopted it, too. Many now offer "bank payday" services, as well as other fee-loaded services marketed under the label of consumer convenience.[20]

The eighteen percent of the US population the FDIC (2009a) defines as "underbanked" are banked in the mainstream but loaned to in the fringe. What critics call economic predation is routine at the low end of the credit-scoring scale. This overlaps greatly, though not perfectly, with the bottom end of the income scale, and even more with the racially or ethnically dominated segments of the social structure.[21] Loans from payday lenders typically carry annualized interest rates above 400%, and up in the 700% range in some locations, and rollovers (which extend the fees generated by the initial loan) are not only extremely common but an essential component of the industry's business model.[22] At first glance, this situation seems to vindicate Marx's grim assessment of usury in Volume III of *Capital*. There he critiques high-interest lending as a "subordinate" (i.e. derivative) form of exploitation "which runs parallel to the primary exploitation taking place in the production process itself." As part of the financial system, usury preys on productive labor in a parasitic fashion: "Usury, just like trade, exploits a given mode of production, but does not create it; both relate to the mode of production from outside" (Marx 1981, 745). But – focused as he was on the intersection of money lending and capital accumula-

[17] For comparison, there were approximately 11,000 Starbucks coffee shops and 14,000 McDonalds restaurants in the United States at the end of 2007.

[18] RALs (refund anticipation loans) are a by-product of an IRS decision to release to financial companies a "debt indicator" flagging loan applicants owing back taxes. The IRS release was suspended in 1994 (but reinstated shortly thereafter), and again in 2011, effectively condemning the industry.

[19] In 2007, a federal law capped lending to military personnel to 36% APR.

[20] Automatic overdraft protections are an example.

[21] The proportion of Americans who resort to alternative financial services at least once a year is highest (24%) for people making less than $50,000/year.

[22] In the United States, rollovers of payday loans are actively encouraged by lenders. Their bottom line often depends on chronic borrowing (Stegman and Faris 2003).

tion – Marx also believed that usury was not particularly discriminating. It ruined rich estate owners and small producers alike, dissolving all forms of property and productive capital in the acid-bath of debt.

Marx was too optimistic. He did not anticipate how a modern, credit-driven, consumer economy could weigh so heavily on workers' incomes. Nor could he have predicted how the analytical tools of credit scoring would come to differentiate the form and price of credit so effectively, even for those at the bottom of the market. The net result, as Harvey (2007) has argued, is that the consumer credit industry is characterized at the bottom-end by forms of material dispossession and subjective alienation similar to those Marx described in the world of production. Soederberg (2012, 495) describes this form of accumulation, where "a maximum amount of workers take on the greatest amount of debt at the highest interest rates and fees possible to extract ever higher rates of revenue streams", as "cannibalistic capitalism."

Those who are offered rotten terms in the market because they are riskier prospects are more likely to remain so when the terms on offer are rotten to begin with. Economists have shown that the use of fringe banking services traps people into cycles of debt, leading to higher rates of bankruptcy and foreclosure (Melzer 2011; Skiba and Tobacman 2009). These cycles also exact a high personal and social toll, leading to higher rates of anxiety, divorce, or forced geographical mobility.

For those individuals and households, the new regime does not so much teach financial self-control as resign them to the seemingly inevitable. People who live paycheck-to-paycheck – or without a paycheck – are rarely in a position to plan systematically (Conley 1999). Perversely, means-tested social programs may "actively discourage low-income families from accumulating cash in bank accounts … lest they lose access to needed programs" (Newman and Chen 2007, 210). The lesson repeated over and over is that the extremely harsh economic conditions they face are a kind of natural market law. After all, the interest rates on their small loans – on the order of thirty percent per month – are objectively and legitimately tailored "for them" (Marron 2009, 151). In the United States, large differences by race and ethnicity (but also income) in the probability of denied and discouraged applications still persist, so minorities are simply much more likely to not apply for credit for fear of being rejected (Weller 2009). As Sudhir Venkatesh's ethnographic material vividly illustrates, the

> prevailing wisdom [among African Americans] is that loan applications will be rejected. K.C., the co-owner of a Laundromat, puts it succinctly when he says, 'We all try, time to time, to get to a bank, but a dog just don't want to go back if all they do is get beat. I guess we need a year or so to forget that last beating, and then maybe we'll go back. But most of us can't get no money. Shit, I wouldn't lend myself no money, knowing what kind of credit I got and how much I owe.' (Venkatesh 2008, 121)

In other words, the exploitative credit regime is successful precisely because it is subjectively made sense of and incorporated, to some extent, as "normal."

Race features prominently in this moral compact. In focus group interviews conducted by the Center for Responsible Lending in 2010,[23] African-American users of fringe banking services generally expressed broader support for a system that, they said, is there for them when no one else is: it is "just so hard to get anything from the banks." Some even expressed sympathy for lenders who, after all, "are a business and [are] out to make money." One interviewee remarked: "I do think [payday lending] is fair because you go in there knowing. You know what you need; you know what you're going to pay. They're taking a risk. They're not doing credit checks." Payday lenders were often preferred to banks for their comfort, the convenience of their hours of operation and location, and the accommodating stance of their staff (bank employees, by contrast, could be "straight rude").

Racial differences in attitudes toward payday lending must be read against the long history of African-American exclusion and exploitation by lenders of all types. The objective experience of being rebuffed by mainstream credit providers, the expectation of paying more for similar services, and patterns of geographical proximity and distance all may sustain a set of specific subjective dispositions – in particular, greater mistrust toward banks, and a more benign attitude toward alternative financial providers. As Pierre Bourdieu (1984, 372) pointed out in a different context, "necessity imposes a taste for necessity which implies a form of adaptation to and consequently an acceptance of the necessary, a resignation to the inevitable, a deep-seated disposition which is in no way incompatible with a revolutionary intention…" Thus, while ambivalence towards an exploitative institution was not absent ("[payday loans] can cripple you"), Blacks were more likely to see payday lending as a necessary and socially useful evil, affording them more dignity than other types of financial help, such as relying on charity or welfare. Financial exclusion tended to foster the conditions of its own acceptance.

Meanwhile, in the same study, White interviewees – whose access to mainstream credit has long been objectively better and subjectively much more self-evident – saw their own reliance on fringe services, which often resulted from the closing of alternative mainstream possibilities, as an unfair downfall into a deeply repugnant system not made for them. They expressed a much greater rejection of the business, talking about "loans from hell", and likening the practice of borrowing from payday lenders to "selling blood" and to "slavery." But of course they were also more likely to have an easier time finding alternative sources of credit.

[23] Cited with permission from the Center for Responsible Lending. Focus group interviews were broken down by race/ethnicity: Spanish language, Anglo and African-American.

3.7 The Difficulty of Measuring up: Economic Goodwill and Suffering

The disciplining effect of credit scores is perhaps most evident in the middle sections of the social scale. It is there that we find the most articulated forms of what, paraphrasing Bourdieu's (2005) analysis of the middle-class lifestyle, we can call economic "goodwill". This is a distinctive combination of striving and straitening, desire and self-denial, hedonism and frustration. Here credit use expands and diversifies. The number of credit cards in a household, for instance, rises continuously with income. Borrowers – often heeding the advice of popular financial gurus – use borrowing as an active strategy for asset-building. And it is here, too, that credit scores matter the most. At the bottom, scores are often a blind spot, or a lost cause. At the very top, they are a natural gift, an afterthought, or a taken-for-granted personal quality.

At the bottom of the middle class, the story is one of "middle class squeeze" (Wolff 2010) fueled by the admixture of oversupplied credit and stagnant real incomes. This market segment is where one finds the riskiest mortgage products, as grand aspirations and limited means are brokered into an unhealthy marriage. In the United States, these products are targeted towards non-white populations, as well as to the least educated. The foreclosed upon, who had to be wealthy enough to obtain a mortgage, and the bankrupt, for whom mortgages were a major cause of bankruptcy, largely come from there.[24] Thus in their 1983 survey, Sullivan, Westbrook and Warren (1999, 331) found that personal bankruptcy is, by and large, an "ordinary story of middle-class people drowning in debt".[25] But it is worth noting that the upper reaches of the middle class are drowning in debt, too. The exponential wealth accumulation and income gains among the top quintile drove an endless competition over lifestyle and a rapid increase in the price of assets. Those lower down in the income distribution did not do nearly so well. In the fourth quintile of the income distribution, income gains since the late 1970s were essentially nil. Those in the third quintile saw their incomes decline in real terms. Consumers in these segments borrowed more at less profitable terms, and leveraged their assets aggressively – usually with home equity loans – trying to keep up. It is in these sections of American society that one finds the highest debt/net worth and debt/income ratios (Wolff 2012, 2010).[26]

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[24] Almost 40% of the foreclosed upon and seriously delinquent mortgages come from borrowers whose income is well above the median income of the area (Gruenstein Bocian, Li, Reid, and Quercia, 2012).

[25] However, the incidence of bankruptcy has moved noticeably down the income scale since then. See Sullivan, Warren, and Westbrook (2006).

[26] Over the last 20 years in the United States, debt-to income ratios have been highest in the third and fourth quintile of the income distribution (Source: Federal Reserve Board, Survey of Consumer Finances). In 2007, these ratios reached respectively 155.4% for the fourth

In his analysis of the mortgage market, Bourdieu describes the middle-class experience of credit as an example of “petit-bourgeois suffering”.

> By embarking upon projects that are often too large for them, because they are measured against their aspirations rather than their possibilities, [the middle classes] lock themselves into impossible constraints, with no option but to cope with the consequences of their decisions, at an extraordinary cost in tensions, and, at the same time, to strive to *content themselves*, as the expression goes, with the judgment reality has passed on their expectations. (Bourdieu 2005, 186)

We prefer the term “middle class” to the more archaic “petite bourgeoisie.” But Bourdieu puts his finger on the specific structural constraints faced by this group, which are at the root of its contradictory ethos of discipline and self-gratification. The middle class is squeezed between the “morality of saving” and the “morality of credit” (Bourdieu, Boltanski, and Chamboredon 1963). Meanwhile, Daniel Bell (1996) also saw the unstable fusion of hedonistic indulgence with agonized but morally consistent middleclass Protestant striving as the central cultural tension in modern American capitalism.[27] This contradiction is perhaps nowhere as clearer than in credit institutions and personal bankruptcy laws that are at once punitive and redemptive (Skeel 2001).

In a world of scores rather than classes, economic technologies transform this dilemma. On the one hand, they objectify the material constraint by expanding consumer aspirations and the possibility of “keeping up with the Joneses”, albeit at differentiated prices and levels of vulnerability. But they also reinforce the practice of selfsurveillance. People can, in principle, take the measure of their constantly changing position on the FICO scale. First, the old-fashioned face-to-face interaction between bank officers and clients – what Lazarus (2012) calls the test, or the trial, of credit (*l’épreuve du crédit*) – is now routinized, invisible and depersonalized, but also multiplied and repeated with every credit check. Second, with behavioral scoring, one’s credit possibilities are a constantly moving target, readjusted with every activity. One’s credit identity thus becomes a dynamic project to be managed through an “ethic of improvement” (Marron 2009, 193), and in a manner all the more insatiable because good credit is seemingly within everyone’s reach. Hence the multiplication of financial education programs (often state-sponsored), TV shows and pedagogical devices, in the US as elsewhere (Bay 2011; Fridman 2010). No wonder, then, that this is also where activity around the score intensifies rapidly. Our analysis of FINRA data shows that the likelihood of checking one’s

quintile and 130.7% for the third quintile. In the same year the debt-to-income ratios of the bottom 40% households were “well below 100%” (Weller 2012).

27 In a phrase that now sounds even more archaic than “petite bourgeoisie”, Daniel Bell called this the problem of demanding that people be “straight by day and swingers by night” (Bell, 1996, p. xxv).

credit score or obtaining a credit report rises sharply with income and education, and only tapers off for households with incomes above $150,000 per annum, and for people with advanced degrees (see FINRA 2009).

3.8 The Benefits of Appreciation: Virtue and Privilege at the Top

The top of the credit scoring scale overlaps in part with the top of the income and net worth scales, but even more closely with the top of the education scale (Lusardi 2011). The main virtue of the very high earners, from the point of view of algorithms, is that they are just less likely to overburden themselves with debt, or have difficulty managing payments. But the most "responsible" consumers also tend to be highly educated. They are best equipped with the cultural capital to navigate the business of credit and credit scoring. "Over all, those with the highest scores keep low revolving balances relative to their available credit; they don't "max out" their credit cards; and they consistently make payments on time, even if it's just the minimum required amount" (Carrns 2012). And thus credit providers compete fiercely to attract those people who borrow large in absolute terms but repay in a predictable and controlled way – mostly because they have the means to do so. And so additional benefits pile up, too, implicitly subsidized by the structure below.

Whether it is earned or a byproduct of abundance, economic virtue generally brings material rewards. But the multipliers effects of an excellent score kick in even more strongly in the higher income and wealth brackets. Those who find themselves in this position can leverage their assets via the credit system to accumulate more at a cheaper cost. This is especially true when the value of those assets rises quickly, as it did during the 1990s and most of the 2000s. Through the financial system, they can also invest, make money work for them through stock ownership, rental properties or home ownership in desirable locations, and perhaps even live "by collecting interest" (Graeber 2010, 388).

There are symbolic rewards, too. Those who think that market institutions are inevitably erase distinctions should attend to the astonishing prevalence of "private," "exclusive," or "elite" categories of membership across consumer markets of all kinds. Consumers who belong to the right categories – customers who are silver, gold, or platinumplated – get special treatment, better service, and all kinds of side material benefits.[28] Their position appreciates, so to speak, because the system appreciates their position. Far from eliminating exclusionary status distinctions, market society proliferates them. The key difference is that these honors and rewards are not bestowed by accident of birth or via some

[28] For instance, various forms of insurance for their purchases. Or take the singling out of elite customers at the airport: first to enter and leave the plane, they have access to special areas (lounges, gates, parking spaces), and their names magically appear on the "cleared list" while the hoi polloi are rebooked.

sumptuary law. Instead, bureaucratic systems track behaviors, record progress through the classification system, and rationally assess when particular cases will be elevated – or downgraded – to a new status.

In this social stratum, the intertwining of material and symbolic benefits not only creates a sense of comfort around credit, it also fosters a sense of privilege, and encourages a proactive attitude toward providers. In our analysis of FINRA data, we find that these are the people who shop around, refinance, rebalance their accounts frequently, and pay back their loans in advance. In periods of tight money, when the competition for customers with good credit intensifies, they are also the ones who benefit the most from government actions designed to ease the crunch. Thus a *Wall Street Journal* article reported that cash injections by the Federal Reserve in the aftermath of the 2008 credit crunch have almost exclusively benefited the most creditworthy, because banks would only lend to people in the higher-scoring brackets (e.g. above 700):

> 'even though we have the greatest monetary policy stimulus in the history of the Fed, we really have not managed to lower the funding costs for a large swath of people,' said David Zervos, a bond strategist with Jefferies Inc., a Wall Street investment bank. He called Fed efforts 'monetary policy for rich people.' (Hilsenrath 2012)

4. Conclusion

> It is easy to understand how the power of the norm functions within a system of formal equality, since within a homogeneity that is the rule, the norm introduces … all the shading of individual differences. (Foucault 2012, 184)

Much of the theoretical debate on stratification in the twentieth century orbited around three attractors: big classes grounded in exploitative labor relations, individual returns to human capital or skill in the market, and occupational-level social closure, often built on some categorical identity. We propose to revisit class analysis in the light of techno-social changes generated by the advent of novel market devices. These devices segment, score, classify and target *concrete individuals* in increasingly precise ways, in a world where profits depend on exploiting these techniques effectively. We argue that understanding how classification situations are produced through the operation of scoring, segmenting and marketing instruments is essential to understanding the structure of new class situations, when class is conceived as the social distribution of life chances in markets.

Credit scores commensurate people, classify and rank them (Espeland and Stevens 1998). Scores are attached to variable economic rewards (such as different interest rates), and are part of the process by which shared market-situations are generated. This process is strengthened the more credit scores are routinely incorporated as assessment and screening devices in other markets, such as insurance, employment, real-estate – even dating (FTC 2007; Silver-Greenberg 2012; Wacquant 2009, 139). Credit scores facilitate differential pricing and terms of access to goods and services across a wide range of domains. They are an active, independent force that structures people's life-chances via their financial position – all the more in a society where the median household debt is about double the median annual income – and which, once established, percolates to every aspect of people's lives.[29]

It is important to remember that while these scoring systems grew up in a social context already highly structured by established inequalities in occupational attainment, education, income, and racial stratification, they do not simply reproduce the *status quo ante*. Accurately tracked measures of credit-related behavior are far better predictors of outcomes than broad measures of educational attainment or racial classification (Fourcade and Healy 2013). That is one of the reasons lenders use them. Social scientists would use them, too, were they not trade secrets. Their analytical use and active application in markets does more than simply "freeze a certain state of the power relations" (Bourdieu 1984, 482). It recreates these relations anew. If social class is the distribution of bundles of life-chances expressed as market situations, then we need to rethink class analysis through the prism of credit scores and similar devices.

In the 1960s, there was a debate centered on the notion that "the poor pay more" (Caplovitz 1963). With the Great Society and the expansion of welfare programs, it waned. But its main idea – that being poor costs money, that firms looking to do business with the poor know this, and systematically exploit it – is worth retooling for a neoliberal era. Debt has become more accessible, but also a lot more expensive at the bottom end of the social scale. And now it is not simply the 'poor' that pay more, but much more specific categories of people, measured and targeted by moralized market instruments and differentiated market institutions. Classification situations may have become the engine of modern class situations.

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[29] Of course what is true of credit scores is true of other types of behavioral records, like criminal records or eviction records, which also have a deep effect in structuring life trajectories (Pager, 2007; Desmond, 2012). In a more benign manner, tracked purchase records with stores have transformed the political economy of marketing and selling, with high purchase levels being routinely rewarded with larger discounts and better services.

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The Off-Label Use of Consumer Credit Ratings

Akos Rona-Tas *

Abstract: *»Zulassungsüberschreitende Anwendung von Konsumenten-Kredit-würdigkeit«*. Sovereign, corporate and consumer credit ratings are used to assess the creditworthiness of borrowers. Yet these ratings often fulfill other functions as well, serving as measures of more general qualities of countries, businesses and individuals. When ratings are used outside the context of lending, we call it 'off-label use.' This paper develops the argument in the context of consumer lending and discusses the use of credits scores in the U.S. by car insurance companies in calculating premiums, landlords in selecting tenants, and employers in hiring workers. We argue that off-label use can have harmful effects through two mechanisms: error propagation and enhanced performativity. Both amplify small initial differences, exacerbate inequalities, lock borrowers in upward or downward spirals and increase economic inequalities. Turbo performativity results when measures influenced by earlier credit scores become direct inputs for calculating new credit scores. Off-label use of consumer ratings, therefore, should be treated not just as a privacy issue but also as a factor in economic polarization.

Keywords: Credit scores, insurance, hiring, residential rental, performativity, inequality.

1. Introduction

Credit ratings recently have found a variety of new uses. Ratings developed in retail lending, called credit scores are now routinely used in fields such as auto insurance assessments, cell phone contracts, residential rentals and even hiring decisions. The proliferation of credit ratings is not limited to credit scores. Corporate ratings designed to assess companies, became deployed to evaluate local governments and structured financial instruments such as mortgage backed securities and applied not just to evaluate but also to create those instruments. It has also been alleged that unsolicited corporate ratings have been used as a "marketing device" by rating agencies to punish corporations reluctant to order the agencies' services.[1] The use of corporate ratings for regulatory

* Akos Rona-Tas, Department of Sociology, University of California, San Diego, USA; aronatas@ucsd.edu.

[1] A famous example is Jefferson County School District No.R-1 vs. Moody's Investor's Services, where Moody's famously won on First Amendment grounds, <http://caselaw.findlaw.com/

DOI: 10.12759/hsr.42.2017.1.52-76

purposes is yet another example of their off-label use.[2] The use of sovereign ratings, the gauge of the reliability of government bonds and the likelihood of sovereign default has also been expanded and is now routinely employed as the measure of a country's overall economic performance and a measure of economic and political stability.

The increasing versatility of credit ratings is yet another sign of the growing role of finance in modern life (Deutschmann 2011). Financialization, the term often used to describe the way society becomes dominated by finance, spawned a large literature devoted to documenting the swelling of the relative size of the financial industry (Krippner 2011), the increasing influence of financial markets in the governance of non-finance companies (Fligstein 1990, 2008; Dobbin and Zorn 2005), and the various ways households become directly dependent on the financial world, either by means of indebtedness or by investing their savings in financial instruments (Sullivan et al. 2000; Hyman 2011; Harrington 2008; Keister 2000; Frank 2000). All of these, at different levels, testify to the expansion of finance, the pushing of its boundaries to encompass larger and larger segments of the social world. Throughout this expansion, finance lays claims to new territories by redefining old problems as those of the flow of money that then must be addressed by the logic and tools of finance. As financialization is moving forward, many of its instruments, developed in the specific context of a particular financial transaction come to be utilized for novel purposes, outside their original context. In this paper, I will focus on credit ratings, a tool developed for credit transactions. When credit ratings are used in new ways outside the context of credit granting, I call it off-label use.

Off-label use is a common form of financial innovation. An early case of off-label use was the adoption of commodities futures contracts created to smooth the lumpy production cycle in agriculture to any commodity and finally to any financial instrument (Pinzur 2016). The securitization of mortgages is another example of off-label use, as mortgages originally devised to promote home ownership were repurposed as investment vehicles (Quinn 2010). In both cases, the shift to off-label usage created new opportunities as well as problems. For the case of futures contracts, new opportunities for risk hedging were

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us-10th-circuit/1211589.html> (Accessed February 6, 2017). A subsequent investigation by the U.S. Justice Department Antitrust Division did not result in criminal charges. The literature on this issue is split. There is general agreement that unsolicited ratings are lower, but it is hard to separate self-selection (bad companies not soliciting ratings) and agency pressure. Another way of achieving similar results is "notching." It is the practice of automatically reducing the rating given by another rating agency for a structured financial collateral such as a CDO. This too is an off label use of corporate ratings.

2 The rating is created to serve the investor. The interest of the investor is not necessarily the same as that of the regulator. For instance, the regulator has an overriding interest in minimizing global, systemic risk, while investors want to maximize their own local profit (Partnoy 1999; Darbellay and Partnoy 2012).

coupled with the blurring between investment and gambling as the expansion of futures detached these transactions from the actual, physical commodities as collateral. The securitization of mortgages made mortgage lending less dependent on local savings, but weakened the incentives of the mortgage originator to lend prudently. In both of these examples, however, the original and the new purpose remained within the world of finance and going off-label did not stretch the instrument beyond financial markets.

This is true for some off-label use of credit ratings as well. Adapting corporate ratings to structured finance keeps ratings within financial markets, so is the rating used as a blueprint in the construction of products like Residential Mortgage-Backed Securities (RMBS) or Collateralized Debt Obligations (CDO). Their use as a coercive marketing tool stretches "the label" much further. The off-label use of credit ratings of individuals, however, moves the ratings beyond the realm of finance. There is no financial theory that would argue that coercive marketing is a necessary part of financial markets.

2. What is Off-Label Use?

I call 'off-label' any use of a product, which is different from what it was originally intended for. Off-label use, like employing diapers as fire-retardant, tennis balls as caps on chair legs to protect floors, or baking soda as toothpaste, is quite common. The term originates in medicine, and it designates the use of drugs for purposes unapproved by the U.S. Food and Drug Administration (Cohen 1997; Henry 1999; Dresser and Frader 2009).[3] With a few exceptions, off-label use of drugs is not illegal but raises certain questions about safety and liability. Off-label use is always a matter of degree. Using Adderall or Ritalin approved for childhood attention deficit disorder to treat adult attention problems is a smaller stretch than taking anti-seizure medication to treat migraines or anti-anxiety pills as sleeping aids, and much smaller still than using antibiotics as growth promoters in animals.[4]

There is often a narrative explaining why the unintended and novel use is related to the one originally intended for the product. The new use is justified with reference to the original purpose but changing some conditions or renegotiating certain boundaries. Where childhood ends and adult age begins for amphetamines or methylphenidates is not a simple question. Migraines and seizures can also be hard to tell apart. In some cases, such as using epilepsy medication for weight loss, there is no attempt to link the new use to the origi-

3 To some extent I am using the term 'off-label' off-label, that is, in a way that was originally not intended. In rhetoric, this is often referred to as metaphoric extension.

4 Off-label uses often become on-label, as it happened with aspirin that was prescribed to lower the risk of heart attack, and was approved by the FDA for that purpose in 1998.

nal indication and the justification simply rests on claims that "it works."[5] What is on- and what is off-label use when it comes to pharmaceuticals are decided by the precise language of written regulations that try to stake out clearly the conditions and boundaries of product use. In the area of credit rating, I will talk about off-label use when credit rating is not used to directly aid lenders to assess the likelihood of future good payment behavior of prospective borrowers.

In this paper, I argue that the extension of the use of credit ratings beyond this limited purpose has negative side effects, and I will focus on two types in particular. The first type is when negative effects present in the original – on label – use spread with the off-label application to new areas. If Ritalin causes abdominal pain, its extension to adults transfers this problem to a new population. For credit ratings, this means that with the proliferation of credit ratings, errors in them that used to plague only the appropriate assessment of creditworthiness now will propagate to new contexts unrelated to credit.

The second type is when off-label use has an effect on an instrument's utility in its original context. For instance, the overuse of antibiotics not just bestows its side effects such as diarrhea or nausea to new users but it also weakens its use in curing infections in humans. In the case of antibiotics, the mechanism through which off-label uses (such as its use for human sickness most likely to be caused by viral infection or for growth promotion in food animals) influence on-label use is well known. Bacteria, through natural selection, become immune to overused antibiotics, making drugs less effective over time. There is a negative feedback. Success earlier breeds failure later.

For credit rating, there is a positive feedback in the very process of credit evaluation: a poor credit record elicits a lower rating and worse payment conditions, reducing the chances of better future behavior. At the same time, good behavior earns higher rating, higher rating results in more favorable conditions which makes better future performance easier. Positive feedback can result in vicious or virtuous cycles trapping people in poverty or locking in their privileges all the while accentuating initial advantages (DiPrete and Eirich 2006; Pager and Shepherd 2008).[6] But while this positive feedback may be insidious for society at large and some individuals in particular, it actually makes credit rating, to some extent, more and not less effective as a tool of prediction. If good ratings make you a better and bad ratings a worse borrower, that will make the ratings predict more accurately. Because of this positive feedback, the efficacy of the instrument and its social utility become misaligned. Trapping people in good or bad cycles (a social bad) will make ratings more effective. In other words, ratings not just predict what will happen, but, to some extent, they

5 See e.g. <http://scienceblogs.com/retrospectacle/2006/08/29/common-drugs-being-used-offlab> (Accessed February 7, 2017).

6 The large literature on path dependence and increasing returns to scale also useful in understanding these processes (Arthur 1994; Rona-Tas 1997).

also help it come true. In this sense, they are "performative." Off-label use of credit rating further augments this positive feedback and we call the result "enhanced performativity."[7] By introducing additional penalties in other areas of life for a missed loan payment or a default, off-label use of ratings also acts as a powerful disciplining device in lending, provided that people understand all consequences of their bad credit behavior.

In what follows, I will explain how off-label use of credit rating of individuals creates negative side effects, through the mechanisms of error propagation and performativity. Then I will make an argument for banning the off-label use of credit ratings through stronger privacy protection.

3. Error Propagation

When used on-label, credit ratings, be it individual credit scores, corporate or sovereign ratings, perform two essential functions; one is passive, and the other is active. In their passive role, they are an assessment of a potential borrower's creditworthiness given some general assumptions about how the world works.[8] They are descriptions and some kind of reflections of the would-be borrowers' past and current conditions. Ratings try to capture all relevant information and organize them into a prediction of the applicant's future credit behavior, which is expected to unfold under the circumstances captured by the rating.

The most common complaint about the on-label use of ratings is that the measures used to calculate it are full of errors and those measurement errors add to the prediction error. Error of either type (measurement or prediction) can be thought of as being akin to a pill's side effect. Ratings in time t (R_t) are calculated as a function of a set of characteristics observed in time t (X_t) with some measurement (ε_t) and prediction (e_t) error.

$$R_t = \beta(X_t + \varepsilon_t) + e_t$$

Even if the errors are overall small and random, there is the problem of what one may call the 'asymmetry of aggregation.' The asymmetry of aggregation means that consequences affect borrowers at the individual level, while large lenders like banks and investment funds, face these errors only in the aggregate. Thus while borrowers care how ratings err in their own, individual case,

7 MacKenzie (2006) calls positive feedback Barnesian performativity. It is also known as self-fulfilling prophecy (Merton 1948). Negative feedback is sometimes referred to as "negative performativity" or "self-frustrating prophecy." In economic sociology, performativity refers to the power of economic ideas to shape reality in line with their own predictions (Callon 1998, 2008; MacKenzie et al 2007; Rona-Tas and Guseva 2014).

8 For instance, it is assumed that the borrowers are individually responsible for payment, that their trajectories are unrelated, that people possess a stable character, that the economy as a whole functions predictably etc.

large lenders worry only how their debtors' combined effect appears in their overall portfolio. In other words, if some debtors are overcharged for a loan because the record shows them less creditworthy than they are, it is little consolation for those borrowers that there are other debtors whose record err in the opposite direction. For the lender, however, these errors cancel out and under-charging some clients makes little difference overall, as long as others are willing to pay more than they should.

Error propagation points out that the error in credit ratings then will influence off-label calculations as well. If data on which the ratings are based have faults, ratings themselves will be biased and when they are reused in their new context they will remain faulty. The measurement error will not go away even if the off-label calculation, while using the same characteristics, calculates its own weights (β').

$$O_t = \beta'(X_t + \varepsilon_t) + e'_t = \beta' X_t + \beta' \varepsilon_t + e'_t$$

Even if the measurement error is random and is unrelated to *X* for a set of cases, the error for a particular case will be strongly related for the same case across various off-label calculations. In other words, if the characteristics used to evaluate a person, company or country are faulty all the evaluations based on those characteristics will be biased in the same direction for that actor (Gallagher 2006). This way, an error in a person's credit record, wrong information about a corporate issuer or sovereign will distort all assessments based on those data.

4. Enhanced Performativity

Ratings, however, not just describe but also shape reality. They have consequences, which is why ratings exist in the first place. Ratings guide actions of lenders and, in principle, they help avoid bad borrowers and aid in recognizing good ones. Yet ratings also have effects on the very thing they are supposed to assess; they do influence creditworthiness. Borrowers, be they individuals or corporations, receiving bad ratings will have difficulty finding new credit on favorable terms or any credit at all. Tough conditions meted out as punishment for earlier non-payments make it harder to meet payment obligations later and will make nonpayment more likely. This is why the corporate rating agencies claim they cannot give timely downgrades: they do not want to push an already troubled company further into the abyss. Bad rating is not just a consequence of poor creditworthiness but it can be its cause as well (Manso 2013). This can lead to a vicious cycle: bad borrowers can become worse and worse, even if their circumstances or intentions do not change at all.

It is equally true that a good rating can result in credit that is more favorable and thus making it easier to keep one's good rating. This virtuous cycle can be as self-sustaining as the vicious one, although the cycles don't go on forever, and at one point will come to a stop. Performativity in virtuous cycles may mask fundamental weaknesses for some time and may result in over-borrowing and then financial troubles that stop the upward spiral. Vicious cycles too can end, as undervalued fundamentals may eventually put a break on the downward slide.

$$R_t = \beta X_t + e_t$$

$$X_t = \gamma_1 R_{t-1} + \gamma_2 \theta_{t-1} + e'_t$$

Ratings are caused by the characteristics observed, but those characteristics are a function of earlier ratings and some other factors (θ_{t-1}). When used off-label, to judge (some of) those other factors, those ratings also become influenced by earlier ones.

$$\theta_{t-1} = \lambda_1 R_{t-2} + e''_{t-1}$$

And hence, ratings will be driven to a large extent by earlier ratings

$$R_t = \beta\gamma_1 R_{t-1} + \beta\gamma_2\lambda_1 R_{t-2} + (\beta\gamma_2 e''_{t-1} \quad + \beta e'_t + e_t)$$

Ratings are both descriptive and performative, and through the positive feedback, the rating helps its own accuracy as the rating turns into a self-fulfilling prophecy. Performativity may not be good for the borrower or the lender[9], but it is good for the rating, at least in the short run.

One can argue that performativity of ratings is both inevitable and unimportant, or, at least, not substantial enough to counterbalance the desirable properties of a well-constructed rating system, the same way as using antibiotics does far more good than the bad it causes by slowly building up resistance to it in common strains of bacteria. Furthermore, bad ratings are likely to have a deterrent effect. Receiving a bad rating may keep borrowers in line and once they get out of line, the penalty of bad rating protects future lenders even if it makes it harder for the offender to meet the missed obligation.

The extent to which ratings are performative depends on how important they are for the debtor, how much they influence their lives beyond credit. Does a bad rating make only credit more expensive, as intended, or does it make other things more costly as well? Is it just a penalty or a more pervasive force that influences directly the debtor's earning power, not just requiring more payment

[9] The vicious cycle may deprive the lender from the payment he is due. A non-payment on a different account that results in lower scores and higher charges on that account will drain resources away from the accounts that were paid promptly and now they may go into default. Vicious cycles also squeeze potential good customers out of the market.

for the loan but also further undercutting the debtor's ability to service the debt?[10] Off-label use makes ratings more important and influential.

5. Consumer Ratings

In this paper we will focus on consumer credit ratings known as credit scores. Individuals, unlike corporations, live in multiple worlds that are often sharply delineated and are evaluated by multiple criteria such as emotional, aesthetic, moral, hedonic or intellectual, not just economic ones. Off-label use, therefore, is easier to demonstrate for them than for corporations that are first and foremost economic creatures. In our conclusion, however, we will speculate what general lessons we may draw for corporate and sovereign ratings.

5.1 Credit Scores

Credit scores were introduced in the US during World War II, when banks lost many of their skilled credit officers to the war effort. The credit scorecard was an attempt to make do with an unskilled staff by providing clear instructions on how to decide on credit applications. Credit scoring was then developed into a statistical instrument by engineer Bill Fair and mathematician Earl Isaac, who founded the Fair, Isaac Company (FICO) in 1956. Credit scoring, however, did not become standard industry practice until the U.S. Congress passed the Equal Credit Opportunity Act (ECOA) of 1974. In the rules of its implementation, the Federal Reserve stipulated that lenders who use *empirically derived demonstrably and statistically sound* credit scores to make loan decisions would be immune to discrimination suits. Lenders initially reluctant to hand over lending decisions to computers quickly understood the benefits of this legal protection and as computer technology advanced and became more helpful and affordable, credit scoring became standard practice in consumer lending. In 1995 Fannie Mae and Freddie Mac adopted the FICO score as part of its underwriting, making credit scores indispensable in mortgage lending. By then all three large consumer credit registries (Equifax, Experian and TransUnion) used FICO to distill credit histories into a single number.

Today, the FICO credit score is based on only credit behavior entered in the registry, and is often referred to as behavior score and according to FICO, does not include any socio-demographic variable. Lenders can have their own scoring models, but ECOA and its later amendments are very specific about what information these models can and cannot include. Credit scores are calculated using a prediction function that uses a set of predictor variables to locate an

[10] The debt bondage and debtors' prisons were ways to address this very problem. Maiming or killing debtors would have left lenders without the ability to recover their losses.

individual on a scale assigning a score that expresses the likelihood that the would-be borrower will pay his debt on time. The statistical function linking the predictors to this outcome is most commonly a nonlinear probability function, such as logistic regression.[11] In all cases, the calculation of the score involves comparing the applicant to earlier applicants whose handling of their loan is already known and who were similar to the current applicant when they applied for the loan.

5.2 Error

Quality problems of the data on which FICO scores are based have been well documented and have a long history. Aggregate data presented in 1989 by the Associated Credit Bureaus[12] about its members showed that consumers requested some 9 million credit reports, or about two percent of the 450 million reports generated annually at that time. They disputed about 3 million of those reports and about 2 million were altered in the verification process.[13] A later study by a consumer advocate group (Cassady and Mierzwinski 2004) asked adults in 30 states to order their credit reports and complete a survey on the reports' accuracy.[14] They found that 25 percent of the credit reports surveyed contained serious errors that could result in the denial of credit, such as false delinquencies or accounts that did not belong to the consumer. A more recent study from 2005 by the Government Accounting Office (GAO 2005) found that 18 percent of those surveyed had disputed data on their records and 69 percent of those were subsequently corrected. As providing data to the credit bureaus is voluntary, lenders often ignore requests for using the standard format. Lenders can be also selective in reporting following their own interest, and because it is voluntary, credit bureaus are not in a strong position to enforce accuracy standards. With increasing concentration in lending, the largest lenders have also less and less incentive to share information with smaller lenders, who have little to offer to but much more to gain from the credit bureaus (Rona-Tas and Guseva 2014).

One serious problem, that all lenders wish did not exist, is "broken records." Data are provided to credit bureaus on transactions involving accounts with a particular lender and a borrower. The transaction then must be added to the

[11] There are many other statistical functions that one can use, including discriminant analysis, probit regression, neural networks models, genetic algorithm, as well as linear programming, recursive partitioning algorithm, support vector machine and nearest neighbor analysis.

[12] ACB is a trade association representing consumer reporting agencies. Now ACB is called the Consumer Data Industry Association (<http://www.cdiaonline.org>).

[13] Some of these changes were the result of the routine updating of files with the most current information.

[14] The study may overestimate problems for reasons of self-selection into the sample and because it accepts the person's judgment about the veracity of the information.

record of the individual borrower. Broken records are created when transactions are mismatched with persons. There are two types of broken records: the first is where information for a person is filed in two or more separate records, as if he were two or more people. The second is when pieces of information about different persons are filed as if they belonged to the same person. Matching information with people is especially challenging in the U.S. because there is no national identity card or identification number and the only unique identifier is one's Social Security Number issued for pension and tax purposes. Even though the law until the 1980s explicitly prohibited their use as personal identification, today the Social Security Number is used for identification by credit bureaus along with many other institutions. Other identifiers are especially unreliable in the U.S., as Americans move often and addresses and phone numbers change quickly. Furthermore, in a country of immigrants, names are constantly misspelled.[15] Credit bureaus use complex algorithms to match incoming information – that does not necessarily include the Social Security Number – with the proper record, but still about five to ten percent of the records are broken. The growing problem of identity theft will result in even more broken records.

In 2004, Avery, Calem, and Canner of the Federal Reserve Board conducted a study on data accuracy and its effect on access to credit using a sample of credit records of 301,000 individuals. They found among other things that 2.7 percent of the large creditors reported only negative information and failed to provide positive data. Six percent of large creditors did not report small delinquencies. Some large lenders, such as Sallie Mae, the biggest provider of student loans, withheld information altogether from two of the three credit bureaus, and credit limits, an important piece of information,[16] were missing from 19 percent of revolving accounts affecting 46 percent of individuals in the sample. Moreover, data from collection agencies were reported inconsistently (sometimes a report was filed sometimes it was not) and collection information was often duplicated when collection claims were transferred from one collection agency to another, creating multiple derogatory information for a single offense.[17] And, finally, the inquiries initiated by the subject almost never indicated the type of loan the applicant sought, therefore, in 99 percent of the cases it was impossible to distinguish "rate shopping" from rejections.[18] The Federal

[15] The credit report of the author from Experian lists nine variants of his name. His report from Experian is filed under a wrong name and his correct name is listed as "formerly known as."

[16] Calculation of credit utilization depends on knowing the credit limit. Someone who has a balance of $1000 on a credit card with a credit line of $1000 will be judged differently than someone who has the same outstanding amount with $100,000 available in credit.

[17] Records of medical collections – one of the most common type – are especially error prone.

[18] Credit records include the number of inquiries submitted for that record to the bureau. Too many inquiries relative to the number of loans extended will lower the credit score, unless the inquiries are for the same purpose within a three-week window, in which case, they are considered "rate shopping," and have no effect on the score. Many inquiries against few

Trade Commission has conducted five reports between 2004 and 2012 on the accuracy of credit histories and found various discrepancies. In its latest, 2012 study, the Federal Trade Commission found that 21 percent of consumers had identified errors that subsequently resulted in a change in their record,[19] 13 percent had a change that affected their credit score and five percent of consumers moved into a lower risk tier in a way that would make a significant difference in future borrowing (FTC 2012).[20]

Finally, the authors of the report observed that the overall effect of bad data varied for different social groups. The ones that were most hurt by bad data were the young, the poor, minorities and those with lower credit scores and thinner credit files. Thin credit files means that there are little data that can be used to predict the loan applicants' future behavior. There are various ways that credit bureaus deal with what they call "thin files," and most involve an attempt to predict the missing information. In effect, the credit bureau must guess a counterfactual: what kind of credit history this person would have had, had he had one. That introduces a new type of error, a guessing error, in the predictors.[21]

Errors are mostly not random mistakes but they are the results of the social conditions that generate the data in the registries and are driven by the fact that the registries are first and foremost there to serve lenders.

5.3 Performativity

Data on performativity of credit scores are much weaker. Separating the two directions of causation, one going from behavior to score and the other pointing from score to behavior, is difficult. The empirical complexity is further exacerbated by the problem of adverse selection (Akerlof 1970; Stiglitz and Weiss 1980), the tendency that worse borrowers with higher bent for not paying are more likely to take on loans offered with worse conditions, knowing well they will not pay it back anyway. There is evidence, however, that loan conditions have an effect on customers' subsequent payment behavior and since credit scores decide the terms given to borrowers, credit scores, with the intervention of credit conditions, indirectly influence credit behavior. In one study, Karlan and Zinman (2009) show that higher interest rates and faster repayment sched-

loans are thought to reflect some bad information not in the registry but that lenders found out somehow.

19 The three companies are notoriously recalcitrant when it comes to consumer complaints. Most of their customer service is outsourced to India, Chile and the Philippines, and requests for corrections may take years. The bureaus are better off settling court cases with the most persistent complainers than committing to investigating thoroughly every complaint brought to them (Kroft 2013; Morgenson 2014).

20 The study that relied on consumers identifying and disputing errors in their own records did not cover mistakes that benefited them.

21 This guessing is done by statistical estimation.

ules, two common consequences of lower credit scores, when randomly assigned to borrowers, increase the likelihood of default. In another study of mortgage and car loans Edelberg (2004) finds evidence that loan terms have independent effect on payment behavior.

Literature assessing the debt trap created by payday lending also supplies some evidence. Payday lenders give short-term cash loans (typically for 30 days) at interest rates of around 400 percent but occasionally up to 1000 annual percentage rate (APR) (Ernst et al. 2004; Stegman 2007). Payday borrowers routinely fall into a debt trap where new debts must be taken out just to finance earlier ones. Payday lenders have various products designed to facilitate the rollover or churning of loans (Parrish and King 2009), and they use a special scoring system by Teletrack that emphasizes payment behavior common for subprime clients borrowing from car title lenders, rent-to-own establishments and other fringe financial institutions (Agarwal et al. 2009). Payday borrowing itself, however, is a consequence of low FICO scores as those with poor scores are locked out of the traditional sources of credit. So payday lending establishes performativity of ratings two ways. First, the high frequency of churning shows that high interest rates have consequences for indebtedness and creditworthiness, and second, it demonstrates the power of ratings to bar people from less usurious sources of borrowing such as bank loans.

6. Off-Label Use of Consumer Credit Ratings

The three off-label uses of consumer ratings I will discuss here are auto insurance, housing rental and hiring. These do not exhaust this topic as credit ratings are also used by utility companies to determine rates, cell phone companies to establish service, the government issuing licenses or certain benefits and insurance companies calculating homeowner insurance premiums.

6.1 Auto Insurance

One of the most controversial off-label uses of credit scores is in determining car insurance premiums. Since the late 1980s, insurance companies include credit bureau information in their calculations. Currently, over 90 percent of automobile insurers in the U.S. employ credit history in their decision in some way. Insurance companies use the credit registry like lenders do. They request credit histories which are then processed through a scoring mechanism, called insurance scoring that is similar to credit scoring. In the case of the Big Three credit bureaus, the technology for insurance scoring, just as for credit scores, is provided by Fair, Isaac Co. The main difference between credit and insurance scores is the outcome of interest. While for credit scores credit histories are modeled to predict delinquencies, for insurance scores, the same credit histories are used to calculate expected future insurance claims. Because insurance claims are not recorded by the credit bureaus, insurance companies must build their own data set matching credit history from the bureaus with insurance claims in their own databases.

Why do insurance companies use credit history rather than accident histories from the Motor Vehicle Registry (MVR), crime statistics or insurance claim history (the CLUE reports)?[22] The main reason is that statistical correlation between credit history and future insurance claims appears to be higher than the correlation between accident history and future claims. This seems puzzling and the insurance industry offered a series of possible reasons.

One set of explanations speculates that the credit score captures certain personality traits that are related to insurance related behavior. They claim that people with good credit history are both more responsible and stable and as a result, they drive more cautiously and are more prudent in general. This argument is based on a speculative causal narrative, and the only empirical evidence for this narrative is the correlation it is purported to explain.

There seems to be another, more plausible explanation. One must keep in mind, that insurance claims and actual accidents are not the same. There are accidents without claim, because people don't claim all accidents for various reasons, one of which is to keep their premiums down forgoing immediate financial relief for a long-term gain. Unclaimed accidents are invisible to insurance companies. People who can afford the financial shock of paying the costs of a minor accident out of pocket, will rather do that than see their insurance premium rise. Poor people, on the other hand, will more likely use their insurance because they cannot afford even a small repair bill. This suggests that credit history is a measure of poverty; low income people are more likely to have a checkered history of debt payment and more likely to need insurance to pay for harm they caused or suffered from others who are uninsured or cannot be identified. By using credit scores, the insurance company has a proxy for income and can set higher rates for poor people anticipating more claims.

Then there are claims without accident; these are false claims. As credit scores predict claims and not actual accidents, another possible explanation for the correlation is that people who don't pay their loans are the kind of people who make false – and therefore more numerous – claims. This again is likely to be correlated with having low socio-economic status.

Another justification dispenses with the causal reasoning and simply points out the poor quality of alternative data sources. Studies show that Motor Vehi-

[22] There are a series of court cases where customers question the legality and logic of using credit information for setting prices in an area that seems completely unrelated to credit but so far with little success. In its June 4, 2007 ruling the Supreme Court in Safeco v. Burr decided that insurance companies do not even have to disclose if an applicant received a worse rate or was turned down because of his credit score.

cle Registries are inaccurate missing 10 to 20 percent of traffic violations (Hartwig and Wilikinson 2003, 8).[23] So the credit record – based on voluntary reporting of lenders – is thought to be more reliable than the records kept by the government bureaucracy. Yet we have already seen that credit histories are fraught with errors. It is hard to believe that there is strong evidence for the superiority of the quality of credit records.

What remains is the empirical correlation between scores and insurance claims. Statistical studies on the predictive power of credit scores, however, are rather unsophisticated (Kellison et al. 2003; Wu and Guszcza 2003; Tillinghast-Towers Perrin 1997; Monaghan 2000; AAA 2002). They tend to show the correlation for group aggregates not for individuals.[24] This highly inflates correlation because a large portion of individual error is erased by the averages. In other cases, studies use enormous samples of individual cases to find statistically significant relationships but say nothing about goodness of fit statistics or the net contribution of credit history to overall prediction.[25]

There are other reasons why insurance companies rely on credit scores. In many states insurance rates are strongly regulated and rate changes and rating rules must be filed for approval, while underwriting rules are not. Most insurances have three rate tiers: preferred, standard and non-standard. Credit scoring is used in the process of underwriting, that is in deciding whether to offer insurance and in which tier. While ratings and rating rules (how much one has to pay once in a tier) is strongly scrutinized by regulators, underwriting rules (in which tier one should be placed) are not. To raise insurance premiums is easier by changing underwriting guidelines and classifying people in a different category than raising premium for their category (Birnbaum 2003). Credit scores with their continuous range are easy to manipulate because the insurance company can simply raise minimum score to qualify for a better tier, and push people into a worse one, where they have to pay more. Moreover, if credit scores are measures of affluence, they also help insurance companies to find customers more likely to purchase multiple services, and people tied with several insurance products to a company are less likely to shop around for better deals. People with higher credit scores, will be richer, more likely to want several products and will be more loyal. All of this has little to do with insurance risk and a lot more with profitability.

[23] It is not clear how this fact was derived.
[24] For instance, they present the average loss ratios for credit score groups and correlate those averages with the midpoints of the groups.
[25] In a large enough sample, any correlation, no matter how small, can be shown to be significant.

6.2 Rental

If lower credit scores make people pay more for insurance, they also put them at a disadvantage when they want to rent a house or an apartment. Landlords have at their disposal a series of tenant screening services offered for a fee by several hundred companies. Reports typically include four types of information: residential history, criminal background check, civil litigation (especially eviction cases) and credit reports. Some providers offer tenant scoring creating a FICO-like single number to predict the likelihood of renting to a problem tenant.[26] Tenant screening agencies are much less regulated than credit bureaus and are even more error prone (Dunn and Grabchuk 2010, 327-31).[27]

Even landlords who do not use these services are likely to check credit records of prospective renters. They want to know if the applicant who wants to rent their house or apartment is in good financial health and if he manages his finances reliably. A large indebtedness indicates that the tenant is already in financial difficulty and therefore he is more likely to fall behind on rent payments. Thus, delinquencies in servicing loans in the past may be a sign of delinquencies in paying rent in the future. Moreover, many landlords look at credit history as a measure of character and general reliability. Credit bureaus, like TransUnion, offer their own tenant scoring based on their credit records effectively reweighting their credit score models.[28] Equifax sells additional information with credit reports to landlords as a package.[29] Experian has its own rental screening operation and claims that in addition to using credit scores to predict rental behavior, rental data are included in its credit reports.[30]

Credit reports and scores are also used to screen people for federally subsidized housing. The US Department of Housing and Urban Development (HUD) recommends for owners and managers of such housing units to use credit history information. Its guidebook HUD states that "[t]he applicant

[26] One provider, for instance, offers a 3-digit rental score that is scaled like the FICO score (300-850) and includes the credit score in its calculation. See <http://myrental.com/reports/tenant-score/> (Accessed February 8, 2017).

[27] For instance, suppose a tenant has a dispute with the landlord and feels that she is entitled to withhold some of her rent, but they cannot agree how much. If the case goes to court, and the final judgment lets her keep 90 percent of the rent, this will be entered in New York State as a judgment against the tenant, as she still has to pay 10 percent (Lebovits and Addonizio 2012). In many cases, eviction reports include only the fact that there was an unlawful detainer suit, but not the outcome (Dunn and Grabchuk 2010). Furthermore, unlike the large credit bureaus, of which there are three, tenant screening agencies number in the hundreds, each with its own database. For consumers to monitor the quality of the tenant data these agencies keep on them and act preemptively is impossible.

[28] <http://www.transunion.com/corporate/business/solutions/propertymgt/scoring-model.page> (Accessed May 14, 2016).

[29] <http://www.equifax.com/help/forlandlords/> (accessed May 14, 2016).

[30] <http://www.experian.com/rentbureau/renter-credit.html> (accessed May 14, 2016). This takes us to turbo performativity to be discussed later.

should have a neutral or good record for a recommendation of admission…" but also stipulates that a "lack of credit history will not have any bearing on eligibility" (HUD 2003, 56; also Brown 2005).

The use of credit ratings in rental decisions creates another avenue of error propagation and enhanced performativity. Weak credit records can result in denial of housing, higher deposit requirements and a worse rent-to-value ratio. Paying more for worse housing can exacerbate the financial difficulties that lowered the scores to begin with.

6.3 Hiring

Employers are also heavy users of credit registries. The Fair Credit Reporting Act stipulates that they, just as landlords but unlike insurance companies, must receive written consent from the person involved. Employers often use credit histories to decide on new hires but they can inquire about current employees for any reason (but, again, only with their consent). An employer receives the standard credit report, except with the date of birth omitted.[31] At hiring, the credit history in certain cases is only one part of a more complex background check that may include the verification of educational credentials (not included in the credit file), employment history (only the name of the employer is included but not position) and even an investigation of civil and criminal judgments against the applicant and medical history (some of which may be reflected in the credit file). The employer, therefore, often uses multiple consumer reporting agencies, not just credit bureaus.

Upsurge in using credit checks by employers in employment decisions coincided with the Employee Polygraph Protection Act of 1988, which banned the use of polygraphs in employee hiring (Jones and Terris 1991). The loss of this tool spurred employers to reach for new instruments made available by advances in information technology. The initial theory was that credit reports are useful because people in financial trouble are more likely to resort to theft at the workplace (Oppler et al. 2008). Soon, the relationship between credit and work behavior became glossed in a more generalized fashion: financial history was seen as an objective measure of a person's conscientiousness and integrity (Bernerth 2012). A 2009 study of 433 firms by the Society for Human Resource Management found that 60 percent of the companies conducted credit background checks of job candidates, and 13 percent did it for all job openings. Of those companies, who used this tool selectively, almost all vetted the financial history of prospective employees for positions with financial and fiduciary responsibilities, and almost half for any senior executive position, and about a third with responsibilities involving confidential information (SHRM 2010).

[31] This is to prevent age discrimination.

Yet evidence for the predictive power of individual credit ratings to forecast job performance is weak or non-existent (Martin 2010; Aamodt 2010; Bryan and Palmer 2012). On the other hand, there is evidence that credit scores are correlated with minority status, thus suggesting that the use of credit history is a covert form of discrimination (Fellowes 2006; Bernerth 2012; Traub 2013), a concern equally present for the other off-label uses.

The use of credit information became especially problematic after the great recession that followed the subprime mortgage crisis. As more and more people defaulted on mortgages, their FICO score got downgraded, so that before 2008 15 percent of the population had scores below 600, after 2008 25 percent did. At the same time, the economic crisis made many lose their jobs who now found themselves in a financial "death spiral: the worse their debts, the harder it is to get a job to pay them off" (Glater 2009; Schoen 2010; McNamara 2010; Miller 2010). Employers insist that they avoid this Catch-22 by using common sense as they look at the reasons of the delinquencies, and treat credit problems due to unpaid medical bills differently than those rooted in gambling. Yet their main argument, unsupported by evidence, is that financial trouble gives incentives for people to engage in mischief.

7. From Enhanced to Turbo Performativity: Connecting Records

What we have seen so far was a loop that was completed by the individual when applying for a job, renting an apartment or taking out insurance. For most people, these are routine and necessary decisions; employment, home and insurance are hard to avoid. Yet the feedback loop can be attenuated or broken by the discretion of the employer, who can decide to hire someone with a low credit score, or a landlord who is not obliged to hold a poor score against a prospective tenant, and even insurance companies can decide to offer a better deal for good drivers with a checkered credit record. Moreover, difficulties finding employment, housing, or higher insurance premiums do not automatically translate into lower credit scores. For instance, help from family and friends can cushion the financial hardship of people who have started on this downward spiral and may allow them to climb back up. The loop is far from ironclad.

However, the death spiral is further exacerbated if not only credit records are used off-label, but if the off-label use is then fed back directly into the data that credit ratings rely on. The feedback loop would become even tighter dispensing with the attenuating social contingencies and mechanisms. For instance, if credit ratings were used to establish the size of rental deposits and insurance premiums, and then those numbers would be used to compute credit ratings then we would come full circle.[32] This has yet to happen, and currently higher insurance premiums or rental deposits affect credit scores only indirectly, by diverting funds from credit payments.

Yet in one area, employment, direct feedback is being constructed by adding employment records to credit history further amplifying enhanced performativity. In May 2007, Equifax, one of the three giant consumer credit bureaus purchased a little known company, named TALX for 1.4 billion dollars. TALX is the country's largest payroll outsourcing firm.[33] It claims to have payroll data of 190 million employee records, covering a third of the US workforce, from about 2,000 large employers that include the US Postal Service, the Federal and State governments, most universities and colleges, all car manufacturers, McDonald's and all the major fast food companies just to name a few.[34] Equifax justified its acquisition with the value of the proprietary data TALX possesses.[35] Equifax wanted to use payroll data to enhance its credit files. A change in pay or job title could then be reflected in one's credit score immediately. In 2008, Equifax acquired Discover Source, a company processing IRS data, and in 2009, for 124 million dollars IXI, a company that gathers wealth data on consumers. A year later Equifax rolled out Decision 360, an example of turbo performativity, a new, comprehensive rating product that includes income and wealth information along with credit history. All this is legal under the Gramm-Leach-Bliley Act of 1999. This law, among other things, allows financial companies to engage in a variety of businesses, and permits affiliated companies to share personal information on clients.

Decision 360 "combines credit, macroeconomic and customer-centric information with a vast array of exclusive data to deliver the most complete picture of consumer financial health available." As the brochure explains:

> The financial landscape is increasingly complex. As a result, traditional risk management tools may no longer provide all the insight needed to make truly informed lending decisions. How a consumer managed past credit is important, but so is their willingness, ability and capacity to pay current and future obligations. In this new normal, what you need is not just a consumer "liability statement," but a more telling "income/balance sheet" and cash flow statement – *often* driven by consumer consent. [Emphasis added.]

32 Enhancing credit scores with new types of information is seen as the main way to improve scores. One example of such innovation is using social network data for predicting credit behavior. FICO announced such plans, and in August 2015, Facebook acquired a patent that would use credit information of an applicant's Facebook friends to calculate a better credit score (Patent# US 20140289815 A1). Facebook sensing popular backlash, at least for now, decided against implementation.

33 In 2012, Equifax renamed TALX to Equifax Workforce Solutions.

34 Details can be found at <www.theworknumber.com> (Accessed May 14, 2016).

35 Rick Smith, CEO of Equifax, conference call for investors, on February 15, 2007, <http://www.sec.gov/Archives/edgar/data/917524/000110465907011669/0001104659-07-011669.txt> (Accessed May 14, 2016).

Equifax boasts that

> the Decision 360 practice draws from a wealth of unique data sources and insights that include:
> - Exclusive access to more than $10 trillion in investable asset data [IXI].
> - 195+ million active employment records from more than 2,000 U.S. employers [TALX].
> - Tax transcript information, delivered in 24-48 hours, verified directly from the IRS [Discover Source/TALX].
> - SSN verification based on searches of more than 15 billion public/private databases, and authenticated by the Social Security Administration.
> - An extensive credit reporting database of more than 250 million consumer records [Equifax's original credit registry].[36]

The turbo performativity of comprehensive scores also amplify error propagation. An erroneous downgrade in credit scores that then produces an adverse employment decision is counted twice by Decision 360.

8. Conclusion

Off-label use of consumer credit ratings results in error propagation and enhanced performativity. When different metrics are tightly coupled small events can have enormous consequences and inflate initial inequalities. In the world of consumer credit, privacy laws loosen the link between different markets. Making car insurance, rental and hiring more independent from credit ratings benefits not just those who start out with a weaker rating and find it increasingly hard to get a job, a good insurance or rental, but also those who are on the other side of these transactions. By letting insurance companies use credit ratings, lenders may see their struggling borrowers' resources diverted into higher insurance premiums and away from meeting their credit obligations. In other words, off-label use creates new competition between lenders and other users of the ratings for the resources of customers sucked in the vortex of indebtedness. Privacy protection that limits the use of credit scores to their original purpose, protects customers as well as lenders and makes these markets less bifurcated and volatile.

Economic literature interested in the welfare implications of off-label use and consumer privacy is focusing on models of single markets (Calzolari and Pavan 2004; Akçura and Srinivasan 2005; Taylor 2004 and Jentzsch 2014). My two theoretical points are at odds with this literature for three reasons. First, off-label use connects two or more markets and each market may work perfectly well but their externalities spill over to and harm other markets. It may be

36 <http://www.equifax.com/pdfs/corp/Decision-360-Brochure_051010.pdf> (Accessed May 14, 2016).

perfectly rational even optimal to use credit scores in loan and hiring decisions, but the credit and the job market are linked and decisions in one affects conditions in the other. If low scores exclude people from jobs, that makes it harder for lenders to recover their money from their unemployed clients. Second, models optimize expected utilities, in other words, want to find the largest average gain. The processes described here, while they may be optimal with respect to the average (first statistical moment), are suboptimal in the second statistical moment: they fail to minimize variance. They create divergence in outcomes in a way that amplifies small initial differences. Errors may cancel out overall, some actors will be over- others will be underrated, but over time, the same actors will be stuck with the worse-than-deserved ratings, just as the same actors will get to keep their better-than-deserved ratings. The resulting inequalities (variation in economic outcomes) and their ill effects are invisible in models that focus on averages and ignore variances. Third, most economists are concerned with one-period models, when the real process unfolds in multiple periods over time.

The European Union, with strong laws defending personal data,[37] is currently grappling with regulating off-label use of personal information,[38] and is much more alert to its dangers than the United States. Yet, even in Europe, the problem is framed in terms of privacy. In this paper, we try to argue that there is another, equally serious issue that needs to be considered, and that is cumulative economic disadvantages, an issue which goes beyond the individual's feelings of discomfort disclosing a particular piece of information in a specific transaction for fear of ill-intentioned abuse. Our claim is that the seemingly perfectly reasonable and well-meaning use of private information, even with the consent of the individual can have adverse societal consequences.

Because the two mechanisms that we identified act for corporations and sovereign states as well, albeit in different ways, some of these findings can be extended to corporate and sovereign ratings even though they are not natural persons and have no privacy rights. Error propagation for instance, is a concern when faulty corporate ratings are used for regulatory purposes. An independent regulatory assessment of RMBSs or CDOs would have increased the chances of revealing their flaws in time (for instance, that many RMBSs were based on mortgages with no (verified) income data). For companies (as opposed to structured financial investment vehicles whose performance is directly unaffected

[37] The Data Protection Directive of 1995 issued by the European Commission (Directive 95/46/EC) states that personal data must be "collected for specified, explicit and legitimate purposes and not further processed in a way incompatible with those purposes" allowing for exceptions only for historical, statistical and scientific use with appropriate safeguards (Article 6.1(b)).

[38] The Opinion of the Article 29 Data Protection Working Party on purpose limitation, issued on April 2, 2013 available at <http://ec.europa.eu/justice/data-protection/article-29/documentation/opinion-recommendation/files/2013/wp203_en.pdf> (Accessed May 14, 2016).

by their rating) enhanced performativity emerges as good ratings beget not just new investors reacting to the rating signal but – courtesy of the regulations – more conservative investors such as pension funds, whose presence is now an additional indication that the company is doing well, that then makes their access to capital easier which helps performance, leading to even better ratings. Ratings of government bonds also become a direct measure of stability and the overall performance of a country's economy. Reacting to bad ratings investors will avoid the country's bonds or will demand a higher risk premium making governments even weaker fiscally. But if these ratings are used to assess the entire economy and polity, foreign investors will take a pass also on private companies in the country creating new weaknesses in the economy that bring worse prospects for the government and its borrowing. Again, an independent political and economic assessment may lead investors in a different direction.

Using information in new ways is one of the most common forms of intellectual creativity. Innovation in applied and academic research often turns on smart ideas of how to use existing data off-label. Yet off-label uses can have serious side effects. Ratings are designed to bring stability to credit markets. Their spread to off-label uses while in the short-run can enhance their predictive powers, in the long run, because ratings also propagate errors and reinforce and magnify economic inequalities, contribute not only to a society that is less just but also to one that is ultimately less stable.

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Surveillance, Classification, and Social Inequality in Informational Capitalism: The Relevance of Exploitation in the Context of Markets in Information

Sebastian Sevignani *

Abstract: *»Überwachung, Klassifikation und soziale Ungleichheit im informationellen Kapitalismus: Die Relevanz der Ausbeutung im Kontext der Informationsmärkte«*. This contribution deals with classification processes as an element of surveillance in the context of the growing relevance of (online) markets in information and the blurring line between production and consumption in current informational capitalist societies. Using the example of social media, I argue that classification does not only appear as feature of the demand and supply side of information markets but is also an aspect of informational production. In doing so, the paper discusses insights from critical surveillance and advertising studies and relates it to important strands of class theory in order to learn about the social mechanism that establishes inequality between Internet service owners and users. The paper argues that a (revised) notion of exploitation and antagonistic social relations should not be omitted from theorizing the information economy. Exploitation establishes an antagonism between all Internet users and the owners of the means of communication, surveillance, and classification.

Keywords: Exploitation, online economy, markets in information, class, classification, surveillance, advertising, means of communication, social inequality.

1. Introduction

In their paper "Classification situations: Life-chances in the neoliberal era" (2017 [2013]) Marion Fourcade and Kieran Healy aim at a revision, or better, at a further differentiation of class theory. Class situations have been conceptualised, in their view, too much from the viewpoint of the sphere of production (exploitative labour relations) and the labour market (human capital or skill, occupation). Other markets – in the paper they are interested in the credit market and debts – only appear in class theory in their mediating and stabilizing

* Sebastian Sevignani, Institute of Sociology, Friedrich-Schiller-University Jena, Carl-Zeiß-Straße 2, 07443 Jena, Germany; sebastian.sevignani@uni-jena.de.

Historical Social Research 42 (2017) 1, 77-102 │© GESIS
DOI: 10.12759/hsr.42.2017.1.77-102

functions for social inequality that, however, is produced elsewhere outside the market. They introduce the notion of "classification situation" to make visible an additional mechanism that generates social inequality within the market. They define classification situations, as distinct from class situations, as positions in markets that are consequential for one's life-chances and are interested in the process of "how institutions systematically sort and slop people into new types of categories (which we may call 'market categories') with different economic rewards and punishments attached to them" (2013, 561). Such classifications "are not merely approximations to pre-existing social groups, though of course they may overlap substantially in specific cases. Rather, they are independently, even 'artificially' generated classifications that can come to have distinctive and consequential class-like effects on life-chances and social identities" (2013, 560). Their starting point "is thus the operation of market institutions, not the a priori identification of fundamental social categories" (2013, 561).

This paper does not engage with Fourcade and Healy's analysis in detail; rather I understand it as a contribution to broaden the debate about the social phenomenon of market classification that their paper has fuelled. I share with them an interest in exploring the role classification processes play in the creation and reproduction of social inequality as well as an interest in rethinking class theory "in the light of techno-social changes generated by the advent of novel market devices" (2013, 569). My approach, however, clearly differs in its attention to the concept of exploitation as the important other side of the story of social inequality and consequently focuses on the reproduction of existing classes through the implementation of classification processes instead of claiming that new classes are created by these processes in the market.

To finally arrive at this point, I combine a series of distinct debates and theory strands, such as classification theory, surveillance studies, advertising studies, the sociology of inequality, and integrate them in a Marxist theory framework of commodification, labour, exploitation, and class: I refer to the debate of the blurring line between consumption and production and the rise of prosumers as a starting point to introduce a broad concept of labour that includes the activity of Internet users. Social classification processes are introduced as a tool to establish an unequal relation of surveillance between Internet users and the owners of the means of online communication, such as server farms, software, and platforms. Surveillance as a precondition of targeted advertising is crucial to commercialise the activity of Internet users and this opportunity to make money from users' online activity is then situated within different approaches to class theory.

The paper takes the following course: First, I introduce the growing relevance of surveillance in the online economy. Second, classification is situated as an element of surveillance and linked to commodification processes. Third, social inequality creating mechanisms – individual attributes, opportunity hoarding, and exploitation – are discussed in relation to surveillance, classification and markets in information. Fourth, a revised notion of exploitation 2.0 is presented. I conclude that the Marxian strand, as the important other side of the story of social inequality, should not be omitted. Throughout the paper, I use (commercial) social media as a paradigmatic case where the described tendencies in informational capitalism culminate.

2. The Rise of Surveillance Driven Culture Production in Informational Capitalism

Two analytically distinct phenomena typically appear in the discourse about informational capitalism. Firstly, information, knowledge, and in a broader sense culture are produced as commodities. Adorno and Horkheimer were among the first to have analysed the commodification of culture within an emerging Fordist stage of capitalist development and have coined the term "culture industry" (Horkheimer and Adorno 2002; Steinert 2003) to express that culture became a mass commodity that is produced for profit purposes. Two main socio-economic conditions that fostered the commodification of culture can be named. On the one hand, a significant number of the population could afford to buy cultural goods. On the other hand, the working day was limited to the extent that a significant number of the population has free time for cultural activities. Capital massively expanded into the cultural sphere and cultural content, cultural audiences, and cultural work were captured by commodification processes (Mosco 2009, 11-4). This trend continues and can be exemplarily understood by having a look at the World Economic Forum's proposal to treat information as a capital asset and its reminder from economic elites to political decision-makers to find a right balance between individual privacy protection and economic innovation and growth (World Economic Forum 2011, 7). And secondly, speaking about informational capitalism can mean that informatisation is a quality of the way all kinds of goods and services are produced in a society, which is one of the core themes within labour, industrial, and economic sociology. This paper engages with the first aspect – the new relevance of markets in information – but draws also on the second aspect as informatisation not only allows the effective linking and modelling of all steps necessary to produce any good, it also allows one to effectively link all stages of the economic process. For instance, information about potential and previous buyers influences how a commodity is produced or distributed.

A key quality of capitalist market societies, according to Marx (Marx 1867/1976, 129-37, 166-7), is that no a priori coordination between societal supply and demand exists. The actual buying process, thus the realisation of profits, is basically uncertain from the standpoint of the single producer but also from the standpoint of the consumer (Haug 1986). The market is the social site where it is decided whether a certain production was useful or not. It is therefore understandable that the individual capital, in competition with other capital that does not exclude strategic cooperation among them, seeks to minimise this structural uncertainty. Marketing and, as an important subdivision, advertising are important strategies to deal with this structural capitalist uncertainty in particular under conditions of pending accumulation crisis and monopolized market structures (e.g. Baran and Sweezy 1966, 128). Data-driven marketing is a general feature of informational capitalism. Marketing activities become integral to all spheres a commodity passes through, from provision to transition to the consumer. Detlev Zwick and Janice Denegri Knott argue that "at the beginning of the 21st century, data-driven marketing is ubiquitous and is shaping business practice in a growing number of industrial and consumer markets" (Zwick and Knott 2009, 222). Consumer surveillance is a crucial element in this process. Maurizio Lazzarato argues that "rather than ensuring (as nineteenth-century enterprises did) the surveillance of the inner workings of the production process and the supervision of the markets of raw materials (labour included), business is focused on the terrain outside of the production process: sales and the relationship with the consumer" (Lazzarato 1996, 140).

Whereas traditional forms of advertising are directed at broad groups of potential buyers, targeted advertising is tailored to precisely defined and differentiated groups, or even individual consumers. This demands more detailed, exact, and differentiated knowledge of the users' wants and (buying) behaviour. Online corporations are able to provide such data and consequently surveillance based business models that offer commodities produced from data and information about Internet users gained enormous relevance in the online economy.[1]

Joseph Turow (2011) provides a useful narrative of the development of online surveillance-based business models, focusing on the interplay between media corporations' and advertisers' (advertising agencies and their clients) business relations: "Advertisers and their media agencies reward publishers who help them pursue and expand the logic of individual tracking, targeting, and tailoring" (Turow 2011, 140). It started with the "click" and the responding "banner" advertising. The click was, however, deficient in the view of the advertising industry since it did now allow an inference to be made whether a new visitor to the web site or a visitor who has already clicked on a banner has given attention to the advertisement. The "cookie" is the technological response to this situation. The cookie made identification and user tracking across different websites possible. The utilisation of web searches for marketing and advertising purposes is a next step in the development of user surveillance. Mobile usage of media finally connects information about potential buying behaviour with concrete offline contexts of supply.

[1] For a nuanced view that stresses a gulf between the discourse about the potentials of social media marketing and its limited use by practitioners, see Pridmore and Hämäläinen this issue.

The commercial media's and advertisers' response strategy to potential consumer and user anxieties about, for instance, a loss of privacy (Sevignani 2016), is to deny a general logic behind their surveillance and discriminatory activities and instead to frame these issues in individual terms. They have "learned that the key to managing such anger is to make the customer see tension-inducing rules as almost an interpersonal issue between company and customer. 'Failure' to get benefits or offers within the scheme would then be a private issue resulting from the rules of collaboration rather than one needing public remedy" (Turow 2006, 303).

In the present situation, most Internet services are profit-oriented and allow advertising on the sites. Wikipedia is the notable and interesting exception among the most frequented Internet sites worldwide because it is not commercially run and has no advertising. To the extent that media and cultural content is nowadays widely distributed online, it is reasonable not only to stress the relevance of economic surveillance in informational capitalism, but also to speak of a general "rise of surveillance-driven culture production" (Turow 2005, 113) and to maintain that "by capturing consumer activities ubiquitously and in minute detail, databases become repositories of complex consumer lives by turning behavior into abstract aggregates of individualized and individualizing data points" (Zwick and Knott 2009, 222).

Here is now the point where the example of social media comes in. I consider social media as a paradigmatic case where the described tendencies in informational capitalism culminate and the remainder of this paper develops its arguments along the discussion of this subject. While people use social media for different reasons, such as getting news, providing information, staying in touch with friends, making new acquaintances, or organising events, they produce a wide range of data. All their online activity leaves valuable 'data fingerprints.'

3. User Surveillance, Classification, and the Commodification of Information

Bowker and Star define classifications as "spatiotemporal segmentation of the world" (2000, 149). If classifications are ordered, a classification system originates that is "a set of boxes, metaphorical or not, into which things can be put in order to then do some kind of work" (ibid.). However, classification is itself a form of work, namely of attaching things to categories and to build systems from these categories (ibid.). Like work, classifications "are both conceptual (in the sense of persistent patterns of change and action, resources for organizing abstractions) and material (in the sense of being inscribed, transported, and affixed to stuff)" (ibid., 152).

I propose to consider classification as an aspect of (consumer) surveillance. Surveillance, however, goes beyond and directs classification by introducing an important social distinction between watchers and watched. For Oscar Gandy, surveillance includes three processes (Gandy 1993; 2012): First, instrumental identification, which implies that an individual or a group is identified by an institutional other, following any means-to-ends consideration. The second process of surveillance is classification, which is the "assignment of individuals to conceptual groups on the basis of identifying information" (Gandy 1993, 16) for the purpose of a "maximization of similarities and differences within and between analytically defined groups" (Gandy 2012, 126). Third, there is assessment, which is comparing conceptual groups with other conceptual groups and the examination of probabilities, for instance, of a buying act. Assessment itself includes the sub-process of evaluation and discrimination. Evaluative assessment aims at calculating whether a particular loss or benefit will occur in the future. Distinctive evaluation is based on previous evaluation and involves a choice to treat differently evaluated individuals or groups in different ways.

In the literature, some authors see surveillance as a critical concept that denotes a negative condition that should be overcome (Gandy 1993; Allmer 2012); others argue that there are also positive qualities of surveillance (Haggerty 2006; Giddens 1981, 169). All approaches have in common that they describe surveillance connected to the systematic collection, storage, diffusion, processing, and use of personal data. My approach is to situate it in the context of the commodification of information, which is first a descriptive concept. The following sections, however, link commodification to the problem of unequally distributed life-chances among people and to the capitalist logic of accumulation that reproduces and amplifies social inequality. This refers back to my assumption that surveillance is based on an unequal relation because at the heart of this logic is the mechanism of exploitation. Although accumulation and exploitation are descriptive terms too, at least exploitation has also normative connotations that finally call for its abolition.

Why is surveillance a means to commodification? In my view, surveillance helps to make user interactions and social relations manageable for economic interests by formalizing them (Schmiede 1996; May 1998, 252; Jessop 2007, 120; Gorz 2010, 44; Rullani 2011, 375-6). To explain this, it is useful to introduce a tripartite model of information that is popular in informatics (Fuchs-Kittowski 2004). Within this framework, data, information, and knowledge, which are usually subsumed under the umbrella term of information, can be distinguished according to the common linguistic model of syntactics, semantics, and pragmatics. Data are the syntactic expression of information. Information is data that make a certain sense and knowledge is a relational system of information that is interpreted in a broader context. Social media are spaces of knowledges where users from different backgrounds of experiences interact. By sharing meanings and in order to communicate, users must reduce the plenty of their knowledge to specific information. "Information always includes only designed and formalized excerpts of reality, i.e. those cleared of disturbing conditions and complexities" (Schmiede 2006, 343). Information is, as abstract and formalised content, also the resource of knowledge. For example "a newspaper report may be completely understandable concerning its words and their meaning for me as a reader, but due to lacking context its meaning may be completely incomprehensible at the same time" (ibid.). When we speak of digital communication and surveillance, human-computer interactions are involved and a further formalisation comes in: Human-computer interactions couple semantic and syntactic processes, they generate data from information, and information from data. While data is most formalised, knowledge is the less formalised expression of information. Commodification of social relations, sharing, and knowledge demands formalisation in order to separate valuable aspects from their social place of origin. The crucial step towards commodification of user generated information takes place when the dialectical process of knowledge, information, and data production is not inhibited but appropriated by economic interests that aim to transfer gained information to other contexts than the communication process between users. Appropriation and transfer to the advertising market becomes possible because of the described processes of formalisation.

The rise of the surveillance driven culture production depends on the existence of markets in information where Internet corporations can exchange information with an interested advertising industry. User surveillance and thus classification is the mode through which online activities are transformed into commodities. Thereby it is important to understand that information gained in the surveillance process is used in a twofold way by commercial Internet services (Cohen 2008). Online corporations, such as those that operate social media, make a first use of these data by monitoring and using them to enhance the service and trigger more user interactions under their surveillance. For instance, while using social media, a friend of mine posts a caricature on his wall page and I am informed about this activity. Following this, I comment on the caricature and cite an online newspaper article that gives background information on the political event the caricature is about. Assuming the background information and the caricature are controversial, a lively debate with several users starts. The online service has successfully triggered more user interactions on its platform.

Data, however, are used in a second way and this is the decisive one because it involves surveillance in its proposed critical meaning. The difference now is that the watched must not become the watchers and the secondary use it not necessary for the service to perform its primary social functions. Information about users could, in principle, be used solely for network and interaction enhancing means as it would be the case for alternative, non-commercial Internet services but this would allow, in principle, that the users can become the watchers. Social media corporations monitor, collect, and store as much and even more user data themselves. Or they allow other corporations to do so on the platform. The aim is to sort "individuals on the basis of their estimated value or worth" (Gandy 1993, 1) or to generate consumer reputation profiles about the users (Turow 2006). The online surveillance process includes the transformation of user information into formalised data and vice versa the transformation from formalised data into advertising relevant information about the user, such as socio-demographic information and consumer preferences. Social media corporations' secondary use of information involves making information generated from user data accessible to advertisers in exchange for money. Information, including privacy relevant information, is commodified in this process. Commodification always involves three qualities (Williams 2002): a) goods and services are produced for exchange; b) the exchange of these goods and services is monetised; and c) the production for exchange is motivated by the profit principle. Commercial social media, as a rule, do not share the gained data about users with the users. In order to exchange data in markets they must exclude this option and they must have a property right in data to do so (Sevignani 2016).

Through surveillance, users are made quantitatively comparable in order to be tagged with a price in the process of commodification (Symthe 2006; Meehan 1993; Bolin 2009; Caraway 2011). Users as consumers "are compiled in a marketplace that is technologically equipped to capture transaction records in digital formats. This information about consumption-related behaviors can be stored, collated, and circulated almost instantly with few spatial constraints. This digitized marketplace is structured to produce 'consumers' as commodities. By contrast, consumers are real people in a marketplace, breathing life into the institutions and habits of consumership. 'Consumers' are rationalized representations of these actual consumers" (McGuigan 2012, 299).

For Internet corporations applying the surveillance driven business model, the first use of information on user interaction is only a means to the secondary use of information for advertising. Only through the latter, the corporation is able to gain profit. This is only possible by enabling the former. The more users participate in social media, the more they interact on them, the more attractive the service becomes for new users, and the more interactions are triggered subsequently. Commercial services try to optimise user participation and social network building with regard to the users' contribution to the secondary use of information for profit purposes but users do not intentionally produce information for sale when they communicate or collaborate on social media.

4. Inequality Producing Social Mechanisms and Markets in Information

In order to understand different social inequality creating mechanisms, we must carefully define the groups that are involved in an unequal relationship. As the information markets that are attached to social media involve users, providers, and the advertising industry, inequality is imaginable in the following relations: between users, between social media service providers, between advertising networks or agencies, between users and social media service providers, between social media providers and advertising networks or agencies, between users and advertising networks or agencies. Surveillance and classification processes are most commonly problematised because they enable social sorting (Lyon 2003; Ball, Haggerty, and Lyon 2012, 119-21). For instance on social media, surveillance and classification sorts individuals into boxes that determine what information they will get displayed (Pariser 2011) or which kind of advertising offers they will receive. However, what I am primarily interested in here is the inequality between users and (the owners of) social media service providers, which, as I will demonstrate, also involves some other unequal relations.

There is relatively little literature that systematically discusses distinct inequality producing social mechanisms (Tilly 1998; Therborn 2006; Diewald and Faist 2011). Traditionally, class theory is the place where the most relevant of such mechanisms have been identified with a focus on the economy. In a recent systematization Wright (2015) provides useful criteria to distinguish theories of class, first, based on their focus on the economic process (production, market/circulation, and consumption), second, based on the relationality of the mechanism they suppose (none, external, and internal relation) and, third, based on the observational (micro, meso, macro) and political (small improvement, institutional improvements, systemic improvements) range. Wright (2015, 4) identifies the following main mechanisms that create bigger social classes and that underlie the main approaches to class theory: the effects of individual attributes, opportunity hoarding and social closure, and domination and exploitation.

The first inequality creating mechanism focuses on individual attributes. Inequality is explained by the differing social background conditions in an individual's life that provides the individual with different class-relevant attributes. These attributes then translate in different class positions in the occupational structure. In this case, the rich are rich because they have favourable attributes and the poor are lacking them. In the case of markets in information and the example of social media, this could mean that entrepreneurs, such as Facebook's Mark Zuckerberg, Google's Sergey Brin and Larry Paige, and others, are now rich because they have had the right resources, such as breaking business ideas, talents, a good training e.g. by elite colleges and universities, and accumulated social capital in order to achieve a CEO or a leading shareholder position. All those resources enabled them to found, develop, and sustain the Internet services that they now own to large extents. This approach is in principle a non-relational one because it sees no connection between the poor and the rich and reduces social inequality to individual differences because resources appear as an individual's attributes.

However, individual attributes are also the effect of social attribution processes and in this sense social relations are involved. For instance, breaking business ideas must be recognized and financed and good training is usually credentialed. Bourdieu (1986) develops his class theory as a relational one. His different forms of capital (economic, social, and cultural) are resources only in comparison to other positions in the social space and only insofar as they are recognized on a symbolic level (symbolic capital). Classification is a socio-cognitive practice of applying and thereby accepting constructed categories in everyday life. Actors evaluate cultural objects and practices in order to classify themselves and demonstrate where they stand in relation to others in the hierarchy of the social space. To establish certain systems of classification does not only mean to situate oneself in the social space but also to permeate a certain image of the legitimate social order successfully. This theory links classification to social structure (class in itself and class for itself) but sees a relational independence of classification from class by pointing to the rigidity of successfully established classification systems. The notion of classification situations (Fourcade and Healy 2017 [2013]) also assumes that individual attributes are not simply given and marketers bring them to the market; rather the attributes are socially – that is in relation to others – constructed and created in markets.

Attributes are frequently derived relationally (attribution), they are then affixed to individuals. Social attribution or the perception of heterogeneities is relevant for inequality because it forms the starting point for any other inequality creating mechanism (Diewald and Faist 2011, 105). Without the creation and perception of differences among people (and the identification of different participants in the information markets already assumed such differences), none of the following relational inequality creating social mechanism could be effective.

The second approach is opportunity hoarding and, in contrast to the first mechanism, which focuses on individual attributes, it claims a relation between the classes; here the rich are rich because the poor are poor. Opportunity hoarding presupposes an exclusionary relation enforced by a form of power among individuals concerning different internalised and external resources. Tilly (1998, 35) names the following value-producing resources that are relevant for producing durable social inequality: Coercive means (e.g. weapons), labour (in particular skilled labour), animals, commitment-maintaining institutions (e.g. religion), machines, financial capital (for acquiring property rights), information, media, and scientific-technical knowledge.

Private property is the most crucial means to enable a relation of exclusion for opportunity hoarding. Private property rights are commonly associated with four aspects: the right to use, to abuse, to alienate or exchange something, as well as the right to receive the benefits that the usage of something generates (usus fructus) (Munzer 2005, 858). Crawford B. Macpherson (1978, 9-10) traces the historical development of property rights and identifies important shifts in this development. Private property that is based on a relation of exclusion is first taken for property as such thereby neglecting communal forms. Then private property in the consumable means of life is identified with private property in producing these means of life. Private property can be or probably has always been constrained by the state or society (Christman 1994). However, "it may be called an absolute right in two senses: it is a right to dispose of, or alienate, as well as to use; and it is a right which is not conditional on the owner's performance of any social function" (Macpherson 1978, 10; see also Munzer 2005, 858).

Private property is an exclusionary relation among people in regard to (intangible or tangible) things. Marx described the historical process to establish such relations among peoples in the context of the rise of capitalism as primitive accumulation and he makes the point that the birth of capitalism was a violent one (Marx 1867/1976, part eight). More recently, it was argued that this process is ongoing and an integral element of capitalist societies (De Angelis 2007; Dörre 2015). Since the 1990s the Internet became a new space for capital accumulation and we could observe enclosure processes in this realm (Perelman 2000; Boes et al. 2015). Beside influencing the political process, creating and enforcing new intellectual property rights (Boyle 2002), there are also strategies of opportunity hoarding that make use of non-legal or quasi-legal processes (Harvey 2014, 133). Whereas the focus on private property sheds light on the (interplay of) political and economic processes, it usually does not grasp cultural aspects of the primitive accumulation or the raise of capitalism very well. Weber's ideas of the Protestant ethic as an important aspect of the genesis of capitalist social relations can be seen as complementing Marx's analysis of primitive accumulation (Weber 2012). It is crucial not to neglect that the ongoing enclosures or primitive accumulations demand, beside political force and economic power, also a cultural legitimation. What do the economic, political, and cultural aspects of opportunity hoarding mean for markets in information and the example of social media?

In the case of markets in information and the example of social media, there is an exclusion of users from several mechanical, informational, knowledge, and media resources that providers control. For instance, users are excluded from the control and use of the huge and extremely energy consuming server parks that are needed to operate the services. They do not control the development of the software that commercial social media use to provide their services, and users are excluded from the knowledge of how exactly algorithms are programmed that establish the link between the two uses of data and enable commercial social media to connect to advertising networks. The control over these resources gives social media providers the opportunity to valorise user data by selling it to the advertising industry, users are excluded from this opportunity.

The concept of intellectual property and therefore private property in information consists of the "idea that an idea can be owned" (Hesse 2002, 25) which first has to be enforced against the assumption that that "ideas are intrinsically social: they are not produced by individuals alone; they are the fruit of a collective process of experience" (Hesse 2002, 36). This political struggle is ongoing (Benkler 2006; Boyle 2002), however, in practice, there are markets in information and online advertising networks that are able to attract significant portions of the global advertising fund and this becomes possible because user information is privatised. Commercial social media's terms of use are binding contracts and provide the legal base to utilise users' data for profit purposes.

However, the opportunity to valorise user data involves some other economic inequalities between social media service providers themselves and between them and the advertising industry. Private property rights in information and the opportunity to exclude others from the aggregated information give rise to competition between marketers. In capitalism, there is a dialectic of competition and concentration, which finds its expression in the contradictory discourse about monopolistic competition (Harvey 2014, 137). Media concentration is thus not an exception from the rule but a regular and state aided process in commercial media systems (Knoche 2013). Empirically, we find a steady process of political deregulation or privatisation, which leads to more concentrated media markets, and subsequent re-regulation, which legitimates the concentrated status quo in respect to competition on an ever-increasing scale (local, national, transnational, global). Today, the Internet in general and online markets in information in particular are highly monopolised spheres and probably must be because otherwise these markets cannot be profitable at all due the specific qualities of information e.g. as a non-rival good (Benkler 2006; Rullani 2011, 340-6). For instance, the global top fifteen websites reach a significant share of the global Internet population and most of them are based on the described surveillance based business model. The advertising industry, in turn, consists of a few powerful provider of advertising relevant information, such as Facebook's Ad Network and Google's AdSense or AdWords (McChesney 2013, 130-58; Dolata 2015).

Concerning unequally distributed financial resources, the mechanism of opportunity hoarding results in strategies to realise monopoly rents. Critical political economy's concept of rent has raised a renewed interest in the digital age (Pasquinelli 2009; Caraway 2011; Arvidsson and Colleoni 2012; Huws 2014; Ouellet 2015). Rent is a key mechanism to make profits for Internet corporations. It is an opportunity to extract surplus value that is produced elsewhere, including, for instance, offline production sites and from corporations that advertise their products. More recently, rent was related to culturally produced sites (Harvey 2001) and Internet business models (Foley 2013). This reconceptualization enables us to think that human activity is involved in establishing the preconditions of rent seeking. A monopoly, for instance, in access to a wide user base, is exchanged for money with somebody who thinks that her or his own business can be enhanced through it (by reducing the costs of the structural uncertainty to realize the invested value on the market). The costs for access (rent) are a reduction from profits, but an economically rational one since it allows a realization of higher profits than competitors can do without it. Having access to social media's user base may – from an economic perspective – be more sensible than to advertise a commodity on a site with much less users or in a newspaper.

Rent seeking strategies can follow conventional economic paths by aiming at establishing new intellectual property rights, realising monopoly prices through product innovation, making use of the economies of scale and scope, and network effects. However, there are also pseudo or non-legal strategies of opportunity hoarding in information markets. One can think of intentionally created opacity or making use of legal loopholes. Internet corporations actually apply both strategies to realise monopoly rents. For instance, insights into the use of personal information through social media providers are obfuscated through complicated terms of use and privacy statements. Using social media is thus largely based on an "uninformed consent" (Campbell and Carlson 2002, 593; Fernback and Papacharissi 2007; Sandoval 2011). What is more, commercial social media actively make use of different privacy (and tax) laws and states let them do so. For instance, Facebook chose to place its European headquarters in Ireland, a land known for its lower privacy law standards and corporation friendly tax policy.

On the cultural side, there is the reproduction of what I call a privacy ideology (Sevignani 2016) that consists of a notion of privacy that is strongly entangled with the notion of property and self-possession. This ideology enables us to trade personal information, for instance, through our agreement to social media terms of use. At the same time, we find an ideology of sharing that consists in a positive framing of sharing information with others and thereby neglecting that this sharing also fuels private interests. The sharing ideology is supported by the powerful self-presentation of the online economy (sometimes in clear distinction from the 'old' economy) as serving social purposes and being the opposite of evil (Fuchs and Sevignani 2013, 261).

Opportunity hoarding and the third mechanism, exploitation, both involve the exercise of power either in order to enforce exclusion or to control labour (Wright 2015, 11). Manuel Castells (2011) explores the forms that power takes in informational capitalism and distinguishes between four forms: First, 'networking' power is the power of those who have access to global networks over those who do not have access to them. Second, 'network power' is the power that results from the standards of the networks or the rules of inclusion in the network. Third, 'networked power' is the power of social actors over other social actors within a certain network. Fourth, the most crucial form of power is network making power (ibid., 776). It is "the power to program specific networks according to the interests and values of the programmers, and the power to switch different networks following the strategic alliances between the dominant actors of various networks" (ibid., 773). Network-making power consists of two operations: programming and switching. Programming power is "the ability to constitute network(s) and to program/reprogram the network(s) in terms of the goals assigned to the Network" (ibid., 776); switching power is "the ability to connect and ensure the cooperation of different networks by sharing common goals and combining resources while fending off competition from other networks by setting up strategic cooperation" (ibid.). Network-making power flows easily into network power: "Network power is the power of the standards of the network over its components, although this network power ultimately favors the interests of both a specific set of social actors at the source of network formation and also of the establishment of the standards (protocols of communication)" (ibid., 775). The first two forms of communication power refer to the opportunity hoarding mechanism because they help to establish an exclusionary relation. The third form refers to exploitation because power is used to control the activities in the network.

Beside their genuine social and relational nature and the involvement of power to establish and reproduce a relation of inequality, there is a systemic interconnection between the opportunity hoarding approach and the third inequality creating social mechanism that shows that these different approaches should not be seen as contradictory but as complementary on different levels of observation and problematisation: "Perhaps the most important exclusionary mechanism that protects the privileges and advantages of people in certain jobs in a capitalist society is private property rights in the means of production" (Wright 2015, 7). The exclusion of some groups from the means of production historically leads to a form of exploitative domination. "'Domination' refers to the ability to control the *activities* of others. 'Exploitation' refers to the acquisition of economic benefits from the laboring activity of those who are dominated. All exploitation, therefore, implies some kind of domination, but not all domination involves exploitation" (Wright 2015, 9). Private property in the means of production enables owners to exercise control over labour. In the process of primitive accumulation a 'fictitious' commodity (Polanyi 2001, 76; Jessop 2007) is created. Human labour force must be offered and can be sold on labour markets but is not produced for sale. Labourers, deprived from the means of production, cannot make their ends meet without exchanging their productive capacities on markets.

With exploitation, we see however a different form of relation between the unequal. The relation is not external to the involved individuals mediated by the unequally distributed control over resources but internal. The rich are rich because the poor make them rich and reproduce the unequal situation simultaneously; there is an asymmetric interdependency. Consequently, we can speak of exploitation if three criteria are met (Wright 1997, 9-17): First, inverse interdependent welfare means that the wealth of some social groups is dependent on other social groups that profit less. Second, exclusion means that some social groups ensure that other social groups are excluded from the profit-generating conditions and the profit itself (through private property rights). Third, some social groups are able to appropriate the wealth created by other social groups. Exploitation refers to the final shift that property went through towards reaching its capitalist form: private property in producing the means of life is identified with a specific property in producing the means of life, namely private property in the labour force (Macpherson 1978, 10; Pateman and Mills 2007, 17-8; Polanyi 2001, 76).

Applied to markets in information and social media, classical exploitation occurs because the social media owner buys technical infrastructure, such as server parks and software components, as well as labour force, such as accountants, software developer, advertising specialists, etc., and organises the production of social media through which users can interact. Bolin (2009), for instance, argues that commercial social media's employees, who operate the software and pack user data into commodities, are an exploited class. Thus there is, of course, a social relation of inequality within social media service providers.

5. Exploitation 2.0

The business model that is of interest here, however, is not (primarily) based on selling users the access to the medium but is based on the secondary use of user interactions for profit purposes. Is there a similar mechanism specific to the described surveillance and classification based business models? Can a notion of exploitation 2.0 be justified? In my opinion, we need a three-step argument to answer this question positively. This includes, first and most crucially, a broadening of the notion of labour; second, to make a broad concept of the means of production as the decisive value-producing resource in capitalism plausible; and third, the identification of an equivalent to the exploitable fictitious commodity of labour power.

First, a broad understanding of labour is not restricted to a productivist and wage-labour centred view (Fuchs and Sevignani 2013; Fuchs and Sandoval 2014). Dallas Smythe (2006) in the 1970s first speaks of the commodification of audiences through the corporate media: Just like labour power was commodified and became exchangeable on markets with the rise of capitalism, audience power is now traded in the media industry. With the rise of a "surveillance-driven culture production" (Turow 2005, 113) and most Internet services relying on advertising as their business model, Smythe's notion of audience power was rethought. Fuchs argues that "advertisers are not only interested in the time that users spend online, but also in the products that are created during this time – user generated digital content and online behaviour" (2012, 704). The "work of being watched" (Andrejevic 2002) is now a key quality of using the Internet and the users participate in the production of the services. We see a strong correlation between a commercial service's user base and its revenues (Andrejevic 2015, 7) in terms of extensity and intensity of time spent online.

Alvin Toffler has introduced the term "prosumer" to express that there is a "progressive blurring of the line that separates the producer from the consumer" (1980, 267). Applied to the Internet, one can then speak of "produsage" (Bruns 2008) or the "produser" (Fuchs 2010). There is a long existing trend that consumers are put to work since it is a potential profit maximising strategy (Ritzer and Jurgenson 2010). For instance, fast food restaurants encourage their customers to dispose of their food wrappers by themselves. Some furniture shops let their customers assemble their purchases by themselves. Work that is traditionally performed by employed and paid workers appears now as unpaid consumption work. Ritzer and Jurgenson argue that although prosumption has always been a trait of capitalist societies, it gains particular relevance in the context of the Internet and web 2.0 which is "the most prevalent location of prosumption and its most important facilitator as a 'means of prosumption'" (2010, 20). Producing and consuming takes place simultaneously in the context of web 2.0 services, such as social networking sites. According to Beer and Burrows "perhaps the key defining feature of Web 2.0 is that users are involved in processes of production and consumption as they generate and browse online content, as they tag and blog, post and share" (2007, 8). Users are therefore 'prosumers' or 'produsers'. Linked to the previous discussion about surveillance, Christian Fuchs argues that "the combination of surveillance and prosumption is at the heart of capital accumulation on web 2.0" (2011, 296). On social media, users consume the web service and simultaneously produce advertising relevant information.

The notion of online prosuming disentangles our understanding of work from the classical sphere of production and reveals that production also takes place in the sphere of consumption. It, however, rejects a productivist notion of work in a second sense: contrary to authors who make a sharp distinction between purposive and instrumental activities (in order to handle scarcity for instance) and an activity that aims at cooperation and communication, Fuchs and Sevignani (2013) assume the unity of these aspects within the work process. This point is also made by Sean Sayers (2007), who argues that authors, such as Arendt (1958), Habermas (1984; 1987), as well as Hardt and Negri (2000, 404-5) use insufficient accounts of Marx's theory of work and all hold that Marx is a productivist and a theorist solely of the industrial age. On the contrary, Marx has seen manifold forms of work that he conceptualises as formative activities. Sayers argues that 'immaterial' work "operates, as does all labor, by intentionally forming material and altering the material environment in some way, including through speech and other forms of communicative action, in order to create use values" (Sayers 2007, 447; see also Fine, Jeon and Gimm 2010).

Such a broad concept of labour (see Fuchs 2016) can theoretically built on Herbert Marcuse (1965, 22; 1967), Cultural Marxism (Williams 1981; 2005), Critical Psychology (Vygotsky 1978; Hund 1976), Critical Linguistic and Semiotics (Vološinov 1986; Rossi-Landi 1983); and the Post-Workerist tradition (Hardt and Negri 2004, 108; Terranova 2000; Boutang 2012). Raymond Williams, argues that "a major part of the whole modern labour process must be defined in terms which are not easily theoretically separable from the traditional 'cultural' activities. […] [S]o many more workers are involved in the direct operations and activations of these systems that there are quite new social and social-class complexities" (Williams 1981, 232). In this context, it is important to distinguish between communication at work and the work of communication (Fuchs 2016). Communication and information generation are, firstly, aspects of coordination of the work process that phylogenetically rose with tool-using and tool-making cooperative work process (Holzkamp 2013); but communication and information generation is, secondly, also itself a form of work. Although informational labour, such as online prosuming, is increasingly detached from nature, it never loses its material base. Information work is ultimately based on the activity of the human brain, which is a material system. It also objectifies itself in matter such as a notebook or it creates electronic impulses in a computer system. Although some work has no tangible outcomes, it is nevertheless material insofar as it produces and reproduces social relations. All work – as Marx understands it – creates or alters subjectivity; all work is therefore 'immaterial' or 'biopolitical' work (Sayers 2007, 448). Work is a broad category constitutive of the human that includes different types of work, such as agricultural work, craftwork, industrial work, and informational work that can be seen as evermore-mediated forms between humans and 'nature'. Labour includes cognitive, communicative, and cooperative aspects. When using the Internet, we combine – in relation to others – our experiences and online information as objects of labour, with our brains, hands, ears, eyes, speech and the Internet or specific platforms as instruments of labour, and produce a new use value – the so called produser product.

Social media users do not receive a monetary wage in exchange for their online activity, although there are (problematic) ideas that point in this direction (Sevignani 2016, 84)[2]. Feminist thinkers have stressed that there is exploitation beyond the wage and they have politicized thereby the private realm of reproductive work. For labour power to be sold on markets it must be (re-)produced first, which is traditionally made possible by female work performed in families. Non-wage labour "ensures the reproduction of labour power and living conditions" (Mies, Bennholdt-Thomsen and Werlhof 1988, 18). It is labour performed "in the production of life, or subsistence production" (ibid., 70). By highlighting the necessity of unpaid labour for the economy these Feminist

2 <http://wagesforfacebook.com/> (Accessed February 14, 2017).

thinkers broke with a wage-centrist notion of labour and thereby provided an important broadening of the notion of labour.

The second and consequent step of the argument leads us to revise the means that are necessary to realise informational work. Undoubtedly, Internet users are free to exchange in markets. They are legally independent actors that consent to Internet services' terms of use and no authority forces them to use a particular service. I would however argue that they are also free from the means of communication, surveillance, and classification. Although users can make use of communication technology and they might be involved in lateral or bottom-up forms of watching, it is, in my view, important to recognise that the means of communication and surveillance do not consist in the access to a single technological device but in access to a concentration of these devices. Server parks are a good example because it requires immense resources to operate them. Fourcade and Healey argue that classificatory systems, as means of communication and surveillance, "are by nature private, even to the point of being trade secrets. They are oriented toward the extraction of profit and often manufactured and managed in a quasi-monopolistic manner" (2013, 561). Internet users are free from the means of communication and surveillance and this situation forces them to use at least one of the available commercial services in a highly concentrated Internet in order to be able to benefit from the Internet's various functions and to socialise and live a good thus connected life under our given circumstances. In the current form of society, users are forced to put their privacy under contract. I would speak in this context, in analogy to Marx's notion of the doubly free labourer, of the doubly free Internet user. In this respect, ideas to decentralize the Internet and social media are an interesting way to erode the exclusion from the means of communication and surveillance (Sevignani 2015).

A monopoly of the means of communication enables social media owners to subsume user's online activities under their profit interests. Commercial social media are able to set the terms of online communication by determining information flows and clicking behaviour according to their business interests. They structure attention by highlighting sponsored messages and interrupt user communication by advertising. This is, in my view, a form of real subsumption of work under capital and stands in contrast to the frequently observed new relevance of formal subsumption of labour under capital (Vercellone 2007) and the rise of neo-feudal social conditions. In my view, privacy outcries exemplify the continuing and not merely indirectly exercised control power of capital that conflicts with control by users (Sevignani 2016).

As it should become clear from the previous discussions, I see an analogy between the fictitious commodification of labour and information. This analogy is grounded in the broad notion of work that includes informational and communicative aspects. User-generated information is not produced genuinely for sale. Even if information production is subsumed to capital, this production demands in significant measure conditions that are not under the control of commercial social media, such as experience, knowledge gained outside social media and the Internet (Jessop 2007).

Third, based on the general contractual freedoms in bourgeois capitalist societies there must be a correspondence to the wage contract. And I think we can find it in the terms of use and privacy policy of commercial Internet services that grant them extensive property rights in user-generated content (Sevignani 2016). In the corporate Internet, users have a double freedom because they are usually free from ownership of the Internet services but they are simultaneously free to exchange their personal data or their 'produser' product with commercial providers because they hold a property right in it. For instance, the user must contractually accept commercial social media's data use policies and thereby grants extensive permissions that his or her data is used for advertising purposes.

Exploitation 2.0 contributes to Internet corporations' profits. Economic and monetary power reproduces the power that exploitation needs to perform. Money power or the power to hold private property in the means of communicative production is transformed into network-making power that is in turn transformed into network power. Castell argues: "The *metaprogrammers* empowered with network-making capacity are themselves corporate networks. They are networks creating networks and programming them to fulfil the goals that these originating networks embody: maximizing profits in the global financial market; increasing political power for government owned corporations; and attracting, creating, and maintaining an audience as the means to accumulate financial capital and cultural capital" (2011, 782). The owners of social media hold network-making power. They set the terms of use and design and program the service according to their profit goals (programming power). And they are able to connect the social network to the advertising networks and financial networks. Commercial social media control the access to potential consumers and are therefore able to connect or disconnect to advertising corporations' marketing data and networks. They also hold the power to connect users' social cooperation to financial networks, such as stock markets, for the purpose of gaining profits. Commercial social media have the power to link two modes of production together, namely social cooperation or the common production of social networks and commodity production.

5. Conclusion

I started by pointing out that capitalist market societies, due to their lack of plan, urge market players to bridge economic uncertainty by the means of advertising (amongst others). Advertising in the informational age can be more targeted and at least promises to be a powerful tool for commodity producers to deal with the structural capitalist uncertainty to realise invested value. These conditions gave rise to a surveillance-driven culture production and online business models that primarily rely on user classifications and surveillance. These business models revealed themselves to be very successful and created a class of Internet capitalists that ranges at top positions in the social wealth distribution. I then asked how this inequality could be explained.

Fourcade and Healy (2017 [2013]) argue that markets do not (only) mediate social inequality produced elsewhere but contribute themselves to it by generating classification situations that come along with unequal market- and life-chances. I proposed, from a critical political economy perspective, to think about how classification and surveillance reinforce exploitation in contemporary informational capitalism and reminded of the important other side of the story of social inequality that goes beyond market mechanisms, i.e. the problem of social sorting, individual attribution, and opportunity hoarding.

There is a class antagonism between all Internet users and the owners of Internet corporations. Exploitation 2.0 first enables an inverse interdependent welfare: The wealth of Internet service owners is dependent on users, who profit less in terms of money and network-making power. Second, it fosters exclusion: Web service owners ensure that users are excluded from the profit generating conditions and the profit itself through private property rights in the means of communication, classification, and surveillance. Third, Internet service owners are able to appropriate the wealth that is mainly created by users in their online time: Without the users' activity, social media could not sell anything to the advertising industry and could not be profitable.

What exploitation adds to the notion of unequally distributed life-chances is that conflicts between classes not only concern the distribution and value of resources, "but also by the nature of the interactions and interdependencies generated by the use of those resources in productive activity" (Wright 2002, 844-5). Following this line of argumentation also means that omitting the concept of exploitation as a key category to understand structural social inequality in informational capitalism and substituting it by an accumulation of market effects is problematic because it is not able to grasp antagonistic social relations. With exploitation there are social groups that are at the same time in opposition but also interdependent, in societies with monopolies in the means of realising one's labour force – which includes the human capabilities to cognition, communication, and cooperation. This implies at least the following: First, there are not only disadvantaged groups but groups that are excluded from access to resources. Second, these relations are inherently conflictual because improvements for one social group simultaneously mean losses for the other social group. Third, "the conflict over exploitation is not settled in the reciprocal compromise of a contractual moment; it is continually present in the ongoing interactions through which labor is performed" (Wright 2002, 846).

Exploiters have to impose control technologies on the exploited. In the case of social media, wall pages are intersected by advertisements and promotion offers, privacy settings leave the commercial use of generated information through social media capital unaffected, and users are lured into online walled gardens. Thus, privacy crises are inscribed to this mode. Finally, the experience of conflict and of power over the exploited gives hope for the affected to experience commonalities, to organise society and the Internet cooperatively in an alternative form, and not to naturalise class situations as fate that has to be accepted.

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Market Segmentation in (In)Action: Marketing and 'Yet to Be Installed' Role of Big and Social Media Data

Jason Pridmore & Lalu Elias Hämäläinen *

Abstract: *»(In)Aktive Marktsegmentierung: Marketing und noch zu installierende Rolle von Big- und Social-Media-Data«*. Marketing has always been dependent on the input of new forms of consumer data throughout its history, relying on translations of this data into more and more effective means for targeting and engaging consumers. The focus on the digital segmentation of consumers has been subject to differing marketing orientations, beginning with relationship marketing and moving towards experiential marketing and now more recent efforts towards 'collaborative' marketing. The intention behind segmenting consumers is focused on more effectively engaging targeted segments towards repeat buying behaviours. However, as in past practices, the shift to social media marketing and social customer relationship management (social CRM) has been subject to some significant limitations. Although the advent of social media and the opening up of this space for marketing has created (the potential for) an expanded means for tracking and classifying consumer behaviour, this paper highlights the limitations of the practices for all but a few select marketing practices in the 'successful' 'making up' of markets. This paper examines the limitations in use of social media data. Despite the promises of big data, old ways of segmentation and classification die hard and are seen as and often are evaluated as (more) effective. While the potential for consumers to actively participate in forms of marketing has shifted with the advent of social media, studies of participation in multiple mediums for 'user' or consumer participation indicate that this is done infrequently. Social media remains 'uninstalled'. This paper highlights the limitations of specific marketing segmentations 'in practice.' It indicates that narratives of consumer empowerment and participation are limited alongside the slow and incremental adaptation to highly valued trends by most companies in practice.

Keywords: Segmentation, social media, customer relationship management, marketing technology.

* Jason Pridmore, Department of Media and Communication, Erasmus School of History, Culture and Communication, Erasmus University, PO Box 1738, 3000 DR Rotterdam, The Netherlands; pridmore@eshcc.eur.nl.
Lalu Elias Hämäläinen, Google Ireland Ltd., Barrow Street, Dublin 4, Ireland; lalu.hamalainen@hotmail.com.

1. Introduction

How are informational artefacts and social worlds fitted together? This HSR Special Issue focuses in part on this question raised previously by Geoffrey Bowker and Susan Leigh Star (2000, 82) by drawing out how classifications simultaneously re-*present* and per-*form* markets and the experiences of consumers within those markets and the effect these have on 'life-chances' (see for instance Fourcade and Healy 2013; Lyon 2003). This article in specifically examines marketing segmentation practices as forms of contemporary (economic) classification. It depicts both historical developments in data gathering and use for segmentation and current experiences by practitioners in the field. The focus of this research is on two interrelated research questions: Firstly, in the context of multiple data sources, how do practitioners experience 'doing' segmentation, its challenges and possibilities, on a regular basis? And secondly, how has social media data in particular shaped these practitioners' everyday practices?

As is evident in the title of this piece, the answer to these questions and particularly to the latter question suggests that despite significant 'hype' about the transformation of business practices through new data and techniques, (some) marketing changes slowly. This is readily apparent in the segmentation practices of informants for this research. Of course, marketing has always been dependent on the input of new forms of consumer data throughout its history. It relies on translations of this data into more and more effective means for targeting and engaging consumers. The focus on the (digital) segmentation of consumers, which began in earnest in the 1970s, has been subject to differing marketing orientations, beginning with relationship marketing and moving towards experiential marketing and now more recent efforts towards 'collaborative' marketing. Regardless, the intention behind segmenting consumers is focused on more effectively engaging targeted segments towards repeat (and increased) buying behaviours (see also Krenn 2017, in this issue). These are forms of, as Fourcade and Healy suggest, "within-market classifications" that serve to position consumers "in a categorical framework or on a continuous scale" and these reach "ever more broadly across spheres of life" (Fourcade and Healy 2013, 564).

However, as in past practices, technological shifts have limited the effectiveness of the use of segmentation in action. The mythical import of algorithmic mechanisms of classification (Burrell 2016; Ziewitz 2016) may be seen to shape current practices in some contexts, but as becomes apparent below, this is not occurring to the extent to which this might be expected. Traditional segmentation and clustering still predominates but these are themselves part of a set of 'messy' practices in the attempt to make more systematic the surveillance of consumers. Most importantly, the promises and potentials of social media data remain a limited part of today's segmentation practices. Shifts towards social media marketing and social customer relationship management (social

CRM) require a refocusing regarding the role and importance of segmentation in marketing. Although the advent of social media and the opening up of this space for marketing has created (the potential for) an expanded means for tracking and classifying consumer behaviour, including the potential for forms of self-segmentation, this paper highlights the limitations of the practices for all but a few select marketing practices in the 'making up' of markets. Old practices remain dominant even as new sources of data and potentials for consumer agency emerge.

To examine this in more detail, first this paper contextualizes the analytical concerns regarding segmentation practices as part of tangled network of interests and practices that include both people and technologies, with particular attention given to the promise of algorithms and big data. Second, the paper briefly summarises the historical development of segmentation and its ongoing potentials and implementation issues. Third, drawing on empirical interviews with a small number of segmentation practitioners and segmentation researchers, the paper examines current practices with segmentation, noting continuation of traditional practices and the trial and error difficulties to which much of segmentation work is subject. These same interviewees then describe their experiences and perspectives on new forms of data such as through social media, indicating the limited use of newer forms of accessible data for segmentation work. Although not a representative sample of practitioners, their experiences raise important considerations regarding how significantly the 'promise' of new techniques, technologies and data has shaped segmentation practices themselves and how this may affect and shape people's 'life-chances'. Finally, the paper concludes by discussing segmentation in light of historical technologies of marketing, sketching out the trajectories and challenges of segmentation in the post big-data/social media world.

2. Issues and (Human) Entanglements of Data Analysis

Segmentations provide a form of informational infrastructure, yet in practice – as this research demonstrates – there is "a permanent tension between attempts at universal standardization" and their use in "local circumstances" (Bowker and Star 2000, 139; this is also similarly made evident in Krenn 2017). The significant increase in consumer data made available by advances in new information and communication technologies, particularly the ability to store and retrieve this data, has increased the importance placed on consumer segmentation by marketers significantly. Traditional segmentation practices consisting of identifying clusters of consumers through statistical analysis occurs alongside an increasingly automated set of practices, specifically the advent of data mining practices that emerged in force during the late 1990s. Data mining focuses on the evaluation of data within large databases to discover patterns of previously unknown and potentially useful information through in-depth analysis (Birrer 2005). Further, predictive analytics and knowledge data discovery (KDD) make more detailed assumptions about likely behaviours or indicate implicit connections between consumer behaviours (ibid.). Both are systematic analyses of large databases that predate the rise of what is now commonly described as "big data." However, the issues that emerged historically have only been heightened in contemporary practice.

The emergence of KDD in particular raised several significant concerns regarding what these practices might mean more explicitly in terms of data protection and privacy. First, as outlined in the requirements of Fair Information Practices, there was difficulty in having corporations specify the purposes for the collection and use of information as well as limit the use of this information beyond that which was specified. It is impossible to predict (read: specify), the purpose in KDD; its very nature is based on finding non-obvious relationships and patterns within sets of data, as the very categories were always emerging. Limiting the data collection to specific purposes was seen to defeat the very purpose of its collection and use unless articulated very broadly (Tavani 1999). Data mining more generally raises the same issue – although more focused than KDD, most segmentation practices for instance are about creating new knowledge of customers from data connections deemed significant. Second, although the data used and the generalizations/profiles created in data mining and KDD might not qualify as personal data – for instance if they have been stripped of these identifiers in their collection – they may have a serious impact on the person from whom the data was taken (Vedder 1999). That is, extracted and analysed anonymised data may have the same significant personal implications that data protection policies were intended to reduce or prevent in the application of digital generalizations/profiles.

As noted, these concerns were voiced at the turn of the century, when data analytic technologies were in their infancy. Focused data mining practices persist as reliable tried and tested analytical processes, in part perhaps because "managers are faced with time problems and therefore still rely on techniques or rules used for many years" (Foedermayr and Diamantopoulos 2008, 252). Yet KDD has largely become (re)described as forms of algorithmic analysis that now pervade in discussions of 'big data.' Big data and the arrival of social media have amplified earlier identified issues even if they are now slowly becoming routine practices. A significant part of the discussions surrounding algorithms is that they have become central to the process of 'perceiving' big data (Amoore and Piotukh 2015), and that the practices/results that proceed from this analysis have significant implications on social, political, and economic life. At its basis, apprehensions about algorithmic analysis relate to whether and how they have gone beyond our (human) control and how they "can escape full understanding and interpretation by humans" (Burrell 2016, 10). Reiterating in part the concerns of Tavani as well as Vedder noted above, the complexity inherent in data driven categorisation techniques is one in which computers are seen to build their own means to make sense of data without regard to human comprehension (ibid.). This renders them increasingly opaque or 'inscrutable' and the subject of ongoing research as to how or if these can be 'known' (Ziewitz 2016). It thus becomes increasingly difficult to map the means by which machines can be seen to 'learn' from human practice or be intervened upon by humans. However given their speed and capabilities, technological developments can be seen to increasingly supersede human interventions.

Both routine practices of data mining and the promise of algorithmically aided segmentation rely on terminology that is problematic. Words and phrases such as 'extrapolation', 'machine learning', 'regression models', 'data-driven', 'algorithmic' and 'calculation' begin to hide the human elements in these "powerful and agential" processes (Neyland 2015, 51). The production of data – its mining and perception – and all its outcomes are intertwined with human practices. They are the results of heterogeneous assemblages in which the agential potential and work of segmentation, cannot be neatly divided between that of machines and that of humans – it is much more 'messy' (Ziewitz 2016). Humans are part of the process throughout: they define coding and initial categorisation, what is important and not, and they influence its analysis. As noted below, this is very evident in the routine practices of segmentation, but even the development and the application of different knowledge discovery practices and algorithmic analyses require human interpretation and sense making. As such, this paper looks at "actions as emerging from complex and messy relations" (Neyland 2015, 52) and seeks to highlight the ways in which this happens in segmentation practices today. Most importantly, the advent and limited use of social media become central means by which the 'making up' of segmentations are revealed as more complicated and less automated than might be expected or anticipated. Before focusing on this, the context in which the social media segmentation emerged requires further examination.

3. History of Marketing Segmentation

In the post-war era, increasingly intense efforts to identify, understand and to some extent control the socio-psychological inclinations of consumers began (see for instance Miller and Rose 1997). Wendell Smith (1956) believed segmentation to be an effective alternative strategy to mass marketing over half a century ago. For him, product differentiation – distinguishing products or services from others – was the starting point to approach different segments within the market. Smith wrote that segmentation "consists of viewing a heterogeneous market […] as a number of smaller homogeneous markets in response to differing product preferences" (1956, 6) and these segments could be distinguished by measuring differences in the consumer 'requirements.' The focus here was on the demand side – Smith's attempt to persuade marketers to effectively understand the "pre-eminence" of the consumer in the economy. Yet arguably this objective can be seen as historically limited as techniques and processes of defining consumers through segmentation have predominated discourse about marketing practice over and against consumer demands and interests (Beckett 2012).

Market segmentation blossomed in relation to the advent of computerised data systems and the application of psychographics in the 1970s (a technique that combines demographic and psychological factors). It further grew with refinements to geodemographics in the 1980s (techniques that allowed for the mapping of certain demographic and psychographic clusters in geographic space and a key driver of increasingly targeted direct marketing campaigns [Goss 1995]). Targeting market segments expanded significantly as numerous organizations collected demographic and psychographic data to discover "attitudes, opinions, and interests" of consumers (Arvidsson 2004, 464). Differentiated segmentation of markets through these processes allowed for increasingly "smaller and smaller units of analysis" for increasingly precise targeting of consumers (Holbrook and Hulbert 2002, 716). The transition toward smaller segments and clusters of consumers occurred largely in relation to the growth of new information technologies and data processing. Central to this transition was the development of the consumer database.

Large-scale electronic consumer databases were employed early on as part of the development of consumer credit (see for example Poon 2007) and large geodemographic information systems (GIS) in the US. Jonathan Robbin developed a system of consumer segments in the United States according to ZIP codes using the acronym PRIZM, short for Potential Rating Index for ZIP Markets (Weiss 1988). Richard Webber developed a similar system called ACORN – A Classification Of Residential Neighbourhoods – in relation to postal codes in the UK at about the same time (Burrows and Gane 2006). Both Robbin and Webber relied heavily on the nascent fields of information technology and software development to translate the geographic distributions of populations into socio-spatial arrangements, or 'social clusters' – "where people tend to congregate among people like themselves" (Weiss 1988, 11). It quickly became clear that such GIS-generated population clusters made a very valuable information commodity because location proved to be a "powerful predictor of all manner of consumption practices" (Burrows and Gane 2006, 795). Marketers hailed the newly available consumer data as it revealed very clearly the spatial distribution of socio-economic characteristics, tastes, preferences, and lifestyles. Combined with already existing market intelligence, GIS provided an even more solid basis for consumer segmentation as well as selection and de-selection of entire geographic areas for commercial communication, retail development, and product delivery.

In the 1970s and 1980s, adding geographic information to existing forms of lifestyle and socio-demographic information certainly refined and rendered more useful for marketers the notion of consumer clusters and segments. There were a number of concerns with such practices, particularly in the shift towards increased digitalization of information and the rise of data mining. These practices suggested a digital panoptic sort of consumers via algorithmic analysis, cross-referencing of data, and massively populated, electronic consumer profiles that allowed for previously unknown and unknowable consumption patterns and behavioural relationships to emerge (Danna and Gandy 2002; Pridmore 2012). The intention was that by constantly (re)producing, storing and analysing massive amounts of digital data, current forms of marketing practices could respond to quickly changing desires, fluid identities, and spatial mobility of contemporary consumers (Arvidsson 2004). The indication is that databases would capture consumer activities ubiquitously and in minute detail, and that these databases would (and have) become electronic repositories of complex consumer lives.

In practice however, this has not been the case. In the late 1990s, Sally Dibb noted that "increasing evidence suggests that businesses have problems operationalizing segmentation" (Dibb 1998, 394) and that "the sophistication of implementation guidance remains surprisingly static" (Dibb 1999, 109; also cited in Foedermayr and Diamantopoulos 2008). These barriers can be subdivided into issues related to infrastructure, process and implementation (Dibb and Simkin 2001), but also can be seen as part of an "academic-practitioner gulf" in which the scientific demands of academics clash with the more pragmatic marketing goals of the practitioners (Harrison and Kjellberg 2010, 785). Along these lines, some of the fundamental problems of segmentation practice are connected to issues with the "practical instruction detailing how to choose segments, analyse the costs of serving segments, or monitor resulting customer groups in a clear and unambiguous manner" and these are "repeatedly cited as a reason why many organisations choose to implement simplistic and intuitive segmentation approaches" (Quinn 2009, 255). Due to these limitations and more, segmentation has been described as 'dead' a number of times by prominent marketers (Lewis and Bridger 2001; Fassnacht 2009; IBM's CEO on Data 2016). These declarations echo the failure of Customer Relationship Management (CRM) to live up to its expectations in the 1990s, leading in one case, Tom Siebel, the then head of Seibel Systems, to declare that "CRM is dead" in 2002 (Morphy 2002). At the time, Siebel sought to move his company, Siebel Systems, the undisputed leader in CRM, with the largest CRM market share, in a new direction. The future, he suggested, "lies in vertical business processes and Web services" and not in building generic software solutions that may suffer from further inaccurate customer predictions (ibid.). By declaring the death of CRM, Siebel sought to turn CRM from its increasingly poor reputation and towards technological infrastructure integration.[1]

Much like this, indications of the death of segmentation stems from the increasing awareness that the original goal of segmentation in Smith's estimation, to reinforce the pre-eminence of the consumer – is limited by new information technologies. This is reiterated by Venter, Wright, and Dibb who note more recently that "despite its long academic heritage, segmentation may be failing to achieve its original objectives" (2015, 62). As noted above, there may be a multiplicity of reasons for this, but it may also be in part because segments can be seen to mean increasingly less in a context in which highly personalised products become available and in which consumers themselves can be seen to segment themselves through the use of social media (Canhoto, Clark and Fennemore 2013). Although market research techniques have matured and allowed many organisations the ability to identify smaller and more homogeneous consumer segments, the refinement of these segments has been limited by a comparatively slow adoption and implementation of new technologies. This includes a limited and mostly non-interactive approach to market feedback. In theory the internet and social media more generally should have dramatically shifted this potential as it allows for forms of 'self-segmentation' (ibid.), but as we will see, practices of segmentation follow a pattern of a very slow (widespread) adoption of new marketing practices and technologies.

4. Shaping the (Segmentation) Market

In order to research segmentation practices more fully, this paper is based on interviews with ten segmentation practitioners in three different countries and supplemented by interviews with two academic researchers working and teaching on segmentation, conducted as part of the completion of a Master's thesis.[2] Academic research regarding segmentation (and many other practices) often articulate idealized forms – practices 'in the wild' are rarely depicted except within limited case studies. By drawing on these interviews with segmentation practitioners – people who work to develop segments either within their own organisations or as consultants for other companies – this paper seeks to present their experiences and knowledge and highlights their struggles in daily practices of segmentation building. In line with the authors' own focus on

1 Several other notable blogs and websites have likewise declared the death of CRM over the past decade and a half, most notably Scott Nelson's short article "CRM is Dead, Long Live CRM" which suggests a focus on CRM not as a technology but as "customer oriented strategies and processes" (2004, 195).

2 This paper was developed in part based on research completed by Lalu Hämäläinen for his Master's thesis at Erasmus University (Hämäläinen 2014).

media, communication and branding, the industries these practitioners are engaged in are predominantly related to brand awareness, including customer experience, product development, subscription and advertising services, and behavioural monitoring of consumers. Further, interviews with academic segmentation researchers were conducted in order to get a sense of if or to what degree there may be an 'academic-practitioner gulf' in our research. The focus in the interviews was on experiences developing segmentation on a routine basis in their work contexts, for their own organization or as consultants for an external organization dependent on their organizational focus. The next section will focus on how new and social media have begun to affect (or not) segmentation, but it is first important to see how the challenges of 'doing' segmentation is described by practitioners more generally.

What is first apparent is that the challenge of segmentation is in constructing these appropriately, more specifically it is about constructing identities within segments that are clearly distinctive from each other. Karel, a Social Media Research Manager at a Netherlands based international research company, makes it clear that constructing visually distinctive segments is the only way to be successful in engaging her clients:

> Karel: There is no way for me to visualize that and to show to my clients: "This is your segment". That's a problem because our clients […] are not researchers. If you present them with a big book of tables and graphs, they would have difficulties in seeing the differences between the segments. And if he or she doesn't really believe or understand the differences between the segments, then it will never be used in practice.

Hans, a research director of another Dutch marketing company, states that a segment is a population "that has common characteristics and to which I can attach an action for my client." For both Hans and Karel, the orientation of segmentation is invariably towards action, and the challenge of constructing segments is not simply to do so as a descriptive practice but to give some direction to future practices. This is the focus of their efforts in a practical sense, leaving Smith's goal of giving consumer 'pre-eminence' far behind.

Key to making segments 'actionable' are two interrelated things according to the interviewees for this study. First, some sort of "hypothesis about what kind of people they are" is needed in Markus' words, a managing director of a brand awareness company in Finland. Second, these depictions or "personas" in the words of Dirk, managing partner at the same research company as Karel, are crucial for organisational alignment so that "everyone in the organization understands what type of persons you are talking about." As Dirk further notes, these come in the form of names – like "Marco and Ina or Jenny" – that have what Hans calls "common characteristics" – they are stereotypes of persons with recognizable traits that are applied to a collection of data points.

While the development of such personas are in line with what might be expected of segmentation practices (see empirical studies listed in Foedermayr and Diamantopoulos 2008), Lars, a statistician working in an international market research firm in the Netherlands, makes it clear that “it is very hard to make something to develop a clear segmentation.” This challenge is, in his words, in part because often “the correlation of your variables you are building your segmentation on don’t relate strongly enough to your hypotheses.” Here we begin to see the disparity between expectations – hypotheses of what the data will show – against the actual practice of constructing segments which is about numerically defining common characteristics of that group. The work involved in dealing with this disparity is further hinted at by Markus when he talks about the use of ‘big data’:

> Markus: Big data is for example […] all the information and transactions that people do or have done in their last three years and then you have an idea of what you find out. It is just data and it has no value in and of itself. So unless you know what you need to find […] you need to have some kind of hypothesis, some kind of idea that lets you know if I get this data out of it and then do this and that then I might get something interesting. You have to have that idea. If you don’t have the idea of the house, you can’t build a house simply by having all the materials needed to build a house.

Markus’ point in stating that “data has no value in and of itself” reinforces the constructed basis for understanding segmentation as does his use of the ‘house’ analogy. The value of data becomes evident in relation to the conceptual framing – a reliance upon an idea or hypothesis – and how these are put together. This reinforces the idea that the value of data is always in relation to other data (van der Ploeg 2005, 15-36) and that these data do “not necessarily speak for themselves” as noted in the introduction to this HSR Special Issue (Krenn 2017b).

Dirk raises a similar issue in connecting segmentations with databases:

> Dirk: [T]he foremost challenge in segmentation is how to connect it to the customer database. How can you find the segmentation in the customer database? Sometimes you start with the customer database and sometimes you start with the need segmentation. Sometimes it could be both the starting points, but it’s always the case to connect these two together.

This indication of the potential for a bilateral shaping process is important and yet another challenge. The origins of some segmentation processes might be based on the use of the database first or on approaching that database with a definition of ‘needs.’ However later Dirk makes it clear that his organisation always tries “to find how we can translate the segmentation into the customer database.” His description of this translation process (and challenge) hints towards a heterogeneous affair – it is not simply a matter of segmentation fusing with digital results on its own. Rather it is one in which a mix of actors, analysts, marketers and databases, working together to produce something (hopefully) workable for marketing. It is clearly a messy practice putting all of these pieces together.

This difficulty in making workable marketing bears out in the description of a variety of (f)actors involved in the process, particularly in how segments might be engaged towards purchase. Jan, a market modelling expert in the Netherlands puts it this way:

> Jan: [W]hat you can do is post content, you can show people ads, you can put things on sale, you can give away coupons, you can ask people to refer their friends. I mean there are a million things that marketers can do in a digital setting and so when you talk about combining all the data to figure out what it is you are doing that is causing people to buy things or causing them not to buy things.

This 'figuring out' phrase mixes human understanding and decision making with digital processes, devices and indicators. There is a clear process of "experiential learning" which is built upon an understanding of what was previously "uncertain and unknown" (Thrift 1997, 39). These practices are in line with one of the author's previous research in which loyalty programme executives note the need to learn through 'trial and error' (Pridmore 2010, 573). As one interviewee in that study describes it:

> We basically undertake a constant test-and-learn marketing application to [the] information [we process]. So we try discount offers, coupons, invitations to events, recognition or rewards where we are giving them a gift or a special experience. And we basically learn from every one of those. And we measure the impact of each of those activities, using experimental design basically with test and control groups. And then measure and say what's the right investment in different customer groups, according to their value segmentation, their category orientation, in terms of which categories they purchase in, their frequency behaviour. (ibid., 573-4)

These same 'messy' experiences are reiterated in segmentation practices more generally. Michael, a director of analytics in a US company, responds to how segments are developed this way:

> Michael: It's really about experimentation. In the very best organizations, […] they are doing controlled experiments and making smaller segments out of bigger segments for them to kind of understand what's working and what's not… [I]t's really constant learning, moving back into segmentation and refining it.

Interestingly, the challenges of experimenting with and designing segmentation may not be described as a new problem because of the influx of new sources of data. This is something that John, a marketing segmentation researcher at a Dutch university reiterates. From an academic perspective, data has always "been bigger than we are able to process" even though he notes that now "we just can process more." He argues that we have always "had a big data problem as long as we have had computing" suggesting that what technically can be done is perhaps distinct from what is actually able to be done. This is significantly pertinent with the potential integration of new and social media data, however as noted below, much of this remains (under)utilized. It echoes Foedermayr and Diamantopoulos' finding a number of years ago (2008) in their study of segmentation practices and the potential for new techniques, that old practices die hard:

> What is perhaps most surprising, however, is that about one-third of respondents did not use any of the segmentation techniques listed by the authors but instead relied on intuition or gut feeling, due to their unfamiliarity with the techniques (almost half of the non-users were not even aware of the more sophisticated techniques) and/or difficulties to understand and apply them. (2008, 252-3)

5. The (Limited) Integration of New and Social Media Data

Social media and new media are said to provide significant opportunities for marketers. Despite some reservations (Fournier and Avery 2011), these are seen to provide the potential for "enhanced customer engagement" particularly as these allow consumers to voluntarily self-segment in relation to a number of categories (Canhoto, Clark and Fennemore 2013, 413). These means of engagement and the ability of new technologies to track consumer behaviour have significantly contributed to the development of 'big data.' Yet the segmentation practitioners interviewed for this study were ambivalent about the potential in integrating these new sources of data into their practices. On the one hand, Jaap, a product marketing manager for a media company in the Netherlands, makes it clear that there is a lot of "hype" around these practices:

> Jaap: You have big data, which is what all people are talking about now. It's a bit of a hype, I have to say. […] [T]here is a problem with social media. If you consider social media as being the total picture, you forget that there are also some groups which are not on social media.

Jan does not see this as hype necessarily, but has his own set of concerns:

> Jan: I don't think that segmentation and its approach really will change through new media. I don't think it's all 'hype' because this would suggest that it would become less important later. I think it will stay, social media and new media, and it just becomes part of the topics [within] segmentations. …It's not about the approach of how we do segmentation.

Given that these interviewees are embedded in established segmentation practices, it is not surprising that there is some hesitancy towards upending their practices toward what Tupot and Stock call a "new order segmentation" – one based on social media and involving activities such as "crowdsourcing and culture mapping" (Tupot and Stock 2010, 41).

The issue, as Jan suggests above, is seen as the marriage of segmentation practices and the use of data that is seen as less than complete. Karel articulates the problem this way:

> Karel: Traditional social media is difficult. We see fragments of conversations; we do not know enough from the person behind, who says something on Twitter, to understand the context. But if we build a special online platform

> and let the consumers talk to each other within that controlled environment, where we know more about these consumers and are able to offer additional questions and relate information to each other [...], then we can make a segmentation based on the data.

Karel suggests a desire to really control the possibilities of ‘social media like’ interactions on a proprietary platform, but this is not always possible. In fact, although a number of segmentation practitioners are able to set up their own community forums – independent platforms for consumer engagement – these tend to be exceptions. What can occur is to experiment on existing platforms and learn from these. Lars, a statistician working on segmentation at a Dutch research company, noted the attempt and trouble his organisation had in relation to this:

> Lars: We have a couple of experiments running to predict class membership of people based on what they say or do, but they are not always entirely successful so we have an experiment where we assign people to ‘mentality milieus’ based on what is said on Twitter. We do not have high enough accuracy to start to go into a new direction yet. We did a lot better than chance, but not good enough to get a clear view.

Although there may be a number of organisations that have successfully integrated social media data with segmentation practices, in our small sample of active practitioners in the field, Lars’ attempt to do this explicitly is one of the only examples of this currently in practice. This is perhaps because Lars’ organisation is specifically focused on the development of bringing in consumer insights, and social media has become a key way to do this – but as of yet remains unreliable. Though it is likely that social media engagement will increase, it seems likely to occur slowly and not as a foundational change to segmentation as we know it – or at least not yet. Again the slow pace at which the integration of technological innovation is fully completed in business practices is evident.

Rather than a radical transformation, social media is largely seen as supplemental to already existing segmentation practices rather than significantly shifting these. Again, from an academic perspective, Nicholas, a university based segmentation researcher notes that in comparison to organising focus groups worldwide, “social media [are] much easier to monitor at once” but that it is not “the core of the solution.” In attempting to connect an academic perspective with everyday practice, he suggests:

> Nicholas: Segmentation is a foundation of product strategy. Quite often we develop these products for these people and those products for those people […] it can be extremely costly for the company [when they get it wrong but] we are not ready to have such a complete overview of the market with social media.

Even without this overview, Michael notes that getting “value” from social media is “a bigger challenge that is yet to be installed.” This yet to be installed value does have the potential to change segmentation practices, to significantly affect the life chances of those customers based on the accumulation of advantages and disadvantages derived from those segmentations (Gandy 2009). However, as of yet social media data have limited effects. As Michael sees it, forms of social media in connection to segmentation practices are "another way you are touching your customers."

Experimentation continues, but it is still early in the use of social media. Lars notes that it is something "really in development now at our company because at the moment we are not satisfied with the amount of accuracy we get." It is hard, as Nicholas notes, to match "research with segments that we see offline" with those on social media, so, he continues "we kind of have two worlds that are largely uncorrelated between one another." He suggests that it is likely that for a long time, brands will have to have a dual strategy in relation to their segmentation practices. He says that companies will likely have a "communication segmentation strategy and a newer strategy for Facebook" as opposed to more traditional forms of media.

More importantly, what is clear from these practitioners is that the use of social and new media remains largely 'unknown.' One of the most interesting points raised in the process was that to some extent, these platforms are seen to have built-in segmentation. Dirk notes this as follows:

> Dirk: [I] believe that people, consumers are segmenting themselves on the internet, because they want to give information about themselves on a various number of social media, and to tell other people who they are and what they like. So you don't even need to do a customer search per se to get a clue of what people are like and how you can differentiate people.

This 'self-segmentation' is also noted by Canhoto, Clark, and Fennemore, who state this can "improve accuracy" and allow marketers to overcome "one of the key challenges of segmentation: being able to observe key drivers of behaviour" (2013, 423). However, there is significant difficultly in seamlessly integrating the 'segmentation' derived from social media and that of already existing segment and segmentation practices in other organisations. John's view, as a researcher on segmentation, is that "the adoption of social media happened very quickly and companies understand that it is important, but have not moved as quickly as the social change." He continues: "Companies are sometimes not willing to invest heavily into something that they don't see as extremely important, so I suppose it will take time." While academics may emphasize the importance of social media data being integrated into segmentation, in practice this is still limited. Eventually it is evident that social media will be an important part of segmentation, if not as a new foundation for these practices then as a key resource over time. Social media may become "experimental platforms" for segmentation as they arguably are for marketing more generally (Carah 2015, 15), but this will be on a slower timeline than may be 'hyped' in marketing journals. More likely, this too will be overrun by new sources and forms of data gathering such as through mobile technologies and the integration of multiple data sources through application programming interfaces (APIs), but it is to these trajectories and challenges for segmentation ahead that we now turn.

6. Conclusion: Trajectories and Challenges for Segmentation

What the current practice of segmentation and the limited integration of social media begin to demonstrate is the same concern Sally Dibb (1998) had about segmentation almost 20 years ago: businesses still have problems operationalizing segmentation. Given the academic emphasis on new forms and techniques of segmentation practices developed from and integrated with new forms of data, there remains, at least as far as is evident in our study and as noted by Harrison and Kjellberg (2010, 785), an 'academic-practitioner gulf.' In this case, the 'yet to be installed' integration of social media data is a reminder that segmentation evolves in most businesses very slowly. While there is significant potential and promise in the advent of forms of social media integration, for all of the practitioners interviewed for this research its full integration has yet to occur in practice. Marketing practices, including that of segmentation, has historically been both ahead and behind expectations, sometimes advancing quite quickly and other times relatively slowly. The emergence of social media in relation to segmentation seems to be taking the latter path.

What then can be said about current segmentation in light of this? Despite the promises of social and new media and of the advent of 'big data', *old ways of segmentation and classification die hard and are seen as and often are evaluated as (more) effective*. The efforts needed to realign segmentation and classification marketing practices in line with the full exploitation of these forms of data has not occurred. It seems that companies have not yet "developed the required social media capabilities" needed to facilitate effective customer management strategies (Simkin and Dibb 2013, 392). Social media add "a layer of complexity" to already existing practices (Canhoto, Clark and Fennemore 2013, 423), and invariably 'tried and true' methods are seen as more effective than the integration of new but less accurate social media oriented segmentation. Given the additional complexity, there is an emphasis on "simplistic and intuitive segmentation approaches" as noted by Quinn (2009, 255) that appeal to more traditional analyses of data.

Incremental change is occurring on the basis of experimentation with social media data as noted by some of the interviewees for this study, but given the history of marketing practices, it seems likely that these changes will soon be overshadowed by new forms of marketing discourse. Additionally, while the potential for consumers to actively participate in forms of marketing has shifted with the advent of social media, the integration of forms of self-segmentation possible on social media has not widely been integrated into 'normal' segmentation. Although most all of these platforms allow for the collection of user data with their agreement, the data that flows on the basis of application programming interfaces (Pridmore 2016) does not always easily align with the legacy systems or previous segmentation. Participation in these contexts – that is gaining access to a consumer's data on social media – is also done largely by a small minority of customers. This may be useful in some contexts and these people may affect organizational practices, however real engagement with a more representative sample of consumers is limited.

What then can be said about the effects of current segmentation practices on segmentation subjects given this sometimes used but more often 'yet-to-be installed' aspect of social media data? It is clear that social media has become a crucial aspect of contemporary production and consumption practices. There is no doubt that their full integration into the development of segmentations will proliferate beyond the presumably more successful market ventures of some (technology-focused) companies. Social media are now very much part of the moral order of markets and as such have and will have important implications for markets in the coming years. Yet the point of this article was to problematise to some extent the anticipated normativity of social media based segmentations by differentiating the potentials and intentions from actual practices in the field. Our empirical investigations indicate a disparity between rhetoric and practice. However, this is not to say that segmentation practices do not have an impact. In fact, it is clear that older methods win out and these remain stable in evaluating and creating markets and consumers, of 'per-forming' these markets and consumers on a daily basis (Araujo 2007). That the potential that is a part of the self-selection and self-segmentation practices enabled by the use of social media has not been integrated seems to suggest two things that need further exploration. *First*, this speaks to the agential limitations of consumers and how narratives of consumer empowerment and participation – perhaps that of aspirations for prosumption transforming capitalism (Ritzer and Jurgenson 2010) – need to be examined closely and empirically. *Second*, this highlights issues related to the organisational intransigence of institutions. That is, in a time in which nimble, adaptive and fast moving businesses are highly valued, a number of companies demonstrate only a slow and incremental adaptation to highly valued trends in practice.

Understanding these two concerns and realigning segmentation towards relevant social media data requires substantial resources and organizational change, in addition to finding the means to motivate more consumers towards participation. In the meantime, actual practices remain messy. As noted, the successful deployment of social media derived segmentation raises some significant concerns. This is particularly the case with regards to increasingly automated and algorithmic decision making and the lack of transparent data processing that affect people's everyday experiences, opportunities and life chances (Fourcade and Healy 2017 [2013]; Lyon 2003). These concerns have been made clear in both the introduction to this special issue, the tensions experienced and described in Krenn (2017), and in the concern for 'living classifications' articulated by Bowker and Star (2000). Yet this paper notes the 'slippage' or the messiness between these more disconcerting potentials and possibilities in how social media is (and more often is not) being aligned with segmentation in marketing practices. It begins to further demonstrate the "gap between what the technology allows and what organisations do in practice" (Canhoto, Clark and Fennemore 2013, 425). There is a separation between what might be expected by academic descriptions and actual practice (Harrison and Kjellberg 2010). Given the pace at which new technological interventions supersede marketing practices, it is likely that social media data will be increasingly integrated into segmentation while a future focus on mobile data, ubiquitous networked devices (as in the internet of things), or some other new form of data becomes 'essential' to best segmentation practice. This is not to suggest that there remain a number of social, ethical and legal concerns in the integration of this data or whatever further emerges from algorithmic analysis that grew from older practices like Knowledge Data Discovery. Rather, it is to note that efforts to capture or produce segments in ways that encompass all of the data and techniques currently available have always seemingly escaped marketer's full grasp in practice. Given the twenty plus years of slow integration of new data and techniques, this seems likely to continue.

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Segmented Intermediation. Advice Concepts in German Financial Services

Karoline Krenn *

Abstract: *»Segmentierte Vermittlung. Beratungskonzepte im deutschen Finanzdienstleistungsbereich«*. This article focuses on classification as an ordering component in the intermediation between production and consumption in markets. Classifications and corresponding categories build the cognitive infrastructure for engagements in production, distribution, and employment and consumption. In this article I emphasize the discriminating aspects of segmentation resulting from social grouping along categories. Segmentation structures the allocation of resources by means of access restrictions and distribution mechanisms among other things. Empirically, I explore the access to the client-orientated advice of private clients in the context of financial services. Interview data suggests that advisers of "high net worth" clients are able to maintain their client-orientation against organizational constraints. As remarkable as this finding is, it also shows that segmentation leads to adverse consequences regarding access to client-oriented advice. Opening up financial advice to lower income groups is far away from implementing consumer pre-eminence. The theoretical contribution of this article is to confirm the potential of market classifications for the study of market intermediation, which will be elaborated in a prospective research agenda.

Keywords: Market intermediation, market segmentation, financial advice, social inequality.

1. Introduction

This article[1] contributes to the subject of market classification by framing it as a problem of market intermediation. My interest lies in finding out how financial advisers conceptualize intermediation between financial products and clients. Thereby I am particularly concerned to what extent the segmentation of

* Karoline Krenn, Department of Sociology, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne, Switzerland; karoline.krenn@doz.unilu.ch.

1 I am grateful for the very insightful comments and suggestions made by Rainer Diaz-Bone, Silke Wollscheid, and Jacob Habinek on an earlier version of this article. Of course, the content is exclusively the author's responsibility. In addition, I also want to thank Nina Baur for engaging my interest during a discussion of the problem of intermediation between production and consumption.

bank clients influences the service relation between advisers and their clients. While Fourcade and Healy (2017 [2013]) look at the effects of digitized classifications for the consumer credit market, my own focus is on "old style" classic categories (economic value) and the access to good investment advice. Financial advice services trade in the relational promise of good advice about financial investment. My findings will discuss varying treatment of customers according to their market segment. In doing so, the article looks at how classifications affect market actors (see also Chiapello and Godefroy 2017, in this HSR Special Issue). I relate testimonials from advisers on this intermediation to different segments and discuss to what extent segmentation practices in the financial service industry contribute to the reproduction of pre-existing social hierarchies through an unequal access to financial knowledge and a systematic exclusion from opportunities. In other words, this article looks into the effects of classification, i.e. segmentation, for the intermediation between production and consumption in the moment of trade. Thereby, I hope to contribute to a better understanding of the challenges in the financial advice field. Finally, my aim with this article is to push forward the empirical study of market intermediation as such.

Private clients in the financial service industry are (as is quite common for market consumers) subjected to organizational classifications (Lazarus 2012). Segmentation criteria are the profitability and "net worth" of the customer base (Storbacka 1997). More or less in all three German bank types (commercial banks, savings banks, and credit unions), clients are divided into a retail segment and a private wealth segment. This segmentation is a key element of a neo-liberal re-structuring process of finance that started in Germany in the late 1980s (Haipeter and Wagner 2007). By following this novel cognitive infrastructure, banks carried out a shift from a client- to a market- and sales-orientation.

The role of market segmentation is easy to understand when we look at it as a driver of market dynamics. As an ordering force it affects market-making. Segmentation operates with classification systems and with the categories they provide, which are considered to have an order-producing role (Douglas 1966). They build the cognitive infrastructure for production, distribution, employment and consumption along the supply and production chain (Desrosières and Thévenot 1979; White 1981; DiMaggio 1987; Bourdieu 2005; Zhao 2005; Desrosières and Thévenot 2005 [1988]; Zhao 2008; Fourcade and Healy 2017 [2013]). Moreover, market segmentation is strongly connected to market expansion, as it is often related to new products or services. Marketing introduced it as an alternative to mass-customization and a tool for individualized targeting of consumers (Smith 1956). In the case of financial advice services in Germany, bank manuals for investment advice portray the creation of a retail segment as opening up the access to financial planning for the lower income classes (Dexheimer, Schubert and Ungnade 1988). Nevertheless, the marketing literature tells us that client segmentation in banks is a strategy based on profit expectations (Storbacka 1997; Machauer and Morgner 2001).

Drawing on the value-orientated sociology of markets (Aspers 2011; Aspers and Beckert 2011; Beckert and Musselin 2013) and conventionalist literature (Bessy and Chateauraynaud 1995; Bessy and Eymard-Duvernay 1997; Bessy and Chauvin 2013; Diaz-Bone 2015), I use market classifications as the lens to highlight the social practice of intermediation between the spheres of production and consumption in the field of financial investment advice for private clients.

In this article, I will proceed as follows. First, I will look at theoretical approaches to market valuation and discuss the role of market intermediation. Second, I will outline my research perspective on financial intermediation. Then, I will contextualize client segmentation as an element of wider institutional changes in the German financial service sector. This is followed by a short section on method and data collection followed by my empirical findings from interviews about how financial advisors conceive their advisory role. In the discussion I evaluate my findings and draw conclusions about the social underpinnings of the knowledge production relation between advisers and their clients in financial services. The article ends with suggestions for opening up a new research agenda on the intermediation of production and consumption through market classifications.

2. Towards a Sociology of Market Intermediation

Recent approaches in market sociology explain the order in a market by looking at what is valued (Aspers 2010; Karpik 2010; Beckert and Aspers 2011). Valuations clarify what (or who) markets are about. Thereby, quality construction is based on classification systems and the attribution of qualities to categories or classes (Beckert and Musselin 2013), which makes market classification a central topic in these theories. Classification is a concept used in different literatures with varying meanings (see also Krüger and Reinhart 2017, in this HSR Special Issue). In its sociological origins, the concept of classification refers to a cognitive system of social representation (Durkheim 1915; Durkheim and Mauss 1963) providing categories to sort and group entities (Douglas 1966, 1986). Two features that I am going to take up again in the next section are especially relevant: first, classifications are instruments of distinction (Bourdieu 1984) and boundary-marking (Tilly 2005), and, second, categories have a tendency to naturalize themselves (Thévenot 1984; Bowker and Star 2000). Just for conceptual clarification, segments are, just like classes, an outcome of classification practices (see Chiapello and Godefroy, as well as Pridmore and Hämäläinen 2017, in this HSR Special Issue).[2] Thus, segmentation describes a grouping of actors or goods in markets at the end of a chain of market classifications, which comes into existence when the cognitive infrastructure (Desrosières and Thévenot 1979; White 1981; DiMaggio 1987; Bourdieu 2005; Zhao 2005) of a market order (Hayek 1973; Aspers 2010) turns into an organized infrastructure. This happens in the labor market (Beckert and Zafirovski 2011) in relation to the quality of goods (Eymard-Duvernay 1989) and in marketing (Kotler 1989; Blecker and Friedrich 2006; Piller 2006). And it is exactly what Fourcade and Healy (2017 [2013]) call "within-market classification".

A market order solves the central problem of coordination in markets (Beckert 2009). The shaping of this order requires an active engagement with many actors involved: producers, marketing agents, retailers, consumers, and different types of intermediaries. How are goods and products brought together? How is a certain group of products connected to a particular group of consumers? The standard link between production and consumption is the market itself. Former approaches in the sociology of markets stress the structure and social organization of markets, the role of networks and institutions (Swedberg 2005) against the economist assumption that prices alone steer markets. Trade and exchange are theorized through the distinction between buyer and seller roles, the individualistic presumption of actor motives, embedded trust relations or as regulated by institutional arrangements such as property rights (Aspers 2010). The main strands in economic sociology deal with interconnected markets in industries, the coordination along the production chain and differentiation of producer markets (White 1981). However, this picture appears incomplete unless market intermediation is included as a dynamic engagement bridging the spheres of production and consumption particularly if we regard the construction of quality in markets (Beckert and Musselin 2013). What approaches do we find towards such a sociology of market intermediation?

Perceiving (quality) uncertainty as information problem, one could first think of intermediation as the brokerage of information. However, structural approaches discuss brokerage as a strategic tool (Burt 1992, 2005), but seldom as a practice that bridges the production and the consumption sphere. Here, there has been groundbreaking literature from the conventionalist approach (see also Diaz-Bone 2017, in this HSR Special Issue), which sets a special focus on intermediaries and their qualitative brokerage role in the process of economic coordination (Bessy and Chateauraynaud 1995; Bessy and Chauvin

[2] The sociological literature on classification is rather negligent of segmentation as a classification practice of its own. Prospectively, my view on segmentation as a classification outcome could be easily integrated into the systemization by Krüger and Reinhart 2017 (in this issue) either as element of a valuation infrastructure or as additional sixth building block of valuation.

2013; Diaz-Bone 2015). This literature argues that intermediaries shape markets by engaging in valuation (Bessy and Chauvin 2013). Beside the labor market and the question of recruitment (Bessy and Eymard-Duvernay 1997) this literature examines in particular the field of finance and financial market coordination (Orléan 2014).[3] The social engagement in valuation is used as a conceptual link for the social organization of the market exchange. On this view, the downstream end of market flows, the interface between producers and consumers, is more than a simple "yes" (= buy) or "no" (= don't buy) decision. One way of explaining consumer decisions is regarding choices as a kind of judgment, mediated by judgment devices (Karpik 2010). In the context of the mediation of quality-uncertain goods the relation between consumer needs (or wants) and qualities of products is discussed as the individualization (Callon, Méadel and Rabeharisoa 2002) or singularization of goods (Karpik 2010). From this direction, we see the first steps towards a sociology of trade (Cochoy and Dubuisson-Quellier 2000; Cochoy and Grandclément 2005; Karpik 2010). Most other approaches to consumption have a much more constricted perspective.[4] Sociology of consumption focuses on status, habits, styles, and social milieus (Veblen 1899; Bourdieu 1984). Consumer culture studies analyze how households are categorized by their consumption behavior (Lunt and Livingstone 1992). In marketing research, the probing, partitioning and prioritizing of consumer segments are individual strategies for positioning goods and services (Kotler 1989; Piller 2006).

Apart from my impression that a systematic investigation on bridging production to consumption is just about to start, a weakness of the existing theory of intermediation is negligence of its relational pattern. Role and norm conflicts arising from the in-between situation of intermediaries have not yet been sufficiently incorporated into the literature. In consumer markets but also in other interfaces of production and consumption, a core problem of intermediation lies in coordinating a frame of evaluation (Boltanski and Thévenot 2006) to determine what the quality of a product consists in. Intermediation is a bi-directed relation embedded in a market infrastructure (culture, law, and organizations). Engagements in the attachment and translation of qualities, in the

3 The sociology of finance takes a general interest in the intermediation of information (Knorr Cetina and Preda 2005). There we find studies on trade in the bond market which focus on opportunistic behavior of traders (Abolafia 1996), on the trading floor as social space (Beunza and Stark 2005; Hassoun 2005) and on intermediaries as evaluators (Rona-Tas and Hiss 2011) among other things. The prominent role of valuation in financial markets is explained by the circumstance that those markets are very sensitive to meeting legitimate categories in role performance (Zuckerman 1999). Zuckerman shows how the audience as third party acts as critic and mediates financial markets. A recent contribution is Orléan's work on the social forces producing value in finance (Orléan 2014).

4 As another exception, debates on the *prosumer* (Ritzer 2015) as a portmanteau of producer and consumer need to be mentioned here. This study also points to the necessity of a systematic inquiry on the social foundations and structures of trading as social interaction.

matching of supply and demand are directed upstream to the production as well as downstream to the consumption side. Bringing a relational perspective on this triadic structure spots "ties that torture" behind intermediation (Krackhardt 1999). My contribution aims at identifying the conflicting social obligations connected with intermediation. A thorough and systematic inquiry is pending to look at interactions and spaces in which this conflict is processed. I don't want to give the impression that I could achieve this task within this article. Nevertheless, I want to contribute to this endeavor by discussing the example of financial advice.

This article brings a fresh theoretical focus to the debate by taking into consideration the following: considering the ordering power of market classifications it is plausible to assume that classifications are the key to understanding conflicts in intermediation as well. Accordingly, the theoretical interest of this article lies in exploring how the differentiation in actor segments affects market intermediation. In other words, it is about distinctions made between single market segments in the eye of the intermediary.

3. Financial Services as (Segmented) Market Intermediation

The service industry is an interesting field to study market intermediation. Not only is service regarded as a hybrid activity blurring the boundaries of production and consumption (Du Gay and Salaman 1992), service organizations uphold a tension between conventions of coordination because of the impact of human relations (Thévenot 2001).[5] The case of German financial services is all the more unique due to the shift from client- to market-orientation this industry went through in the late 20th century (next section). In the course of neoliberalization, the market expansion of financial products increased the need for intermediation. Generally, with post-industrialism and with a growing information economy, knowledge-based services become a more important domain of markets (Bell 1973; Castells 2010). In this particular case, product diversification and the growing complexity of financial instruments pose challenges for the financial literacy of clients (Lusardi and Mitchell 2014). At the same time, the participation in the financial market has turned into a key imperative of contemporary lifespan planning of the middle classes (Langley 2008). Various push and pull factors, such as the withdrawal of the welfare state and the expansion of personal pension plans, on the one hand, and the diversity of products on the other hand, make financial intermediation a non-trivial social interaction. Financial products don't sell like hot cakes. Recent studies point to the

[5] Thévenot (2001, 416) argues that a detachment from the domestic orientation, which is based on relations and trust, is difficult to effect in the service industry.

great significance of market intermediaries for the translation between product and clients' needs (Vargha 2011) and the different roles intermediaries might take here (Lazarus 2012).

Financial advice services mediate market transactions between bank organizations and bank clients.[6] In the typology of Bessy and Chauvin (2013), intermediaries may act as distributors, matchmakers, consultants or evaluators. From an organizational perspective advisers are distributers. With respect to mass-distribution as in the retail segment, intermediation means choosing a valuation frame (Boltanski and Thévenot 2006). Financial advisers are also matchmakers insofar as they aim at bringing supply and demand together. These matches follow categorizations and advisers play a decisive part in the use of categories, such as by expanding or restricting them. As consultants, advisers act as "brokers of language" when they connect symbolic meaning and material goods or groups of individuals (Bessy and Chateauraynaud 1995). Accordingly, intermediaries contribute in various ways to the cognitive segmentation of markets (Bessy and Chauvin 2013).

It is important to notice the conflict of roles and norms underlying intermediation to understand the challenges of financial advisers. Looking at the interaction structure of this intermediation, there are two positions, an adviser who is consulted as expert and a client who seeks to solve an investment problem. By theoretical abstraction, the advice role describes an interaction aimed at lowering the information asymmetry for the client regarding financial knowledge. Actually, this fits the picture of informational brokerage. With regard to the quality uncertainty of financial products advice giving involves the ascription of qualities, which is based on varying legitimated criteria. On the one hand, advice has a strong cultural connotation of disinterestedness (Schützeichel 2004). Good advice is legitimated by the orientation towards the client. On the other hand, the bank organization has a strong self-interest concerning the implications of advice for market actions. From this viewpoint, advisers are sales distributers. Legitimated by employment contracts, good advice follows sales objectives.

Having outlined these constraints on intermediation, I now want to specify my research questions. I am asking how financial advisers translate these contradictory demands in their conceptualization of advice. And relating this to market segmentation, I am interested in whether there are differences in this

6 The need for mediation applies only for markets where consumers have difficulties in evaluating goods (Zuckerman 1999). Consumer decision-making in market exchanges with low complexity levels such as the purchase of bread rolls is likely to be routinized. Compared to this example, the purchase of financial investment products is more complex, less likely to be routinized and in many cases involves personal intermediation. This also makes it attractive for empirical investigation.

translation between different market segments. By following these questions I want to explore how segmentation affects market intermediation.

The driving assumption of my approach is that intermediaries not only contribute to segmentation, but that the sorting of clients into different market segments affects the manner of intermediation. As findings for French banking services show, valuation of clients and client segments affects the treatment they receive when it comes to consumer credits (Lazarus 2012). If this also holds for financial investment advice, this would also imply that market segmentation distributes access to financial knowledge and quality assessments unequally, and thereby also very likely affects life-chances. For a better understanding of the classification practices and consequences involved I will address boundary criteria and naturalizations of boundaries.

What are boundary criteria in financial services? Drawing on marketing literature, we find several different ways to segment customers: "(1) segmentation based on combining relationship revenue and relationship cost, (2) segmentation based on relationship volume, (3) segmentation based on customer relationship profitability, (4) segmentation based on combining relationship volume and customer relationship profitability" (Storbacka 1997, 484). In other words, boundary criteria are variations on profitability, which speaks against the marketing literature that conceives market segmentation as implication of increased consumer pre-eminence (Kotler 1989; Blecker and Friedrich 2006; Piller 2006). We find such segments in a spatial separation of "low net worth" and "high net worth" customers into special branch offices or sections. For a discussion on the limitations of customer segmentation practices see Pridmore and Hämäläinen (2017, in this HSR Special Issue).

The impact of segmentation depends on differences in the content of intermediation, which facilitate different market exchanges. Such distinctions have benefits as well as negative effects. Starting with the former, segmentation reduces complexity, provides orientation and focuses attention (Lounsbury and Rao 2004; Schneiberg and Berk 2010). When targeting clients intermediaries introduce a pre-selected range of products, whereby offers are tailored to group data such as milieu-specific interests or resources available, which saves time and information processing capacity (transaction costs). This is the idea behind customized solutions. They simplify market coordination. Its ordering capacity structures roles, makes activities predictable and stabilizes market relations (Hayek 1973; Aspers 2010). On the other hand, there are also negative effects. As already outlined in the introduction to this HSR Special Issue (Krenn 2017), a look at the history of social measurement reveals its contingencies. It is tools of measurement themselves that construct differences. Grouping does not just follow natural variances, it is an interventional logic (Hacking 1983). Groups are naturalized (Thévenot 1984; Bowker and Star 2000), which becomes relevant when evaluating the social impact of grouping. Arguing on basis of the nature of subjects/objects serves as moral licensing or justification. The symbolic attribution of worthy behavior that resulted in the accumulation of capital validates the idea of a natural grouping (by wealth), which is particularly critical because it legitimizes the systematic exclusion from opportunities, and thereby reinforces the naturalization of categorical boundaries by segmentation. Segmentation by wealth valorizes economic achievement. In a Durkheimian reading, it reveals a homology between market classifications and the social structure.[7] There is even a stronger nexus. In cases where segmented practices distribute investment chances unequally they contribute to the reproduction of pre-existing social hierarchies. This is exactly what happens in the case of credit ratings and moral devalorization described by Fourcade and Healy (2017 [2013]).

Client segmentation appears in an even more critical light when we turn to a strand of marketing literature that discloses the motivational strategy behind it (Storbacka 1997; Machauer and Morgner 2001). Segmentation is related to customer relationship profitability. The textbook logic looks like this:

> identify your target segment; describe the characteristics of the segment members; determine their needs as to the product that you are selling, adapt the marketing mix components according to the segment's needs, sell the products, get increased product profitability and thus increased profitability of the firm. (Storbacka 1997, 479)[8]

However, this profit perspective stands in a sense in opposition to the common belief in the fiduciary relationship between banks and their clients, a particular element of the German tradition of client-oriented banking (Haipeter and Wagner 2007). This contradiction invites us to ask where this culture of profit comes from. For this reason the next section discusses the institutional context of segmentation and related job demands for advisers.

4. Financial Intermediation: The German Context

Starting around the 1990s, Germany's finance industry faced an institutional shift from client- to market-orientation.[9] Client segmentation is one of the key elements of related re-structuring processes in the financial service sector (Hai-

[7] In other market areas discussed in this HSR Special Issue (for example in the contribution by Akos Rona-Tas 2017) we find classifications connected to market behavior such as credit history. By these procedures, different classes of creditworthiness are morally justified (Fourcade and Healy 2017 [2013]). But as the authors show, even in these cases the classified market behavior is strongly connected to pre-existing social hierarchies.

[8] Storbacka (1997) also argues that this textbook logic oversimplifies the empirical phenomenon.

[9] The market-orientation of the bank organization corresponds with a sales-orientation of financial advisers. In the empirical part I will talk of sales-orientation instead of market-orientation because this terminology is closer to the interviewees.

peter and Wagner 2007). To understand its impact, one has to set these shifts in the context of a broader institutional change.

German banking is historically founded on family-managed private banks and a tradition of long-term trust relations (Pohl 1982; Reitmayer 1999). With rapid industrialization, universal banks became more important by the end of the 19th century (Tilly 1986; Fohlin 2006). But universal banks also followed a trust-based business strategy. Although most literature focuses strongly on corporate finance, client-orientation is a major characteristic of German banking.

After World War II, a tripartite structure of commercial credit banks, savings banks and credit unions was established. Regional market strategies and a low level of concentration kept competition low and flexibility high (Baethge, D'Alessio and Oberbeck 1999; Deeg 1999). From the 1980s on global financial competition encouraged market expansion. The financial service industry in liberal fore-runner nations had already identified the retail sector as a niche (Moran 1991).[10] Globalization and increasing competition also modified the strategic orientation of commercial and saving banks in Germany from highly regulated and bureaucratic to cost- and sales-oriented enterprises. More specifically it enforced a move from locally embedded compartmentalization to competition for segmental market share.[11] The disembedding of trading activities, the shift from owners and creditors to intermediaries and brokers, and the engagement in investment banking accelerated from 2002 on (Hardie and Howart 2009).

These market-driven transformations also upended the organization of financial services through a triple process of deregulation, increased rationalization and technological change. New leitmotifs involved saving costs by outsourcing services and by the use of new technologies as well as the segmentation of clients and products (Kitay et al. 2007). Most noticeable were the introduction of new delivery channels (e.g. ATMs), telephone banking and the employment of information technologies in data processing. Haipeter and Wagner (2007) however regard the segmentation of customers and products as the key element of restructuring processes in Germany.

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[10] This has also to be seen in connection with structural changes in the organization of financial markets and their intrusion in additional societal spheres, discussed as financialization (Knorr Cetina and Preda 2005; Krippner 2005; Windolf 2005; van der Zwan 2014). Liberal market economies such as the UK were leading this process (Du Gay 1993). Changes for Germany first of all affected corporate financing. The extent of change described in the literature varies from a profound liberalization (Regini et al. 1999) to a bifurcation between old bank-based and new market-based mechanisms (Deeg 2005, 2009). Deeg's analysis shows that credit unions and savings bank maintained relational banking strategies with small and medium enterprises; major changes applied predominantly to large private banks (ibid.).

[11] On the general transition of the German system see Krahnen and Schmidt (2004) and Streeck (2009). In contrast to them, Hackethal (2004) argues against convergence.

With regard to labor relations, job functions were divided, branch-networks restructured (Baethge, D'Alessio and Oberbeck 1999), and hierarchically structured lifetime employment turned into fragmented careers with declining job security (Regini et al. 1999). New forms of management and control were a part of all this. Indirect governance mechanisms such as sales-based reward systems were introduced (Voß and Pongratz 1998), but by the end of the 1990s these were still the exception (Baethge, D'Alessio and Oberbeck 1999). Compensation by skill level and seniority was deeply rooted. The 2000s radically changed this. Along with a steady process of deskilling and increasing constraints on advisers' work autonomy, product offers were calculated by automated software systems (Shire 2005) which retrieved standardized products.

The literature also shows how these market-driven changes affected client interaction. The German tradition of financial advice services included long-term relationships with clients founded on interpersonal knowledge and trust. However, embedded relations were an obstacle to the novel sales culture which set sales targets for branches, and, subsequently, for employees. In order to redefine client interactions as "sales opportunities" (Baethge, Kitay and Regalia 1999, 10) a bank-driven mode of contact was introduced. As a side-effect, clients alternated between advisers. Client selection tools were based on automated classifications along client profiles. Clients thereby lost sovereignty to initiate the interaction (Korczynski 2001).[12] The main objective of this shift in control was the generation and management of demand for new financial products. The products in question range from ordinary securities to mutual funds, stock trading accounts and various retirement products (Greenwood and Scharfenstein 2013).

Until the 1990s, the shift away from a transaction-based organizational model toward a sales-orientation had a strongly experimental character. But nevertheless even at that early stage of the restructuring process three main negative effects were identified: conflicting job demands (Moldaschl 2001), paradoxical recognition requirements (Holtgrewe 2002), and threats to the commitment and consent to the organization's goals, especially through new remuneration practices (Baethge, Kitay and Regalia 1999).

All these joint developments increase uncertainty for the intermediation of production and consumption of financial products. It stands to reason to assume that advisers following a sales-orientation resolve conflicting job demands toward the production side. But is there still client-orientation despite organizational constraints? And is there a connection to segmentation of clients? The aim of this article is to investigate existing advice concepts in financial services empirically.

[12] Frequently, call-centers acted as new delivery channels (Korcynski 2001; Shire 2005), but call duties also devolved onto advisers.

5. The Empirical Study

In this empirical section I accomplish three things: After a short report on data and method, I analyze how financial advisers reflect on the intermediation of financial products and organize job requirements, and subsequently, in the summary of findings, I make a suggestion about the extent to which their conceptualization of advice is connected to client segmentation.

5.1 Data and Method

In the following I will present qualitative interview data with nine financial advisers collected in 2010 in Berlin.[13] I applied a narrative interview approach combined with problem-centered sections (Schütze 1977; Scheibelhofer 2008). The narrative interview has been shown in the literature to be especially suited for critical events or transformation processes (Holtgrewe 2009). The initiating question invited financial advisers to narrate their professional biography and their daily practice of intermediation. Interviews were recorded, transcribed and coded. For the analysis, I applied content analysis (Mayring 2000). It must be pointed out that interviewing has methodological limitations (Lamont and Swidler 2014). There is no guarantee of a complete correspondence between disclosed interview content and inner reflection, and the social desirability of response behavior has to be considered. Also, the sample is small and not representative (Gerring 2011). Therefore, these findings can only have an explorative character. Nevertheless, the data gathered raises important issues and concerns about financial advice service, which are fruitful for the discussion on (segmented) intermediation.

5.2 Empirical Findings: Advice Concepts in Action

Client-related activities in financial planning involve several steps: first contacting clients, then profiling their financial situation and making suggestions

[13] The study is based on nine interviews with financial advisers who were or used to be employed in banks and had active client contact. In the selection of interview partners I aimed for a field access that was as open as possible. Berlin-based bank branches from major private banks, credit unions and savings banks were personally approached to ask for their participation in the study. Only in one case (Volksbank) did this actually lead to an interview. Another interview contact was generated by the trade union. And finally, I contacted individual financial advisers through the professional social network XING according to their job specification; this approach produced the remaining interviewees. Among the interviewees, four belonged to credit unions and savings banks, two of whom dealt with the segment of wealthy clients. Five worked (or had worked) in private banks, one of whom was a freelance adviser still working at the premises of a private bank. Another one was on the job market, and a third interviewee operated independently. All but one had received their training before the 2000s, five of them in the 1980s or before. All but one were male.

for financial products. And in the long run, financial planning involves the maintenance of client-relations. Talking about these client-related activities evoked a strong desire in interviewees to explain themselves. The way advisers justified their practice revealed different orientations towards their conception of "good advice." It also incorporated their ideal of a client-adviser relation, and it exposed various difficult aspects of their actions.

Interview data in this section illustrates that client-orientation among advisers prevails in segments of wealthy clients. As outlined above, the adviser must deal with conflicting job demands. On the one hand, there is a cultural claim of disinterestedness. On the other hand financial advisers face organizational objectives. When clients come to bank branches to receive recommendations for their deposit or investment strategy, sales- and client-orientations run up against each other. Situational factors delegate the resolution of this conflict to financial advisers. In the following I will discuss different concepts of advice articulated by advisers. Then I will put these concepts in the context of client segmentations.

Client-Orientation

It was a strong observation that client- and skill-orientation were still quite pronounced for some of the interviewees. In cases of such an orientation I found these aspects narratively rooted in the job-training period, which was given an important role in these stories. The training period was cherished. One adviser in his late forties who received his training in the 1980s said that his job was taught as "a system of relations" (Int. 8, 708). The investment in training was an essential asset of a bank that aimed at a satisfied long-term relationship with clients (Int. 8, 266-9). This example is telling in another respect as well. This interviewee resigned from his job because he could no longer stand the contradictions between official rhetoric and management objectives in his bank.

The first critical issues in the accounts of client-oriented advisers began with the measurement of contact rates and appointment times. These key management rules were rejected. Advisers described standardized contact activity in accordance with a numerical regime, as for example during promotional campaigns, as opposed to the idea of a "good" advice practice. The following statement (from a male adviser in his mid-forties, employed in a regional credit union branch with a fixed salary) illustrates this quite well.

> He who is a good adviser, doesn't need exactly four weeks or six or eight weeks, in which he is doing something, instead a good adviser does that all year round. (Int. 2, 230-1)

The second issue concerning client-orientation is the assessment of the client's risk tolerance, which demonstrates the importance of intermediation. Electronic client profiles use standardized scales and categories. The understanding of these categories requires an individualized inquiry and interpretation, which in general happens throughout the first meeting. The following interview passage makes this intuitively accessible.

> What does risk-averse mean? You have to ask the client: what do you see as risk-averse? […] or, what do you see as speculative? There are clients, […] they tell me: 'well, Allianz or Deutsche Bank, that's not speculative. They will never go bankrupt, they will still be around, even in a hundred years.' There are other clients, they say: 'what, oh, nothing that speculative, no and never.' (Int. 2, 891-6)

Among interviewees, client relations were uniformly perceived as shifting from long-term, trustful, personal ties to short-term interactions. Adviser-client relations in earlier times were assessed as a profound personal tie. Back then, client contact required more than one meeting and expanded over time. Its maintenance was highly valued among those interviewees. In contrast, the shift to flexible client service policies was rejected because they didn't allow any "intimate" relations to be built. Another reason introduced for long-term relations was the character argument: A successful adviser-client relation was regarded as a question of the "right match" of personalities (Int. 5, 356).

Accordingly, a third critical issue was the contrast between a (long-term) client-service based on sound client-ties to a (short-term) selling orientation, which is explicitly emphasized by the interviewee mentioned at the beginning of this section, a male adviser in his mid-forties with a strong client bond:

> If you want to make returns for your bank and be successful, this will only work with a sound client relation. Otherwise it is pure selling, and I strictly refuse to do that. […] I hold up my hands and say 'no'. About this issue I sometimes have problems with my employer because he sometimes has different expectations of me. […] [B]ut I refuse. […] [M]y credo is that I want to be able to look my clients in the eye in ten years' time. (Int. 8, 105-11)

In this interview a good client-relation was not only a matter of reputation but also regarded as a long-term profit strategy. It seems in this case that the trust and profit aspects are not inherent opposites but partly entangled.

Another issue in this group was the stress on individual skill. Nearly all advisers explained that they are ordered to offer only a certain selection of mostly home-brand products to clients, which is determined by the management beforehand and implemented in standard software. So there was a general awareness of constraints on product range. However, for some interviewees this was a source of friction. These interviewees put an emphasis on their own expertise and skill. Ideally, product recommendations for clients should amount to customized solutions based on the advisers' experience, and also with reference to "unwritten rules" (Int. 2, 443), based on customs. That is why a free choice of products was highly valued. In contrast, its complete replacement by software was criticized. In this connection, documentary obligations that were implemented by German legislation after the post-financial-crisis losses were likewise regarded as limiting their ability to operate quickly on behalf of the client (for example in case of fluctuations of stock prices).

In this connection, some advisers openly disclosed covert practices circumventing management guidelines on product choice and commissions (Int. 5, 423-7). I observed this specifically among interviewees with distinct role confidence and a secure organizational position in credit unions (Int. 2 and 5). In particular, software-automated product choices favoring home-brand products prompted deviating actions, consistently taken in order to satisfy clients.

A constant matter of tension was the fact that client-orientation lacks an institutionalized reward scheme. One consequence is increased job insecurity for advisers. Another consequence is their declining commitment, expressed by their considering resigning (Int. 2, 1221-36) or actually resigning from their job, which was explained by the youngest adviser interviewed in the following passage: "My main reason for resigning was that I didn't like the way I was supposed to do my job anymore, that you mustn't care about clients and their needs but only about transactions and products" (Int. 9, 365-8). Therefore this adviser defected from a large private bank to a specialized regional bank.

Sales-Orientation

It is noticeable that among interviewees with a sales-orientation a clarification of job labeling was a constant accompaniment to the narrative. Analogies and comparisons to other professions such as car dealers, mechanics, physicians, and lawyers were brought up together with the self-description in different contexts.

One adviser (a male in his mid-thirties, employed in a regional credit union branch with a fixed salary and small bonus incentives) phrased it in the initial sequence of the interview by saying that "the notion of adviser is misleading somehow" (Int. 4, 40-1) explaining that "we are of course in a certain sense salesmen – and that's nothing nasty in and of itself" (Int. 4, 39-40).

The interview material from these advisors pointed to the main task of their job, making money. There are however differences with regard to who potentially benefits. This is illustrated by the following passage by the only female interviewee: "the bank has to make money, the client has to make money […] at the bottom line we are all businessmen" (Int. 5, 73-5). Consequently, the accounting of sales numbers was an important issue for these advisers. This is illustrated by following interview passage from a male adviser from a credit union cited just above.

> There [is…] software. That is normal managerial control. I mean that's like in any other commercial profession, knowing exactly, if you are a good businessman, how much you make out of someone. So I mean I know exactly how much I make out of a business and I know how much I can discount or not. I know also, when I do it several times, if I lose credibility. (Int. 4, 232-7)

This position becomes more telling in several passages throughout the interview which emphasize the exchange aspect. Pecuniary returns for the bank and the individual adviser are seen as an exchange for the expenditure of time when providing a good service for clients. From the start, this adviser argues that "it should be clear to the client that advisers or salesmen naturally want to earn with what they do. I don't do my job on a voluntary basis. A business works when it works for both parties" (Int. 4, 131-4). He further clarifies this by stating in a later passage that "he is not selling off his products, he is taking prices for good services" (Int. 4, 251-2). It's all about "a balance between earning money and doing good for the client" (Int. 4, 926-7), and he likewise repeatedly made his point by saying that "anyone who accomplishes something should be (monetarily) rewarded" (Int. 4, 1059).

A difficult matter for this type of adviser is irritation about the publicity financial services receive. "Our profession has lately been suffering from a bad reputation because precisely the fact that we want to earn money is held against us" (Int. 4, 440-2). In this argumentative context he offers several analogies and comparisons to other trade businesses. One of the main problematic issues for this adviser is that clients seem to be ignorant of the time expenditure of advisers and little prone to reward it.

Sales-pressure is also a source of friction, negative reference and dissociation. Sales targets and the implementation of new technologies compromise advisers' conventional wisdom. This is generally put forward in the context of reward and sanction mechanisms. All interviewees were equally aware of the valuation practices in their organizations, which are commonly expressed by compensation schemes. Orientation to specified targets comes with a calculable benefit scheme. Performance is measured according to the number of deals executed or the aggregated amount of fees generated, and individual benefits are distributed on that basis.[14] In many interviews advisers expressed their discontent that their professional expertise doesn't count any longer.

The following interview gives a disenchanting account of seemingly indissoluble contradictions in intermediation. The interviewee argues that "the adviser has to reach his numbers and he doesn't reach those numbers if he acts in the clients' interest" (Int. 6, 210-1). His personal experience illustrates what consequences follow. "If the adviser is not able to realize what is targeted by the branch management then you are out. In my case, I was working six months for XY bank, and I am glad I don't have to work there anymore, but my con-

[14] Among the interviewees I found three different modes of compensation: fixed salary only, fixed salary plus commissions, and, commissions only. Advisers who worked on commissions only were freelance advisers, some of whom used the premises of single branches. For savings banks and credit unions it is common to offer fixed salaries or fixed salaries plus commissions. Among the interviewees, freelance advisers were only found at all in private banks or independently.

tract was not extended because I couldn't do things that were so likely to, well, 'screw over the clients' like the others" (Int. 6, 322-6). One example he gave covered (illegal) couple contracts where credit transactions were made on condition of taking out new insurance policies.[15] Another example was a deliberate increase of the credit sum, although the client's financially tight position was apparent. "The branch manager measures the adviser by contract closings. Do you reach the numbers or not? If the adviser wants to keep his job he has to reach the numbers […] and you don't reach the numbers if you act in the interest of the client" (Int. 6, 625-9). Although the sales-orientation has mainly negative valuations it is surprisingly dominant in this account. The inclination to the client receives cognitive legitimacy, but appears not to be an actionable alternative. This adviser is not an isolated case. The following statement from a male adviser in his mid-forties already cited above who shares a client orientation, in fact, mirrors a similar attitude: "if I am not making any money throughout the whole month, then I don't have a right to exist, either" (Int. 2, 240).

When the contradiction to conventional wisdom was too high, management objectives were contested or not followed. One vivid example is the evaluation of one interviewee of organizational efforts to rationalize product offers. A female adviser working in a credit union is not sparing with strong words such as "idiocy" when talking about objectives to cover the whole product range for each client: the fact that even "the absence [of a certain category of product] should call for justification [in the organization] is disgusting" (Int. 5, 642-3).

5.3 Summary of Findings

Let me summarize and connect these findings. The data generally demonstrates that institutional changes in the financial service industry have set the sales departments of bank branches under great pressure. Structural conditions such as the standardization of procedures and products and the employment of information technology and organizational reward schemes are, in the interpretation of financial advisers, obstacles to tailored financial solutions for individual clients. This contradicts the self-proclaimed intentions of customizing as marketing strategy. In summary, it seems that market intermediation is like walking a tightrope. Here the segmentation of clients appears as an ordering solution for these markets. Advisers assorted to the "high net worth" segment – in my empirical sample these are advisers with a client investment capital of more than €100.000[16] – differed from other advisers in the sample with regard to

[15] In my questions I only asked about investment recommendations; however, some advisers also slipped in information on lending activities.

[16] When describing their client segment, interviewees 4 and 5 explicitly mentioned this number among other markers such as the professions of clients (for example CEOs). Apart from this data, I have no further information on the precise segmentation procedures applied in the specific bank environments because of anonymity of the interview situation.

their intermediation capacity. Despite the explorative character of this study, it raises important issues and concerns about financial advice service, which are fruitful not only for future research on (segmented) intermediation. I want to highlight three findings, in particular.

A primary finding of this case study is that client- and sales-orientations are both present in advice concepts among financial advisers, in some cases united in one person. Each orientation was identified by a narrative pattern that is structured by a specific valuation of issues such as contacting clients, suggesting financial products and maintaining client relations, and the argumentative nexus drawn between these issues. We find inclinations to client-orientation in both market segments, however with different effectiveness and role confidence (see below). The study also showed that client-orientation and role confidence tend to overlap in credit unions. However, it is surprising that of all the interviewees, it is an adviser from a credit union who shows the most distinct sales-orientation (Int. 4). This fact hints to some interesting paradoxes in new banking strategies. Mirroring an argument from client-oriented advisers, interviewee 4 connects profit-orientation to long-term relations with clients (Int. 4, 865-99). Client loyalty is regarded as a sustainable profit strategy. However, it should be noted that this interviewee mainly deals with wealthy clients. In his account, the link between client welfare and organizational profit appears sound. Certainly, bank types and varying incentives systems need to be further taken into consideration. This aspect could be part of a future research agenda (last section).

The second finding concerns the effectiveness of the intermediation. I assume that advisers strive to carry out their job in line with their conception of good advice. If we regard effectiveness as the capacity to intermediate, then the data reveals that not all interviewees were equally able to carry out their advice conception as they would have liked to. It further shows that the effectiveness of advisers' concepts was strongly dependent on the client segment. Although this study is explorative, it suggests that certain advice orientations are more effective in specific job environments. The story of client-orientation in the retail segment of private banks is connected to a narrative of dissociation, scruples and failures (Int. 9). In the wealth segment it is a story about strong role confidence and self-assertion (Int. 2 and 5). In the wealth segment of credit unions as well, sales-orientation is part of a uniformly positive narrative (Int. 4). The contrast to client-orientation even seems to dissipate. In the retail segment none of the interviewees articulated sales-orientation as an intrinsic driver. It was connected to organizational reward and sanctioning mechanisms (Int. 6). Nevertheless, it appears to be coherent to conclude that sales-orientation is effective in the retail segment (as long as financial advisers can tolerate it). The point is that the effectiveness of intermediation underlies above-mentioned structural conditions of the working environment and varies across client segments. Table 1 gives a summary of these findings.

Table 1: Effectiveness and Benefits of Advice Concepts Across Client Segments

Client Segment / Advice concept	**Retail Segment**	**Wealth Segment**
Client-Orientation	*Ineffective*	*Effective*
	- Sanction Adviser	*+ Benefit client*
Sales-orientation	*Effective*	*(in-) effective**
	+ Benefit Adviser	+ Benefit Adviser

*In my sample, sales-orientation in the wealth segment mingles with client-orientation, which makes an account on the single effectiveness of sales-orientation difficult.

My last finding concerns the benefits to the persons involved in intermediation. There is no data on the financial return of clients. This limitation doesn't permit any conclusions on the impact of advice (either in terms of successful match-making or financial returns). Given that financial advisers have expert knowledge, it seems plausible enough to assume that effective client-orientation on the adviser side is of benefit to the client. Also, it can be assumed as obvious that following organizational objectives is to the benefit of the adviser. Organizational reward and sanctioning mechanisms set incentives for advisers to act as rational agents, which is to live up to sales objectives. However, the data gives no hint about the benefits of client-orientation in the retail segment (apart from rewards of personal conviction). But there is another aspect to this finding. The data suggests that the stronger the organizational standing of the intermediary is, the more she is in a position to occupy client-oriented evaluation frames. Reflecting on this result about intermediation as such invites considerations about what kind of positional infrastructure actually allows the intermediary to find a balance between the producer and the consumer. Obviously, a weak intermediary that can't effectively follow through with the preferred advice concepts is not only a disadvantage to the client, she is also in a disadvantageous position herself. So one problematical scenario in financial services is the case where the disadvantaged client is coupled with a disadvantaged adviser.

6. Discussion

What do these findings tell us about the intermediation between production and consumption in financial services? First, it becomes clear that intermediation is embedded in an institutional context and cast in an organizational mold that provides legitimate evaluation frames and classifications.

To what extent are client classifications a key to understanding market intermediation? It appears that segmentation of clients encourages unequal access to effective client-oriented advice. Financial advisers in the wealth segment have a better chance to follow through with their client-oriented advice concept. Among all interviewees they show a strong role confidence, which preserves their independence from organizational constraints. The case of the sales-oriented adviser in this segment is also interesting. When dealing with wealthy clients, the contradictions to client-orientation are leveled out. The narrative stress on the exchange aspect genuinely included the client interest. All in all, advisers in the private wealth segment have preserved a strong confidence in their client-orientation and are able to balance conflicting obligations in the intermediation between production and consumption.

What does this result tell us about the market order in financial services? Although the empirical scope of the data is limited, the analysis of the interview content suggests an unsurprising conclusion on the stratification of the social structure. Client segments apparently differ in social status (an observation also supported by the physical design of branch offices). And the higher status of wealthy clients tends to generate a cumulative disadvantage for the retail segment. From the explorative character of this study, it would be premature to look at segmentation as a single cause of advice inequality. This has always already been preceded by an unequal distribution of wealth. However, there is a supportive indication in the literature that strategic marketing considerations applied in advice relations reinforce this distribution. Banks attempt to increase the relationship strength for the most profitable customer segment, the "high net worth" segment (Storbacka 1997). This would explain why the degrees of freedom are higher for advisers active in this segment. Further empirical inquiry is still needed into how segments exactly relate to each other, and also how social status rubs off on the intermediary and affects the intermediation process. However, there is support for the conclusion that socio-economic segmentation along wealth boundaries reinforces social stratification.

This observation points to the importance of continuously paying attention to the classification practices employed in the intermediation of production and consumption. As social constructions they are contingent upon non-mandatory distinctions. Nevertheless, they intervene heavily in market interactions and market exchanges. As outlined in the theory section, a social organization of complex markets wouldn't be feasible without the ordering power of classifications, so abandoning them altogether is not an option. What appears feasible is a systematic review of the social underpinnings of classifications and segmentation. The uncertainties involved in the drawing of categorical boundaries together with the massive intervention of classifications (segmentations) calls for a profound control system that would allow for the possibility of re-classification and realignment of related social practices. As we can see in the case of financial services, taking segmentation (by wealth) for granted silences the claim for equal opportunities.[17] As advisers don't question the varying treatment of clients, because apparently the existence of sufficient financial capital seems reason enough, this observation also holds for the marketing literature. Here in particular the lack of critical study of classification practices shows. What is therefore needed is a deeper empirical investigation into the operation of classifications. This holds in particular considering the inclusion of large-scale electronic data-bases already documented for the consumer credit market (Fourcade and Healy 2013 [2017], Rona-Tas 2017, in this issue). One step in such an endeavor is the further examination of the role classifications play in the downstream intermediation of production and consumption for which it proves to be a fruitful approach.

So far I accomplished two tasks with this article: I elaborated on the problem frame of segmented market intermediation, and I presented empirical data on advice concepts in the intermediation of financial knowledge. However, this study still leaves many questions open, which points to manifold directions for future research. One aspect that has remained open is how advisers effectively resolve the intermediation between financial products and clients in social encounters. Comparing the retail and the private wealth segment, what are the particular features of intermediation in action in each segment? What kinds of devices are used? In this connection, it would be also insightful to learn if advisers reflect on client segments and segmentation processes, and if so, how? Regarding the particularities of client-orientation, how do advisers manage to keep it up? Which (narrative, relational) strategies do they employ or are available to them, which allies do they rely on, and how do they withstand organizational objectives? An examination of how such resilience is practiced would need to take organizational characteristics into consideration, such as the role of different bank-types, organizational cultures, and other workplace features, for example resistance in particular branches, as well as personal characteristics of advisers. In the final part of my contribution I want to sketch how a research agenda on market intermediation and classification could look.

7. What Follows? Research Perspectives

I started this article by arguing that the theoretical foundation of the study of intermediation between production and consumption is still advancing. In particular, the economy of conventions has a great impact here and has declared the "age of intermediaries" (Bessy and Chauvin 2013). While intermediation is

[17] It seems beyond doubt that products and specialized services depend on the available capital for investment.

becoming more important as a topic (for example in Beckert and Musselin 2013), there are still open research perspectives that I would like to stress.

Although limited in its scope, I could confirm in this study that the examination of market classifications opens up a promising research field for the analysis of market intermediation, particularly in areas where a critical inquiry into the social underpinnings of classification is still the exception. I unfolded this argument using the example of client segmentation. The critical point is the following. Intermediation is a two-way engagement. This becomes obvious in face-to-face contexts such as in the service industry (even more when classifications concern subjects, not objects). Although the presence of tensions has been acknowledged (Thévenot 2001), the research potential for intermediation dynamics has not yet been fully recognized. More systematic research is needed that throws new light on these tensions – even more so as market sociology in general would gain from a new linkage between intermediation and institutional embeddedness. To encourage discussion on that subject, I would like to close this article with a proposal for a research agenda that focuses on downstream intermediation and constraints in balancing tensions along this engagement. Let me be clear that I probably have not done justice to all the efforts in this endeavor so far nor do I want to claim originality.

What is the aim of such a research agenda, what does it want to explore? The purpose of a sociological inquiry into market intermediation is to paying attention to the formation of categories and segments, watch out for consensus and contestation and reveal the "definitional power" behind these interventions (Bessy and Eymard-Duvernay 1997; Bessy and Chauvin 2013). This includes regarding situational factors as well as the institutional context of intermediation and identifying actors, their orientations and their role constraints, all of which intervene in the bridging of the production and consumption spheres. Such a research program also involves identifying various devices (Karpik 2010) that structure intermediation. Market classifications fall under such devices. Through their ordering authority, they involve boundary-drawing and sorting, which pre-selects the possibilities of social interactions. Intermediation research aims at examining these processes and their implications and consequences.

A study of intermediation advances on the basis of empirical research. It needs data on the social structure of market intermediation, identifying bridging positions and patterns of relations. The purpose of such an inquiry is very much grounded in the idea that studying market intermediations tells us something about the organization of market exchange. Thereby it exposes an additional layer of a market order. The classification lens on markets discloses what is valued in markets. This could become particularly interesting in moments of transformation. Changes in market intermediation (such as the introduction of new market classifications) turn into indicators and measures of a changing market order.

Let me summarize the reasons why I believe such a research agenda is important. First, studying the intermediation of chains of production and consumption and shedding light on social underpinnings of markets provides a clearer view of the social reproduction of symbolic and material inequality in markets. Second, the intermediation of production and consumption is portrayed as a multi-level phenomenon involving organizational structures, interaction dynamics and the agency of actors. This is likely to provide a better understanding of the complexity of markets, the micro-meso-macro link, and in particular individual creativity and social resistance towards organizational constraints. As a side benefit of following this agenda, the insights won might support ventures aiming at the improvement of market operations, which in this case could mean creating market institutions that empower the position of the intermediary.

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The Dual Function of Judgment Devices. Why Does the Plurality of Market Classifications Matter?

Eve Chiapello & Gaëtan Godefroy *

Abstract: *»Die Doppelfunktion der Beurteilungsinstrumente. Warum die Pluralität der Marktklassifikationen zählt«*. This article aims to advance understanding of the dual function of judgment devices (Karpik 2010) in markets. First, these devices support the construction of markets and their segmentation into classes of products, each segment being associated with different procedures for judging the quality or value of goods. Second, they organize classifications and a ranking of the things traded in the same market segment. The fragmentation of markets, understood as the cohabitation of several types of judgment devices, each one associated with different configurations of actors and practices, can then be seen as a welcome source of diversity, preventing the standardizing effects that would result from over-similar judgment devices. This article studies the classification operations that accompany changes in the French market that provides funding for social-sector organizations through financial and banking channels. We observe the arrival on this market of impact investing, the name given since the end of the 2000s to a set of venture capitalism-inspired financing methods that originated in the USA and the UK. We study these classification operations at three levels: the boundary-building work needed to create the idea of a new financing market (the impact investing (II) market), the fragmentation of the existing market for financing social organizations into sub-spaces governed by different assessment and classification regimes, and the effect of these classifications on the organizations being judged.

Keywords: Judgment devices, classification, boundary work, quality conventions, impact investing, social business, social sector, venture capital.

* Eve Chiapello, Marcel Mauss Institute, Centre d'étude des mouvements sociaux, School for Advanced Studies in the Social Sciences, 54 Boulevard Raspail, 75006 Paris, France; eve.chiapello@ehess.fr.
Gaëtan Godefroy, University of Paris Ouest-Nanterre la Défense UPOND, Institutions et Dynamiques Historiques de l'Economie et de la Société (UMR 8533 UPOND/CNRS), 200 avenue de la République, 92001 Nanterre Cedex, France; gaetan.godefroy@u-paris10.fr.

1. Introduction[1]

Impact investing (in short: II) is the name that has been given since the end of the 2000s to a set of financing methods intended for firms and organizations with a social purpose, whether they are for-profit (e.g. firms set up by social entrepreneurs) or more traditional non-profit organizations that provide social services (e.g. education, health, housing, etc.). These methods mainly consist in adapting financial investors' practices to this sector: developing specific investment funds, risk assessment metrics and returns, and connecting these funds to the financial asset management circuits in the initial fund-raising stage, then throughout the duration of the investment. II promises investors a dual return, both financial and social (or environmental), on their investments, and presents itself as an alternative to public or philanthropic funding of social activities in the North and development aid in the South.[2] To achieve this, a new type of investment fund must be developed: impact funds, principally modeled on venture capital funds, since the investees are small, unlisted organizations.

II practices were invented in the USA and UK. They are actively promoted internationally and the popularity of the concept can be traced through a number of initiatives both transnational (by bodies such as the G8 or the European Union) and national (in this article, French), which reflect II's gradual diffusion. This diffusion is disrupting existing practices concerning the funding of social organizations, first by redefining them. While its US and UK promoters primarily associate II with venture capital-type financing, its French importers are remodeling it to encompass other pre-existing practices while also supporting growth for new actors in the social segment. If a market is considered to be unified by shared judgment practices, then the French market is fragmented. Two different finance providers can be identified, using judgment devices of differing natures and origins, and operating through largely disconnected financing methods. At least two major types of approach and financing method can be observed, forming two sub-segments (or classes) in the market. As a result of this fragmentation, social organizations in search of funding can theoretically find financing on variable terms as regards expected returns and investor involvement in their activities. The current fragmentation of this financing market allows different practices to coexist, but the competition between market segments for the public funding that supports them and the public policies that institutionalize them can be a source of concern for social organizations.

This example will be used to illustrate the dual function of judgment devices in markets. Market judgment devices shape not only market segmentation, but

1 We are grateful for the comments received from one anonymous reviewer, Karoline Krenn, the editor of the HSR Special Issue and Philipp Golka.

2 This question can be seen as a form of financialization of the social (see Chiapello 2015).

also the ranking of the objects inside each compartment. These two facets of judgment devices have rarely been addressed together in the literature and one purpose of this article is to draw them together in the same analysis. The first part is devoted to the clarification of the main concepts in the theoretical approaches underpinning our arguments. We also show how the selected case is relevant to study this question. In the second part, we present the efforts made by mainly US and UK impact investing promoters to create a new market, or as they would say a new "asset class" (Morgan 2010). The third part focuses on the situation in France.

2. Understanding the Role of Judgment Devices in the Production of Market Classifications

Sociological research has attracted attention to the institutions that facilitate trade or exchanges and contribute to the social construction of markets (Swedberg 1994; Fligstein and Dauter 2007). Some of them are classifications, understood as organized systems for classifying varied objects. In the case of markets, the first thing to be classified is whatever is traded, which is generally grouped into classes based on quality, for example wheat grain of a certain quality (Cronon 1991, 116). The "quality class" is then associated with specific judgment devices that are considered relevant for valuing what is recognized as being of the same "quality." For example, high-quality goods may be valued on the basis of the producer's name, whereas standard goods may be valued on the basis of the type of materials used in making them. These judgment devices can take various forms (Karpik 2010): they may be founded on measurement systems and quantified criteria, involve expert assessment, rely on word-of-mouth reputation through social networks, etc.

But ultimately, a judgment is formed on the basis of conventions that the researcher can try to bring to light. We now highlight the dual role of these judgment devices in the construction of markets (they stabilize different subspaces of exchanges or market segments) and in the production of classifications inside each segment, which have consequences for the objects of classification.

2.1 The Dual Role of Judgment Devices

Segmentation of markets into different classes (whether the segmentation results from formal rules related to market regulation controlling the products and participants in market dealings, or from the business dynamics brought out by analysis)[3] is a central question in understanding how real markets operate. The seminal proposal by Eymard-Duvernay (1989) deserves note. His objective was to explain the complexity of the industrial fabric in a given sector, and the diversity of existing forms of exchange, which standard economic theory was unable to take into account. His concept of quality convention should improve our understanding:

> The complexity of the industrial fabric comes from the coexistence of these different ways of assessing quality. Some zones of exchange have a more natural affinity with one particular assessment practice […]. But their distribution between different quality conventions is never completely stabilized, and this gives rise to continuous risks and tensions. The plurality of quality conventions explains the diversity of forms of coordination that are simultaneously in force, with the economic fabric presenting as a tangle of varying kinds of ties. A purely market-based standpoint ignores this complexity, and thus weakens the analysis considerably. (Eymard-Duvernay 1989, 359, our own translation)

The French economics of conventions (Eymard-Duvernay 2006a, 2006b) has since then produced numerous studies using the quality convention concept to differentiate market segments based on the features of the goods exchanged (Eymard-Duvernay 1989; Salais and Storper 1997; Eymard-Duvernay and Marchal 1996; Rivaud-Danset and Salais 1992). Among other advantages, market segments (or quality classes) make it possible to set coherent prices within a category, as goods of the same type are valued by the same type of procedures and all participants more or less agree on what matters in the valuation process, i.e. on a quality convention. But quality conventions do more than just support exchange by facilitating agreement on the thing and the price. As Eymard-Duvernay (1989) stresses, they can explain the forms of coordination in action between economic actors whose relations cannot be reduced to pure market exchanges. Many studies in economic sociology concern market devices (Callon et al. 2007; Callon and Muniesa 2005), principally considered in terms of how they facilitate or structure price-setting. We propose in this article to analyze them in terms of the way they structure and coordinate actors on market segments both upstream and downstream of the market exchange, notably by harmonizing the rules for judging the quality of what is being exchanged, but also what should be produced and what is expected from the parties. This makes it possible to trace different configurations of actors and game rules, through quality conventions and the judgment devices that enact them. As Eymard-Duvernay (1989) emphasizes, these segments or classes are not necessarily stable, and it is also the researcher's job to understand the cross-connections, tensions, and competition between them, and how they have developed. This is what we aim to do here for the case of the market providing

[3] Identification of market segments associated with different competitors, clients and demand features is one of the basic tasks in any marketing or corporate strategy analysis.

funding through financial and banking channels for social sector organizations in France; a market that is in upheaval as practices, discourses, quality conventions and forms of coordination associated with the US and UK concept of impact investing are being imported into France.

Judgment devices support the building of markets and their segmentation into classes of products, each segment having a special type of judgment procedure associated with a specific relational configuration. It is important to stress that it is not necessary for every organization operating on a market to use exactly the same judgment devices: this situation can arise when a single metric becomes the established practice, for example, but is relatively rare. However, organizations in the same segment share the same approach to quality assessment and use the same type of devices. Within the same market segment, these devices also organize classifications and a ranking of the things traded there. This second feature is what is most often noted in the sociology of markets (Beckert and Musselin 2013), which sees quality classifications as a way of achieving prices based on quality judgment in markets where the problem of quality uncertainty is crucial[4] (as in the market studied by Akerlof [1970][5]). It is for example possible to show that there is a link between the quality judgments available and the level of prices (Beckert and Rössel 2013; Rössel and Beckert 2013).

Figure 1: The Dual Role of Judgement Devices

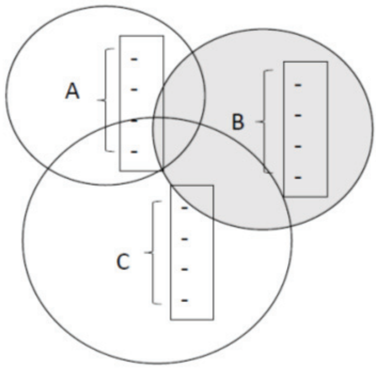

Figure 1 schematically represents the dual role of judgment devices, which contribute to the production of two types of market classifications. First, they contribute to the institutionalization of market classes considered as market segments: in Figure 1, type A, B, and C devices are central to the coordination

[4] In the same line, Karpik (2010) argues that judgment devices are all the more important when products are differentiated and singular.

[5] Akerlof (1970), studying the market for second-hand cars, argued that uncertainty over quality leads to destruction of the market. The classification system reduces, so to speak, this uncertainty and information asymmetry.

of sub-segments of a single, bigger market. The segments overlap because some actors (providers or buyers) may be involved in different relational configurations, and some goods may be exchanged through different channels. Second, inside each segment, type A, B and C devices classify actors and products, thus enabling their comparison and ranking.

The capacity of judgment devices to rank things in the same category should also be addressed from a more critical standpoint than simple acknowledgement of their instrumental role in the market's operation. Ever since Durkheim and Mauss (1969 [1903]), sociology has been interested in what classifications do to the things, or people they classify. Inclusion in a particular category has social consequences that are all the more unpleasant when the category carries a stigma. Critical sociology combined with the sociology of knowledge has produced countless studies aiming to deconstruct categories and show the resulting social determinisms (Hacking 1999; Bourdieu 1984; Starr 1992; Fourcade and Healy 2013). It is thus impossible to see the judgment devices that structure market sub-segments solely as solutions to coordination problems or different organization practices, because the evaluations they produce have consequences. Judgment devices are used to value not only products that are being exchanged, but also the actors that produce them.[6] As we will now explain, the case of impact investing is particularly suitable to highlight the importance of judgment devices for shaping the future of actors, because it is a market for binding promises.

2.2 The Relevance of the Impact Investing Case

Impact investing is a market for finance and markets for finance have the particularity of connecting actors, the organizations that provide finance and the organizations financed. Products may circulate, such as financial securities, but they are simply the commodification of contracts that bind actors together in the long term. This aspect is particularly apparent when looking at the vocabulary: a bond for example can be the name for a financial security or a relationship. This is a far cry from the ideal-type of the market, in which parties are once again independent immediately after the exchange is completed. The notion of market is usually typically understood in contrast to debt and gifts, just as freedom contrasts with the constraint of contractual bonds. But the markets for finance do not correspond to this definition, since longer-term relations are created there. The same applies to labor market as a job is not an item of

[6] It would also be relevant to look at the effects on the actors who buy the products, as in the case of luxury or "statutory goods," or cultural goods that are markers of belonging to social groups (Bourdieu 1984).

merchandise like any other. It is a long-term conditional relationship constructed with an organization.[7]

Consequently in both types of markets (finance or labor), the judgment devices in use classify not products, but the desirability of particular relations, and this has decisive effects, at least on the party seeking finance (or employment): will they manage to obtain funding (or a job)? On what terms? In exchange for submission to what discipline? The few existing economic sociology studies examining how judgment devices affect people and entities (and not only products and prices) all have the specificity of concentrating on the type of market where bonds and promises are traded, rather than products, and where contracts that affect the parties' future are signed. This is true of the studies by Fourcade and Healy (2013) and Lazarus (2012) who look at consumer credits and personal loans, and by Eymard-Duvernay and Marchal (1996) focusing on labor markets. The study by Espeland and Sauder (2007) on the role of university rankings is another example, as university rankings tend to structure matching between students and higher education institutions and determine universities' access to certain resources, particularly financial resources. The research by Eymard-Duvernay and Marchal (1996) and Lazarus (2012), feeding largely on French conventionalist research, succeed to some extent in the dual approach proposed here, combining analysis of different market segments (labor or personal loans) with analysis of the judgment devices used to assess the people. They show that the way people are valued and treated varies according to the market segment, because the regimes of coordination and the judgment devices in use vary. In the case of II, we shall see that there are at least two segments in this financing market, occupied by different financial institutions and using specific valuation methods for the organizations seeking financing. These different valuation processes are not without consequences for the selection of the organizations that will be funded, the terms granted and the type of relations between them and their finance providers.

Impact investing is also interesting to study because it is a "concerned market" (Geiger et al. 2014) – in the same way as fair trade or the market for "green" products. The usual promise to investors of II is indeed that the money invested will produce a double return: a financial one for the investors and a social one for the public interest. Concerned markets are – by construction – shot through with a variety of values that cause tensions between "orders of worth" (Boltanski and Thévenot 2006). These increase the difficulties of agreeing on relevant judgment devices, or to borrow the expression of MacKenzie (2009), of "making things the same," i.e. relating the heterogeneity of what is being exchanged to a standard that makes things comparable, converting plural

[7] This specificity comes on top of the often emphasized specificity that labor – which is what the person seeking a job is selling – is also a fictitious commodity, as defined by Polanyi (1944), because it cannot be separated from the person.

qualities into comparable quantities, i.e. commensuration (Espeland and Stevens 1998). In a market where goods are seen from the outset as having several "dimensions" (economic, social, and environmental for example), the dispute over the conventions that can be used to judge quality appears even harder to resolve. It can concern not only the criteria to select for each dimension, but also the weight each one should carry in the overall judgment. Unless a standard succeeds in accumulating enough coercive force (e.g. via a legal obligation) or economic force (e.g. by attracting the market's most powerful actors) to permanently sideline other proposals, the debates are more likely to end in fragmentation of the markets, with many actors using a variety of quality judgment systems. The study of a fragmented market is certainly a good way to compare the different quality conventions in use and their effects on parties.

Analyzing this fragmentation dynamically could also enhance understanding of the link between the market's structural evolution (each segment's size and game rules) and the consequences of this evolution for the organizations financed. The case of II in France is also interesting as to this aspect, because it concerns an environment undergoing significant change, marked by the arrival of a new conception coming from abroad, which forces the participants to shift their practices.

2.3 Method and Data

The rest of this article is organized around a presentation of the case of II in France, which is used in a dynamic narrative to bring out the dual function of judgment devices.

The difficulty presented by this case is that the category of II is not a local category. Not only is it "foreign," it is also recent and is the object of mainly intellectual investments (in the form of reports, surveys, development of measurement systems and standards) designed to institutionalize and create a new "asset class," as its promoters would say (Morgan 2010). The very concept of II is in fact a topic of discussions in this inner circle to determine its meaning, and this complicates our task since discussions about the concept and its boundaries are ultimately part of the object of our study. It is thus important to pay attention to the work of building a new category before seeing how French actors then take the whole and translate its approach into their national space. It is only in a second phase that we will examine all the practices its French importers have placed under the umbrella of II, mainly through studying the judgment devices used, to show the existence of several evolving segments.

Our work is thus based on two major sources. First, we collected discourses and information available online concerning the actors and promoters of the II market, including think tanks, foundations, financial actors, etc. We have collected and read a great many publications produced by banks (e.g. JP Morgan, Credit Suisse), audit and consulting firms (e.g. Monitor, McKinsey & Cy, Boston Consulting group, KPMG), international organizations (e.g. OECD, World Bank, G8), universities (e.g. Stanford, Northwestern, Harvard), large foundations (e.g. Rockefeller, REDF, Bertelsmann), special network organizations (e.g. EVPA, Social finance, World economic Forum, Eurosif), but also public bodies in different countries. We sought notably to understand the type of classification operations these publications perform to build this "new" market and the role they give to judgment devices in its construction. It can be noted that since this object is relatively new, there is very little sociological research on the topic (Barman 2015; Golka 2016). Data collection and analysis have taken place progressively through constant monitoring of the subject since 2012 and regular discussions with people involved in this professional field.[8] Among this gray literature, texts produced by the French promoters of the category required special attention. We shall return in part 4 to the report by the *Comité Français* (2014), written by a French working party at the request of government Minister Benoît Hamon as part of an international initiative by the G8. We have also attended various conferences and events organized in France on the topic since 2013.

The second source of information comes from a small field study conducted in 2014 with financial actors operating on the impact investing market in France (see appendix). Twenty-one interviews (of which fourteen were recorded and transcribed) and a three-day observation period in the investment team of one of the French funds provided a grasp of the judgment devices actually used by French actors,[9] and the way they position themselves in relation to each other and compared their judgment methods. Our survey covered the same type of actors as those brought together for the *Comité Français* (2014) report.[10] They answered our questions on practices for assessing the social impact of the organizations financed and showed us their measurement instruments and reporting documents. The interviewees were chosen with the objective of a widely diverse sample. As there are not many financial actors in France concerned by these practices, this data collection is enough to give good insights into the structuring of the French field. The data has also been cross-checked with gray literature and other research on the French social investment sector (Chateau-Terrisse 2013; Bourgeron 2016). The field study highlights the existence of two evaluation approaches associated with different actors. It so happens that the two groups identified on the basis of other criteria by the *Comité Français* report (2014), presented in a well-documented appendix to that re-

[8] The first author (as supervisor of a Master's thesis) has for example been involved in the research conducted by Adrien Baudet (Alix and Baudet 2013) in a French think tank dedicated to European affairs.

[9] This field work was conducted by the second author as part of a Master's thesis.

[10] We interviewed seven funds. Five had representatives on the report committee (the fund of funds A and the regional fund G were not involved in the committee). See appendix.

port, were consistent with the two smaller groups in our sample. The market segments identified through our survey focusing on judgment devices are thus also acknowledged by professionals, who associate them with other questions (such as the legal status of the organizations funded, or the hoped-for financial return). Our presentation of the French market will thus be based both on the survey and the data collected by the authors of the French report; this information was also complemented with further information taken from their websites about the actors on the French impact investing market, particularly our interviewees, and a more specific examination of the legal framework.

Despite the relatively small scale of the interview-based survey, this article thus draws on an extensive body of information to propose a sound overview of an issue on which practically no sociological research has yet been published. It remains a broadly exploratory work, intended to give intelligibility to an ongoing transformation of discourses and practices in the financing of social organizations in France. We use this work to illustrate the complexity of the role played by judgment devices in the production of various types of market classifications.

In the following part (3), we present the efforts made by impact investing promoters to create first the idea of II, and then the market itself. We shall see that this requires an initial work of categorization intended to separate impact investing from other related practices. This is broadly a work of boundary-building, associated with the construction of a quality judgment system able to organize this new space.

3. The "Building of a Marketplace" and a New "Industry"[11]

The creation of II market has been the subject of continuous effort since at least 2007, led in the United States by the Rockefeller Foundation[12] (Barman 2015) and in the UK, under the name of "Social investment" by various groups and institutions encouraged by Sir Ronald Cohen (co-founder of the first venture

[11] In the words of the promoters of II (Rockefeller 2012a and 2012b; Monitor 2009).

[12] In 2008, the Board of Trustees of the Rockefeller Foundation approved $38 million in support of the Impact Investing Initiative for the period 2008-11. In particular, "the Foundation's support aims to achieve four major outcomes: 1) Catalyze collective action platforms that help impact investors work together more effectively on activities such as standard setting, advocacy and marketing; 2) Develop industry "infrastructure," such as standards and rating systems; 3) Support scaling of intermediaries ranging from private equity funds to secondary market facilities; and 4) Contribute to fundamental research and advocacy necessary to grow the field of impact investing" (Jackson 2012 b). The foundation funded several reports (Monitor 2009; JP Morgan 2010) that were then aggressively marketed. The report by Monitor (2009), in particular, based on a study of "mainstream" financial practices, identifies a whole series of necessary actions to "build a marketplace" and "to unlock capital" which became a roadmap for the foundation during the four years of the initiative.

capital fund set up in Europe in 1972).[13] These actions have recently taken on an international dimension. The United Kingdom put II on the G8 agenda during its presidency in 2013 (SIITF 2014a) and in 2014 each of the G8 countries, including France, produced a national report explaining its position on the issue and determined various action to be taken to promote it. The European Union is part of the movement, and in October 2011 launched a "Social Business Initiative," through which the Commission set out an action plan to strengthen the role of social businesses in the Single Market, as announced in the Single Market Act of April 2011. Various actions have been taken under this framework,[14] including the establishment of a fund of funds named The Social Impact Accelerator (SIA)[15] in 2015 managed by the European Investment Fund, which invests the money collected in II funds located in various European countries.

Various actors including think tanks, foundations, financial actors, etc., are therefore striving to create a new market segment for corporate finance, and their proposals are being taken up and incorporated into public systems both at national and supranational levels. One of their objectives is to give credibility to the existence of a new "asset class" as this concept structures the work of finance professionals. To identify this class, a "convention of equivalence" (Desrosières 2001) is needed that makes it possible to include otherwise disparate elements. This convention must be capable of judging whether goods are of the required quality (in our context, whether they are indeed "impact investments") while leaving aside goods of similar quality that are not part of the class. This work has a strong boundary-building dimension, as it must be possible to draw a line between what will and will not be included in the new class. It also involves diverse efforts to establish specific judgment devices suitable for evaluation of the specific goods traded there. The two facets of this work are discussed below. This is close to a work of ideological production, combining normative proposals with practical and methodological proposals. It is im-

13 Creation in 2000 of the Social investment task force or SIFT (at the request of HM Treasury); then in 2007 the not-for profit organization Social Finance UK which lay behind the first experiment with Social Impact Bonds in 2009 at Peterborough prison; establishment of Big Society Capital in 2010; the G8's Social Impact Investment Task force (SIITF) created in 2013 was chaired by Sir Ronald Cohen, who was also the first Chairman of Bridges Venture, a venture capital fund dedicated to social investments launched in 2002 (see <http://www.ronaldcohen.org> (Accessed February 21, 2017).

14 <http://ec.europa.eu/growth/sectors/social-economy/enterprises/index_en.htm> (Accessed March 22, 2017).

15 "The Social Impact Accelerator (SIA) is the first pan-European public-private partnership addressing the growing need for availability of equity finance to support social enterprises. […] [It] reached its final closing in July 2015 at the size of EUR 243m, combining resources from the EIB Group and external investors, including Credit Coopératif, Deutsche Bank as well as the Finnish group SITRA and the Bulgarian Bank of Development (BDB)." <http://www.eif.org/what_we_do/equity/sia/index.htm> (Accessed February 21, 2017).

portant to distinguish it from the actual implementation of these proposals, and the possible extension and forms of the practices that claim to be part of them.[16]

3.1 Boundary Building

As Höchstädter and Scheck (2015) point out, the impact investing concept remains vague despite its popularity. Yet there has been a constant effort to establish a definition ever since the earliest reports funded by the Rockefeller Foundation. The Monitor report (the first one the Rockefeller Foundation commissioned) tried for example to position II in relation to "social investing,"[17] "philanthropy,"[18] "mission-related investment," "project-related investment," "bottom of the pyramid," "private sector in poor countries," "corporate social responsibility," "inclusive business" (Monitor 2009, 14). As the idea gradually takes shape the definitions are becoming more stable.

The European Venture Philanthropy Association proposes a fairly comprehensive and frequently-used classification (cf. Figure 2), based on the type of organization financed (charities, social enterprises, socially driven businesses, traditional businesses) but associating each one with a form of financial contribution (grant making, social investment, investment) and an investor approach (impact only, impact first, finance first).

In the middle of this spectrum is "social investment", which is different from both grant making and investment in CSR[19] companies (which are the typical target of Socially Responsible Investment [SRI]). This dual exclusion of pure philanthropy and SRI is used in the majority of reports and publications we consulted to define the boundaries of the II class by exclusion. They define SRI as financing for-profit companies (mainly listed) that are selected accord-

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[16] II remains an ultra-minority practice for the time being. Eurosif, the network for all socially responsible investment (SRI) actors in Europe, conducts surveys every two years about the management strategies used by SRI asset managers in thirteen European countries. The types of strategy identified are "exclusion," "norms-based screening," "best-in-class selection," "sustainability themes," "ESG integration," and "engagement and voting". In 2011, the "impact investing" strategy was added. In 2013, the survey estimated that II assets under management accounted for around 1% of total SRI assets declared (Eurosif 2014, table p. 34). SRI management is itself a minority practice in the asset management industry.

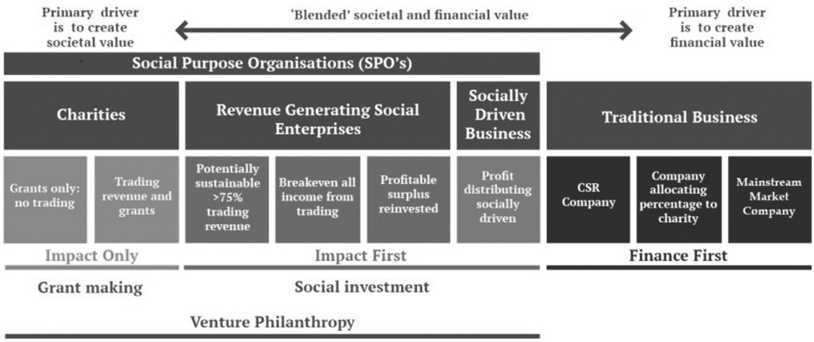
[17] "Social investing includes investments made with the intention of having a positive impact, investments that *exclude* 'harmful' activities, and investments that are driven by investors' values and don't necessarily correspond to having a positive social or environmental impact. *Impact investing is a subset of social investing; it refers only to the social investing that* actively *seeks to have a positive impact*" (Monitor 2009, 14). Social investing in this first definition includes II and Socially Responsible Investment (SRI).

[18] "Philanthropy has traditionally focused on gifts made by individuals and organizations to benefit society and the environment. *Impact investing, with its requirement of a minimum return of principal, is distinct from grantmaking activities. Impact investing can however be an important vehicle for philanthropists to realize their objectives*" (Monitor 2009, 14).

[19] Corporate Social Responsibility.

ing to different strategies along Environmental, Social and Governance criteria (ESG), whereas II is a type of financing for "social businesses" or organizations "designed with intent to make a positive impact" (Morgan 2010, 7) such as "helping" unemployed people back into work, preventing convicts from reoffending, providing micro-credit, etc. The organizations financed by II are usually small and unlisted, and some have adopted a legal form of entity that prevents them from distributing profit.

Figure 2: Investment Spectrum



Source: EVPA, <http://evpa.eu.com/about-us/what-is-venture-philanthropy> (Accessed February 22, 2017).

Yet this boundary building work is also an opportunity for boundary blurring. This representation stresses the existence of one continuum from gifts to investments (under the name of "venture philanthropy") (Chiapello 2015), and another continuum structured around the idea of "social purpose organizations," some of which distribute profits while others do not. The aim is to assert that there is no difference between gifts and investments apart from the type of return the investor is seeking.

This boundary building work also has to be securely attached to the concept of the asset class. This is attempted in the report by the merchant bank JP Morgan (2010), also commissioned by the Rockefeller foundation,[20] which decided to use "indicators of an asset class"[21] (ibid., 24). Indications are then gathered

[20] "Impact investments have begun to carve out a niche within the investment portfolios of a wide range of investor types, but does that make them an asset class? We believe it does based on an understanding of how the term 'asset class' has come to be used" (JP Morgan 2010, 24).

[21] The indicators are the following 1) "Unique set of investment/risk management skills" (Professionals defining themselves by their expertise in the sector); 2) "Organizational structures to accommodate this skillset" (Sell-side experts in the sector; Buy-side organizations allocating capital and hiring investment specialists in the sector); 3) "Industry organizations, associations and education" (Networks, conferences, education and resources are built to

to demonstrate that Impact investments are "showing signs of being a burgeoning asset class." The report also takes the opportunity to identify all the elements needed for a separate market to work, and states clearly what should be done. Among these operations, one is of particular interest to us: establishing devices for assessing qualities that could organize the space defined, in other words, a system of "standardized metrics, benchmarks, and/or ratings." Once the market, or the universe of investments that can be considered as "impact investments," has been delimited, the space must be organized based on judgment devices that can coordinate the parties. In particular, criteria are needed on which to base prices. In the world of finance, the convention is that the prices of financial assets relate to the expected return and the anticipated risk. This is what we have called the mean-variance convention (Chiapello and Walter 2016). But in this case, this convention is insufficient because impact assets not only have to produce a financial return, they must also generate social returns, and that requires elaboration of appropriate judgment devices.

3.2 Building Judgment Devices to Classify Assets

For the II marketplace builders, this question of social impact assessment was immediately seen as decisive. Since the intermediaries (fund managers) are engaged by investors to invest their money with the expectation of a dual – social and financial – return, the question of their accountability is central. The impact has become a promise to an investor just like the promise of financial returns, and so reporting must concern both issues. Measuring the impact thus potentially structures the entire investment chain, the relations between investees (the social organizations financed) and the financial intermediary (the impact fund), and the relations between the fund and its investors, which may also be intermediaries themselves (funds of funds).

Investors also want to be able to compare and choose their investments in different social organizations or impact funds. Standard metrics that are good for comparability have obvious virtues, as does the possibility of employing third parties to conduct audits, evaluations or ratings. For example, the Rockefeller Foundation instigated and funded the creation of the GIIN (Global Impact Investing Network),[22] whose first initiative was to produce a catalogue of 400 impact indicators called the IRIS (Impact Reporting and Investment Standard). Next, it helped the non-profit organization B-Lab to develop ratings for

address the new group of experts in the field); 4) "Standardized metrics, benchmarks, and/or ratings" (Risk and return reporting standardization; Indices to monitor and benchmark the performance of the sector; Ratings to help investors find relative value between investment prospects) (JP Morgan 2010, 25).

[22] <www.thegiin.org> (Accessed February 22, 2017).

social firms (with the GIIRS [Global Impact Investing Rating System]) (Barman 2015). The G8 Social Impact Investment Task Force (SIITF 2014b) also issued a special report on the subject, while the EU commissioned a report from the Expert Group on Social Entrepreneurship (GECES 2014), and there are countless publications on the same issue by banks, consulting firms and think tanks in a wide range of countries.

Despite these considerable efforts, the general impression is of extreme dispersion in evaluation practices, and this is considered one of the barriers to the growth of impact investing.[23] Promoters of the market emphasize "a blend of the culture and tools of finance and investment, on the one hand, interacting with the culture and tools of social-mission organizations, on the other hand" (Rockefeller 2012b, 8). Also, many social organizations are still utilizing their own methods and indicators, so "fragmentation in measurement approaches persists, and tension remains between centralized and decentralized systems" (ibid., 13). Finally, there are tensions between "those actors in the field who are building measurement systems as public goods, on the one hand, with those who carry out impact assessment for proprietary revenue for their organizations, on the other hand" (Rockefeller 2012a, XVI). This proliferation of possible metrics and actors with divergent interests prevents collection of substantial databases, which financial professionals usually consider necessary for the market to develop.[24] As a result of the mean-variance convention that dominates in the financial sector, the actors want to found their decisions on quantified, historical past data that can be used to analyze entire investment portfolios according to a small number of metrics (Chiapello and Walter 2016).

Studying the French setting will provide another understanding of this fragmentation. In the dominant narrative, this fragmentation relates to insufficient

[23] Eight barriers have been identified : 1) "Shortage of high quality investment opportunities with track record," 2) "Lack of appropriate capital across the risk/return spectrum," 3) "Difficulty exiting investments," 4) "Lack of innovative deal/fund structures to accommodate investors' or portfolio companies' needs," 5) "Lack of common way to talk about impact investing," 6) "Lack of research and data on products and performance," 7) "Lack of investment professionals with relevant skill sets," 8) "Inadequate impact measurement practice" (GIIN, Morgan 2014, 6). Interestingly, points 5) 6) 7) and 8) all relate to the development of a common definition of the market and capacities for assessing these investments, i.e. the two operations of boundary building and construction of a judgment system which we are examining.

[24] "The field of impact investing can be rightly said to be metrics-rich […]. However, because of its early stage of development, impact investing, so far, is generally data-poor – though there are important efforts underway to rectify this situation" (Rockefeller 2012b, 8). The IRIS encourages organizations that use its indicators to file their reports in its database. In 2014, 4,989 organizations reported their performance. The majority of them (64%) operate in the financial services sector (mainly microfinance institutions, and impact funds). 24% are based each in North America, and Latin America & the Caribbean, with just under 11% in Europe and Central Asia (IRIS 2014). Most of the organizations participating in this central data collection are financial intermediaries looking for funds, and information about their investees remains scarce.

maturity in the sector. But this article will show that it is actually caused by the existence of different institutions and networks of actors that are coordinated differently depending on the judgment devices adopted.

4. Impact Investing in France: The Fragmentation of a Market around Different Evaluation Cultures

4.1 The Arrival of Impact Investing in France

The concept of Impact Investing began to spread in France from 2012, largely under the impetus of EU and G8 initiatives.[25] It joined a dynamic financial world dedicated to social finance that had grown under the name of *Finance Solidaire* (Solidarity Finance) since 1996, around an association called Finansol.[26] This association organizes the market, issuing labels and lobbying the authorities for favorable changes in the law and taxation (Château-Terrisse 2013). It also organizes an awareness-raising week every year with a range of events and awards, to promote solidarity savings to the general public.[27]

In France, private funding for social purposes (apart from gifts and subsidies) has so far grown mainly through attracting investment from private individuals (i.e. non-professionals) either directly by solidarity organizations, or through the intermediary of collective investment products such as employee savings plans offered by employers. The vision conveyed by II is different from this traditional solidarity finance approach, since the finance practice at the heart of the concept is the Venture Capital Fund oriented towards producing an impact. These entities raise funds mainly from very wealthy (said "high net worth") individuals or professionals – institutional investors who are themselves fund managers – who can provide substantially higher amounts than the individuals involved in standard solidarity finance.[28] There are a few entities of

[25] The first public report on the question was released in 2013 (Guézennec and Malochet 2013). In April 2012, the *Impact²* event was held for the first time in Paris: the aim of the first event was "to present and discuss the theme of *impact investing*, this new segment of finance that serves the fight against exclusion and poverty." The guests included Penelope Douglas, founder of Pacific Community Ventures (USA) and Peter L. Scher, Executive VP of JP Morgan Chase & Co, and twenty social entrepreneurs from all five continents. This annual event has grown constantly since then. In 2015 it began to give out awards to entrepreneurs, in cooperation with its sponsors.

[26] <http://www.finansol.org/> (Accessed February 22, 2017).

[27] According to Finansol (2016, 6), solidarity savings accounted for 0.19% of total French savings at December 31, 2015, so it is a very small sector. Solidarity savings products intended for socially-oriented organisations are clearly differentiated from SRI in these statistics.

[28] What is largely glossed over in this classical presentation is that development of these venture-capital structures requires very active public policies: raising impact funds is greatly

this kind in France that predate the importation of the II concept, but they only attracted a comparatively small amount of funds. And so the II concept in France appears to be attractive above all for those who want to develop this new type of financial intermediation.

Nonetheless, the French report to the G8 included solidarity finance in the impact investing category (*Comité Français* 2014) as the funds collected from private individuals via solidarity finance channels must also be invested in socially-oriented organizations. If we focus on the use of the funds, in social organizations, the common features are undeniable; but if we concentrate on the organization of the finance circuits, two groups emerge which the report was obliged to distinguish, namely *investisseurs solidaires* (solidarity investors) and *capitaux-investisseurs à impacts (*venture-capital impact investors).[29] The former manage assets worth some €3.7 billion, of which around €300 million are invested in "social impact organizations," while the latter reportedly manage assets worth €180 million, all of which are for investment in "social impact organizations." Fund raising in process at the time of writing led to hopes that the second segment would double in size in the medium term (*Comité français* 2014, 76-8).

This report (*Comité Français* 2014) deserves a closer look, because it explains the work the importers of II have done in France to adjust it to the French context. The French committee in charge of the report was headed by Hugues Sibille, Vice-President of the bank *Crédit Coopératif* since January 2010. Hugues Sibille is also well known in the French ecosystem devoted to developing social entrepreneurship in France, a cause he works tirelessly to promote.[30] The concept of "social entrepreneurship," born in the 1990s in the United States, is based on the premise that what social activities are lacking to achieve real efficiency is genuine entrepreneurs who will manage their activi-

dependent on contributions from public banks or consortiums coordinated by a public initiative. This is the case in Europe with the large contributions from the SIA, in France with the *Banque Publique d'Investissement*, in the UK with Big Society Capital, etc.

[29] Cf. Dossier 2 (supply and demand for social impact corporate finance) attached to the report (*Comité Français* 2014, 70-83).

[30] Hugues Sibille is a former consultant who joined France's Ministry of Employment under Martine Aubry in Lionel Jospin's left-wing government. He was the Delegate for the Social Economy from 1998 to 2001, then joined the public bank CDC where he took part in the structuring of support networks for business creation. He founded the AVISE (*Agence de Valorisation des Initiatives Socio-Economiques*) in 2002, with the support of the CDC, to assist owners of social projects and in 2005 he moved to the *Crédit Coopératif* where from 2008 he was president of the investment subsidiary operating in the social economy. In 2009 he contributed to the White Paper on social entrepreneurship which proposed to set up a merchant bank for social entrepreneurship. In early 2012 he was appointed expert advisor to the European Commission, as part of the Commission's social business expert group (GECES), and participates in this group's research on measuring social impacts. In June 2013, the Minister Benoît Hamon appointed him as the G8 Task Force's French representative for investments with social impacts.

ties with the same verve and the same methods as entrepreneurs in the for-profit world. This idea then spread throughout the world, relayed by business schools in the 2000s. Through the various posts he has held, Sibille has always aimed to "modernize" the social sector and encourage its development by attaching importance to entrepreneurship, and to the construction of financing solutions for entrepreneurial organizations. Positioning himself in the long-established institutions of the social economy which have given him access to increasingly central posts, he is also considered as an activist-innovator because of his constant heart-and-soul support for business solutions for this social sector (Sibille 2011). The committee he set up to write the report on II has twenty-nine members, all like him committed to this financial "modernization": employees of the *Crédit Coopératif*, the CDC[31] and their subsidiaries, the French public investment bank BPI and the French development bank AFD, venture capital funds and asset management companies, militant associations in the world of social entrepreneurship (AVISE, MOUVES), FINANSOL, representatives of major foundations, of venture philanthropy (EVPA), and finally two representatives of the French state (Ministries of Foreign Affairs and for the Economy) and one representative of the OECD. It is striking that apart from one representative of the "social entrepreneurs movement" (MOUVES), there are no entities representing the organizations that might be beneficiaries of the capital, nor of any of the social sector's federations. This committee is largely favorable to the cause of impact investing, comprising the major French funds and banks concerned. The solidarity financing network is represented, but essentially through fund managers and the promotion association Finansol. The main effort was to federate these financial actors and present the full range of what is happening in France under the umbrella label of II.

Our own survey shows that despite these efforts for greater federation, the practices of solidarity investors are not the same as the practices of venture-capital impact investors: among other things, they use different types of judgment devices and rely on different quality conventions organizing the relationships between investors and investees (notably different return demands), and this is not without consequences for the firms assessed. The "solidarity investors" invest in organizations that carry a label for their social impact, whereas the "venture-capital impact investors" refer to *ad-hoc* indicators relating to the activity of the investee. We shall also show that for both segments of the market, the idea of constructing a new market for impact investment organized on the basis of social impact assessment leads to a greater demand for measurement, although in different forms. The two segments appear to be undergoing reorganizations that enable them to specialize professional actors in this type of

[31] CDC (*Caisse des Dépots et des Consignations*) is a French public bank, *Crédit Coopératif* is a cooperative bank which initially mainly worked with associations, cooperatives and small businesses. Both have developed specific banking products (loans and guarantees) for the sector.

investment. The importation of the concept of impact investing thus transforms the sector, but without actually eliminating the range of different practices.

Beyond their differences, both segments have also the common feature of drawing on assessment methods that do not seek to establish an equivalence (and therefore construct possibilities of trade-offs) between financial returns and social returns. But we shall also see how certain actors are nonetheless interested in the creation of this type of commensuration and seek to develop new types of judgment devices relying on certain tools such as SROI[32] (Social Return on Investment) or contracts as Social Impact Bonds[33] (SIB), even though these initiatives have not so far succeeded in building a real third market segment in France.

Table 1 briefly presents the three segments that will now be studied in detail.

Table 1: Segments of French Impact Investing Markets

Segments	Solidarity Finance (the largest segment)	Social Venture capital (smaller but growing fast)	Social Impact bonds (experimental)
Judgment devices used to evaluate the social impact	A Label	Ad-hoc non-financial indicators	Monetary measure of social impact

4.2 Solidarity Investors and the Role of Labelling

Who are Solidarity Investors?

Solidarity investing is represented here by managers of "90/10" investment funds, which are a French specificity. This type of funds was created by the "Fabius" law of 2001 concerning French employee and pension savings. Between 5% and 10% of the money collected must be invested in approved solidarity firms, and the remaining amounts are invested in listed companies but must be managed under SRI criteria. Since the 2008 Law on Modernisation of the Economy (LME) was adopted, all entities receiving savings investments (subsidiaries of banks and insurance companies) are obliged to include at least one solidarity fund in their product range. The law has also organized a number of incentives to encourage development of employee savings funds and pension funds, notably by reducing taxes on the income generated by the return on investment ("Fabius" law of 2001; "Fillon" law of 2003). The law of 2008, which more specifically promotes solidarity savings, achieved a substantial increase in the amounts invested in social enterprises. Interviewees from organ-

32 SROI, a method proposing to give every social impact a monetary value, is actually promoted by the same business school (ESSEC) that introduced social entrepreneurship into France.

33 Proposition # 3 in the French report (*Comité Français* 2014) to the G8 was in fact to experiment with SIB in France.

izations E and F in our sample are in charge of such "90/10" funds, which are among the largest on the market.

The Judgment Devices They Use

Practices in these cases are strictly governed by the law, which defines the criteria and modalities for approving the social firms. They were recently reviewed for the new law on Social and Solidarity Economy of 2014. This approval (called ESUS, standing for *entreprises solidaires d'utilité sociale* or solidarity firms of social utility) is intended "to identify firms with strong social value which meet specific social needs and direct support and funding mechanisms, including solidarity savings funds, towards those entities."[34] A firm may apply for ESUS approval when it fulfils a number of conditions: 1) its primary purpose must be to seek some social benefit, 2) the cost induced by this purpose must have a significant impact on the firm's income statement or financial profitability, 3) wages and differences in wage levels in the firm must comply with certain restrictions, 4) the firm's shares must not be listed on a financial market. The ESUS label is automatically awarded to several types of entities that already bear a label because they benefit from subsidies, grants or tax breaks for their activities (organizations helping people back into work,[35] supporting work for disabled people, foundations and associations of recognized public benefit, etc.). Other entities can apply for approval once they have existed for at least three years.

ESUS approval results in the definition of a class of organizations that can benefit from the solidarity pockets of 90/10 funds, but it does not require any further measurement of organizational activities. The label is considered enough to guarantee a social impact, while the rest of the decision is based on financial criteria.

> So we select them via their impact… um, their utility […] So basically, from our point of view, the firm has to have the solidarity approval. […] That's an obligation. It's given by the Prefecture [the public body issuing ESUS approval]. […] So in our social analysis of the entity, we need to see that support. […] Anyway, we do this analysis of the social utility, then a more traditional financial analysis when we look at the accounts, we try to get a business plan. […] We look closely at the social side of things. But if it's got solidarity approval, we consider the entity already meets [the criteria]. (E Fund)

The financial returns in this segment are low for the investor (between 0.5% and 2%) (*Comité Français* 2014), as the ESUS label places (notably rules 2 and

[34] <http://www.avise.org/actualites/nouveau-decret-agrement-entreprises-solidaires-dutilite-sociale> (Accessed February 22, 2017).

[35] Known in France as organizations for "integration through economic activity": entities to help the unemployed find work again that were first developed in the 1990s as part of national policies to reduce unemployment.

3, see above) strong limits on the potential profits. Funds operating on the highly competitive employee savings funds market also charge “low” management fees according to the investors (around 0.5% of the amounts managed) which means they cannot dedicate many resources to impact assessment (*Comité Français* 2014, 76).

The Recent Evolution towards More Measures and Professional Specialization

Fairly simple indicators concerning the activities of the entities financed (number of homes managed, number of families benefiting from micro-credit, number of hours of training, etc.) have recently begun to be collected, and are used to prepare fund reports. But not even the managers believe that these figures measure the impact of investments.

> But then, yes, we now ask for an impact indicator every year all the same […] I mean an indicator of the impact of the entity, not our funding! […] well, we total up all the social utility entities we finance […] [opens a report and shows a page] and in consolidated figures at 31/12/2013 they were managing 6,277 homes! (E Fund)

This market segment nonetheless seems to be becoming more organized. A gradual grouping of solidarity pockets can be observed in specialist funds, which manage solidarity pockets on behalf of several 90/10 funds. Being larger, they are able to dedicate people and create specialized investment committees.

> To begin with, the 10% were managed directly by us [the team in charge of the total 90/10 fund]. I said: we can’t go on like this, we’re going to set up a specialist fund [...] to manage that pocket. We set that fund up in 2005, so it took… well, 3 years for it to come out… […] I went to see the management and I told them: I can’t keep on managing pockets directly like this. I don’t want to manage things like this anymore, I want a specialist fund, with an investment committee […] something really specific […] It took B** [a competitor] 10 years before it launched its fund compared to us, and A** [another competitor] didn’t believe in it either at the time. (F Fund, the first dedicated fund)

> X** [a bank collecting savings] engaged us a year and a half ago now to manage the 10% pocket of its solidarity funds. (E Fund)

The problem these forms of solidarity pocket groupings into specialist funds are trying to resolve was generally solved differently in the past. On the whole, most of the 10% pockets used to go to three specialized intermediary entities which act not like funds but like firms collecting equity for development: SIFA, which initially specialized in funding for entities supporting social integration, ADIE which distributes micro-credit in France, and *Habitat et Humanisme*, which finances construction and management of social housing.[36] Specialist funds will enable 90/10 fund managers to diversify their investments by having their money invested in entities other than these three. This situation also triggers a process of professional specialization among asset managers: some professionals are specializing in impact investment, which in our view is a notable development.

Effect on the Investees

This class of II is characterized by a long chain of intermediation between the investor and the investee (involving the collector of the savings, the manager of the 90/10 fund, the specialist investors of the social sector) and is strongly structured by a label controlled by the State, which is itself inseparable from various public policies intended for social purposes. For these reasons, the financial actors' capacity for intervention in the activities of the investees is low. Social performance is not a significant management concern for the financiers, and entities are not compared with each other on that factor. If they are considered able to reimburse, then they can have funding for a small cost. Small-scale impact funds like the regional fund G in our sample, which are not constrained by the legal framework and are in shorter intermediation chains, have also chosen to develop their activity, essentially based on the recognition of such labels.

4.3 Venture Capital Impact Investors and the Management by Objectives

Who Are They?

The actors concerned in this section are investment funds that operate under the same legal status as traditional venture capitalists, such as B, C and D Funds in our sample. These funds originally raised money from wealthy individuals and are now taking advantage of the opening of funds of funds, such as A Fund interviewed for this study, the EU's Social Impact Accelerator (SIA) managed by the European Investment Fund (EIF), and special funds for small and medium-sized businesses set up by France's Public Investment Bank (BPI). These funds of funds are more recent contributors to impact funds, but contribute large sums. They also add length to the intermediation chain.

> B is a fund that was created in 2007-2008 […], originally founded by the owners of investment funds and the top managers of French firms who got together, around eighty of them, to create a social impact fund. This wasn't long

[36] "These three issuers were historically the first on the market and they're the ones that received a large share of the investments from solidarity funds. But in the last few years everyone has been trying to diversify." (E Fund)

> after the 2005 riots. The idea was to do something for underprivileged areas. And what they knew about was investment funds, investing in businesses. So they had the idea of setting up a fund which was for 5 million euros at first. […] In the first fund, there were only individuals. […] Then later, they were joined by institutional investors in 2010. They put in 10 million euros. […] They are from the banking sector, mutual health insurance companies, people with money to manage. And this year we're going to raise a third fund, of 44 million Euros. (B Fund)

Unlike 90/10 funds, which accept low returns on the small share of the portfolio intended for social enterprises, these funds mentioned their need to provide financial returns.

> And there's a social (called "fiduciary") responsibility: we manage assets, for insurance clients too, so we have to have a return on investment; there's a purpose, namely paying a return on a euro fund for Mr Dupond in France, who well, who's going to invest his savings. (A Fund)

According to the *Comité Français* (2014, 78), the expected returns vary from 3% to 12% and the management fees withheld are 1% to 3% of assets under management, in other words two to six times higher than for solidarity finance providers, whose job is very different in the opinion of our interviewees.

> We don't do solidarity […] that's a very specific, very French status. What we want to do is quite the opposite. Solidarity investing is philanthropy! Funds that finance entities that aren't trying to make money. The Prefecture approval is completely… Well, capping the manager's salary so he can't earn more than x times the minimum wage. What's that got to do with anything?... What I'm interested in is knowing if the impact is monitored at all […]. But after all when you're lending money with no hope of getting it back… With solidarity funds, you don't get a return. You're giving up on returns. You get the capital repaid, but there's no return. So obviously if that's used for the association's boss to buy himself a BMW because he's getting money, well clearly… You have to make sure there's some level of governance […]. Solidarity funds are a very French thing. They're a great thing too… I'm in the board of a firm that funds solidarity projects and there are wonderful stories, but those stories aren't tenable. Solidarity investing often concerns associations […]. Impact Investing isn't the same thing, it's quite different. (A Fund)

The Judgment Device They Use

The judgment devices adopted by impact venture capitalists to identify targets also differ, as reference to a label certifying social quality appears to be insufficient. All the funds interviewed operate in the same way: they specialize in certain types of entity or certain types of objective. B Fund, for example, wants to help entities founded by entrepreneurs from poor areas, so it sets itself targets for the number of entities helped, job development in those entities, rises in the number of young people trained by them, etc. The chosen indicators differ depending on the desired type of impact. Funds then organize reporting with their investees using those indicators in the same way as reporting on financial indicators, and consolidate them at portfolio level for the purposes of reporting to capital providers.

The indicators used are not converted into monetary value.[37] The impact is monitored in the form of different sets of indicators, in what investors find a much more feasible approach.

> For a start, there are many existing tools that work on the basis of what you could call "financialization" of the social impact, to assign financial value to the social impact, and that's not easy to do, it takes time and it's pretty subjective. It isn't easy to set a value on a social impact. […] There are some things that are really difficult to measure or quantify financially: you know, it's a bit difficult when it comes to the wellbeing of a certain group, or stuff like that! So we decided it would be better to use a slightly more qualitative approach: we assess things, but without necessarily putting a price or value on them, just a quality assessment. (D Fund)

This market segment's practices seem to adopt a similar approach to the one that guided the inventors of the GIIN when they developed the IRIS measures (Barman 2015)[38] and the JP Morgan proposal[39] (2012). The question of the social impact is in both cases considered independently of the question of financial return, by reference to non-financial criteria.

Funds do not convert the social impact into monetary terms but want to be able to compare the social impact dimensions of their investments and judge them in relation to each other. The solidarity finance label identifies a group of investees that is not ranked on impact, but impact venture capitalists want a system where investees are assessed in relation to each other. This is also why they specialize in certain impacts, to compare and consolidate them.

> The idea is that all investments should be comparable. […] When we make an investment, the financial performance is always comparable to some other entity's financial performance. For social performance, that's not always straightforward. So the fund's investment policy has to be very clear, and targeted enough for each entity's social performance to be comparable. (B Fund)

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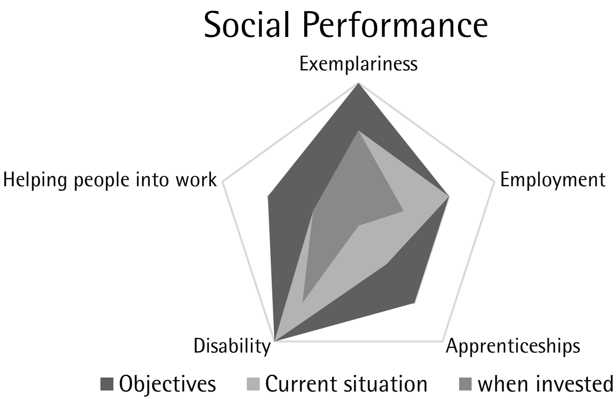
37 As it would be with a SROI approach.

38 As one of the interviewees in the study by Barman (2015, 30) observed: "what social impact looks like is investor specific. For example, one might want rural electricity in Africa while another might care about water sanitation for villagers in India. Other investors, like [name of an established impact investing fund] might think social impact arises when the very poor obtain employment."

39 In its study, the merchant bank develops a general methodology from a description of impact portfolio managers' practices: any impact investor is first supposed "to articulate a set of well-defined impact goals for the portfolio," with "reference to specific impact targets" "possibly quantifiable." Once the target characteristics of the portfolio are defined, "investors may start to analyse the set of investments that fall within the scope of those portfolio targets." JP Morgan proposes to characterise "every investment in three dimensions: impact, return, and risk," and to "abandon the trade-off debate" ("whether or not there needs to be a 'trade-off' on financial returns in order to add the pursuit of impact to the investment") (Morgan 2012, 5).

The funds then issue summary reports, often in the form of star diagrams.[40] These seem to be very widely used in the sector, because they make it possible to compare investees (Figure 3) and even portfolios while taking several criteria (the branches of the star) into consideration independently.

Figure 3: Star Diagram of Impact Monitoring of a B Fund Investee



B Fund (in Figure 3) has chosen to invest in firms established in disadvantaged areas, and monitoring of those firms is organized along five dimensions as shown in the diagram: Employment (jobs created in these areas), Apprenticeships (jobs for young people), Disability (jobs for the disabled), Helping people into work (jobs for certain groups of people seeking to enter the labor market, identified by the public employment services), Exemplarity (does the entrepreneur come from a disadvantaged area? Is his example receiving media attention? Is he involved in actions in the local area?).

These diagrams can also be also used to monitor change, as in Figure 3 which illustrates the entity's development (between "when invested" and the "current situation") and its "objectives." A whole management by objectives system can then be developed all along the intermediation chain, with the investees and the impact funds having to meet social as well as financial objectives.

The Recent Evolution towards More Measures and Professional Specialization

Reporting which initially only had an accountability objective is in the process of changing nature, with the development of "social carried interest" systems.

[40] JP Morgan also uses this star diagram form to monitor impact investment portfolio along the three criteria of return, risk and impact (Morgan, 2012).

Carried interest is a share of the profits of the investment fund that is paid to the investment manager: it is a form of performance fee that rewards the manager for enhancing performance. In order to receive carried interest, the manager must first return all capital contributed by the investors, and, in certain cases, a previously agreed-upon rate of return (the "hurdle rate") to investors. If the fund outperforms the hurdle rate, its managers take home a substantial share (often 20%) of the surplus profit. This is common practice in the private equity world but is now being adapted to impact funds at the request of institutional investors and funds of funds, which frequently deal with other venture capitalists. The European Investment Fund (EIF) thus requires the funds in which the SIA invests to set social objectives, which if achieved will trigger part of the performance fees. The aim is to prevent fund managers from receiving "carried interest" if they have not achieved the social objectives for which the funding was given to them.[41]

This trend is more generally being driven by the rise of impact "funds of funds," like A Fund interviewed for this study. And funds like B and C Funds follow this practice when they want to be selected by the big new funds of funds.

> In our fund we've tried to develop alignment of interests […]. Because the reason our investors invest with us isn't for financial performance. They know they'll get a lower financial return than they could have had if they invested in a LBO fund. But that's not what they're after: they want a good financial and social performance. So what do we tell them? We promise lower financial return (we're at 8% for instance instead of 10%), but as a team our financial rewards will kick in sooner (from 2% for instance instead of 4% or 5%). But this "carried interest" will be conditional on achieving the social performance objective. That's something we developed with our investors for fund 3. The idea is that for each investment, just like we do financial forecasting, we promise to create a certain number of jobs, for example. We'll be evaluated at the end, between the actual results and the promised results, so if we don't manage at least 50% or 60% of our objectives, we don't get any carried interest, even if the financial performance is outstanding. (B Fund)

Impact funds of funds are a recent development. They constitute pockets of money that are big enough to be entrusted to managers specializing in impact investing. Their rise can be seen as a sign that the idea of developing a specialized impact investment market with its own professionals is gaining ground.

[41] "Fund managers shall disclose social impact indicators and pre-investment target value to their investors and calculate on a regular basis (at least once a year) the impact multiple, defined as the comparison between pre-investment target and realised value. Impact multiples shall be reported at least once a year. The financial performance incentive of the fund manager (carried interest) will be subject to the social impact performance of the fund" (Social Impact Accelerator (SIA) - terms of reference, EIF website <http://www.eif.org/what_we_do/equity/sia/terms-of-reference.htm> [Accessed March 20, 2017]).

Effect on the Investees

In contrast to the label in the previous section, the judgment devices used by these actors are associated with a policy of close monitoring of investees, and thus have significant influence on what the investees can do. As a result the relations between the fund and the investee are very different. Also, the financial return demanded is much higher, and this criterion automatically excludes many social impact organizations. The ideal investees are standard unlisted firms: they have no restrictions on profit distribution, can be sold, and while the search for a social impact is not a decisive factor in strategy development, they create social impact simply by their expansion. This is the kind of target firms that are sought by B Fund for example: normal firms, but based in poor districts or created by an entrepreneur who comes from a poor district. Some funds want to stay in this small niche known as "impact too," where they are competing with other investment funds that are only pursuing financial returns. The survey by the *Comité Français* (2014) reports that most venture-capital impact funds can also invest in firms with a more clearly asserted social impact (with "a social mission enshrined in their articles of association" or where "profits are partly reserved"). However, it is clear that very few actors are willing to invest in cooperatives or associations, whose status is hostile to the financial approach on two levels: it is difficult if not impossible to sell such an organization, and, according to the French law, to distribute its profits over a regulated rate.[42] If II were reduced to the practices described in this section, it would clearly be unable to fund all social organizations. The solidarity finance segment is thus necessary to channel money towards less profitable targets.

Yet Sir Ronald Cohen, the most passionate promoter of II in Europe,[43] believes that II in its venture capital form (the only form he addresses under this name) can be the solution to the social question, as he asserts in a well-oiled narrative that stresses the limitations of philanthropy and public action:[44] according to him, II can provide ways to "harness the most powerful forces of capitalism: entrepreneurship, innovation and capital to tackle social issues more effectively" and "connect [social sector organizations] to the capital markets"

[42] Only impact funds originating in the solidarity economy develop funding solutions for these entities: this is the case for SIFA as mentioned above – the only fund to finance associations, D Fund in our sample, which is a subsidiary of a social organization, and the small cooperative impact fund (specializing in cooperatives) launched in 2015 by the venture capital subsidiary of *Crédit Coopératif* (the bank for cooperatives).

[43] See above part 2 and note 13.

[44] "Over the past couple of centuries, philanthropists have tried their very best to improve the lives of those left behind. [...] But by the mid-1930s, governments had begun to realize that philanthropy alone could not cope. [...] Today, welfare states designed for the 20th century are throwing up their arms in face of the struggle against the new century's social challenges. They realize that they are not best placed to innovate in bringing solutions to social issues" (Cohen 2014, 2).

(Cohen 2014, 3). To get around social organizations' inability to generate returns, a third segment is needed in the II market, with different judgment devices that encourage the convertibility of social impact into money.

4.4 The New Frontier of Impact Investing: Monetizing Social Impact

What Is It?

If the social impact can be given a monetary value, then that value can be used as a price in exchanges. And certain actors (principally the public authorities or philanthropic organizations) could be interested in purchasing "social impacts" and delegating their production to privately-funded for-profit organizations. The capitalists investing in these organizations would not be giving up any of their financial return objective, but would receive their return on investment by combining the low financial return from the organization with resale of the social return. This system already exists: Social Impact Bonds were invented in the UK to draw financial returns from unprofitable organizations. These vehicles enable all kinds of social activities to be financed by capitalism, in line with Sir Ronald Cohen's dream:

> We already see notable changes in the way impact investments are thought through and presented. Investment proposals are framed in new ways that assess expected social as well as financial returns. Take an investment committee considering a £10m SIB that pays out 2%-13% per annum according to social outcomes achieved. Say the most likely net return is 7% p.a. while the risk requires 11% p.a. Previously the committee might have turned it down. Today, the social value created would be quantified. The missing 4% p.a. over the 7 year life of the SIB translates into £4.7m. If the SIB aims to get 4700 released prisoners, over and above the average number in the past, into jobs and useful lives, this would represent £1000 per offender helped. If philanthropic foundations experienced in helping reoffenders would have been pleased to donate £1000 to rehabilitate a prisoner, then the social return would be 4%. If they would have been pleased with £3000 per prisoner, then the social return would be three times as great, 12%. An investment generating a 7% financial return and a 12% social return would be very attractive. (Cohen 2014, 6)

So far SIBs only exist in a very small number of countries. Only the UK is developing a systematic policy on the issue (Golka 2016; Cooper et al. 2016; Dowling 2016). There is no market for SIBs in France yet but the government has just decided to launch its first experiments in 2016. This is one of the notable results of the work done by the *Comité Français* (2014), since one of the ten recommendations in its report was to experiment with SIBs. The statement by Sir Ronald Cohen quoted above comes directly from one of his speeches, which was translated and attached to the French report. On June 10, 2016, Impact Invest Lab was launched in France by six founder members who were already part of the *Comité Français.*[45] Following on from the G8 report they declared their "ambition of contributing to the debate, experimenting and accelerating the development of social impact investing." The lab's first project is to develop SIBs, and funds are being generated to finance the feasibility studies needed to conduct the first contracts.

The Judgment Device They Use and Who Is Interested

Among our interviewees, the audit firm, doubtless the most interested in this practice, has decided to contribute to the new II Lab. SIB contracts are very similar to public-private partnership agreements, and require two resources the audit firm can offer: legal advice for financial arrangements, and valuation services. In addition, given the economic stakes involved in impact measurement, audit and certification services are necessary. Other French actors that are spreading valuation methods, such as Social Return On Investment designed to assign financial value to impacts, may be interested by the development of SIB in France. The "avoided cost" method is another standard way of attempting to estimate the value of impacts: this consists of assessing the costs that would have to be borne in the absence of the positive impacts produced by the entity. This method takes it for granted that a social expense will be made, generally made by the state, and therefore assumes the existence of an effective welfare state, which is paradoxical to say the least when the aim is to make up for the welfare state's shortcomings.

Effect on the Investees

The type of relationship that becomes established along the investment chain between investors and investees takes another new turn in this case. In the previous case, only the fund manager stood to benefit personally from achievement of social objectives through the carried interest system, while the investor only received the financial return the fund was able to offer, in many cases a lower return than on a purely financial investment. With SIBs, the investor himself takes a direct share in the social return: only if the entity achieves its social objectives will the public authorities or the philanthropic foundation that signed the contract pay out the financial return. Monitoring the entity that produces impacts will then be essentially based on social indicators.

[45] CDC, MOUVES, *Crédit Coopératif*, Finansol, le *Centre Français des Fonds et des Fondations* (federation of French foundations), le Comptoir de l'Innovation (an impact fund).

5. Conclusion – Discussion

The efforts made to construct a unified impact investing market are having to deal with longstanding social finance practices that have led to the establishment of a number of institutions, such that these efforts are displacing and redefining the accepted categories. We have monitored the operations that accompany market building. Creating a new class of assets requires boundary work intended to make the subject explicit, and as we have seen this work involves both boundary-building and boundary-blurring. In particular, II is busy breaking down the boundaries between gifts and interest, between the search for financial returns and social aims.

But market building cannot rely on this essentially discursive boundary work alone. It also needs devices to assess the qualities of the goods exchanged, which in practice will make it possible to classify social structures based on their desirability for the investor. These new assessment practices complement and compete with existing devices. In the French setting, the existence of an active, organized solidarity finance environment is preventing direct penetration by the new II practices. Instead, more boundary work is necessary in order to enroll the existing actors, but this comes at the cost of accepting the existence of different segments associated with different judgment practices.

However, a general shift can be noticed towards stricter requirements for visible social results from the entities financed and the development of some professional specialization. Construction of a new market class thus goes hand in hand with polarization into subclasses associated with different judgment systems for investees.

These different judgment devices are inseparable from very different relational configurations or “regimes for coordination” between the actors concerned. From the investee’s perspective, the game rules vary widely, as summarized in Table 2. The constraints differ depending on the funding channel considered. In a context where several actors are pushing for development of venture capital-type forms of finance, organizations in the greatest need of public funding may rightly be anxious, especially if the funding that reaches them through past channels could dry up because it is directed into other channels. This risk has not yet materialized, but is part of the rhetoric of supporters of impact investing, such as Sir Ronald Cohen who sees Social Impact Bonds as the way to bring the private sector to finance non-profitable activities of a social nature, through redirection of public funds and philanthropic finance into for-profit entities that are put in charge of social activities.

Table 2: Segments of Impact Investing, Judgment Methods and Coordination Regimes in France

"Market" segments	Solidarity Finance (already in existence, the largest segment)	Social Venture capital (already in existence, smaller but growing fast)	Social Impact bonds (very experimental, not yet in existence in France)
Judgment devices and their characteristics			
Impact judgment devices	The ESUS label, awarded by the state.	Non-financial impact indicators, depending on the type of objective pursued.	Monetary measure of social impact.
Effect on investees	- Determines their access to low-cost financing. - Strict rules to respect in order to gain the label. - Not applicable to purely commercial for-profit organizations.	- Dual ranking of organizations. - Not applicable to low-return or not-for-profit organizations.	A device mainly designed for unprofitable organizations so that it can become eligible for venture capital financing.
Quantification of the impact	Small and recent. Simple indicators.	Small and based on simple indicators. Recently toughened with the introduction of "social carried interest"	Detailed, costly quantification (complex methods) by a third party who acts as guarantor (audit).
Investee-investor relations			
Type of financial return	Small (less than 2%).	- Ideally comparable to the average financial return on venture capital. - Possibility of a lower return (depending on fund policies).	Ideally comparable to the average financial return on venture capital thanks to the addition of financial returns and monetized social returns.
Who gives the financial return?	Investee.	Investee.	- Investee and - Public authorities or philanthropic organizations.
Criterion structuring investor-investee relations	Solely financial, essentially related to the risk of not recovering the capital.	Financial and social: Financial and social objectives to be achieved are assessed separately.	Principally social because social return is central to the future financial return.
How does the investor monitor the social impact?	Once a year for external communication purposes.	Regular reporting for monitoring purposes.	Regular reporting for monitoring purposes, audited by an independent party.
Investor's involvement in the social model	Low.	Average. The economic question remains the primary concern.	Extensive.
Other investee relations			
Effect on relations with their other financers (public authorities, donors)	None.	None.	Very significant. Public or philanthropic funding goes to the private financer.

The case studied here draws our attention to another characteristic of finance market classification systems. They were initially created to classify organizations to be funded, but are in fact used to structure the entire intermediation chain. Like the classifications by Bowker and Star (2000), they facilitate coordination between different worlds and operate as boundary objects that shape actions obeying rationales that vary with the actors who take them up (social organizations, impact funds, funds of funds, state, foundations, etc.). In general, the longer the financing circuits become, the more the device has to be adapted to facilitate remote management. In the first segment, the form of the label, which creates a binary classification between beneficiary organizations and the rest, is particularly effective in this respect. It does not cost much, because approval is granted for a 5-year period, and it facilitates both establishment of public policies attached to the category and lower-cost financial intermediation. On the venture capital segment, financing circuits are also growing longer with the arrival of funds of funds and this is driving standardization of social impact monitoring. This way, indicators can be consolidated simply in the various intermediation vehicles, and compared between vehicles.

What is also striking is that whatever the circuit or the market segment, the involvement of public policies is bringing the state to intervene in the creation and standardization of market judgment devices. The ESUS label is fully regulated. In the venture capital segment, additional investment by public funds in vehicles whose managers stand to gain a disproportionate share of the returns is bringing public bodies to toughen up social impact measures in order to control the distributions that could take place at that level.

This case study is an illustration of the dual role of judgment devices, to organize market classes and to classify their participants and products, and of their consequences for the objects being judged. It suggests that the special form these devices take deserves close attention. We have seen that a label is not the same thing as a continuous indicator, a score or a ranking for those evaluated. Most notably, we illustrated that the form of the indicator itself cannot be separated from the relational configuration that gave rise to it and gives it its relative coercive force.

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Appendix

Interviewees

Organizations	Interviewees	Duration
French Impact Funds		
A: Fund of funds (insurance)	3 impact fund managers + 5 support team members (shared with SRI funds)	5 recorded interviews (between 50' and 1:30) 3 not recorded
B: Venture Capital Fund	2 fund managers	50' and 1:10 recorded
C: Venture Capital Fund	1 project manager	1:15, recorded
D: Venture Capital Fund and Consulting firm (created by a social enterprise)	1 project manager	40' recorded
E: Collective Investment Fund (bank)	1 fund manager	50' recorded
F: Collective Investment Fund (bank)	1 fund manager	1:40 recorded
G: Regional Cooperative Impact Fund	1 project manager	45' not recorded
Others		
Finansol association	1 project manager	45' not recorded
Impact Crowdfunding platform	2 founders and 1 employee	20' to 30' not recorded
Big Audit firm	The person in charge of solidarity-based economy	1:30, not recorded

Abbreviation Index

ADIE: France's micro-credit institution, operating into the country
AFD: *Agence Française de Développement* (France's development bank)
AVISE: *Agence de Valorisation des Initiatives Socio-Economiques*, promoting social entrepreneurship
BPI: *Banque Publique d'Investissement* (France's public investment bank)
CDC: *Caisse des Dépots et des Consignations* (a French public bank)
CSR: Corporate Social Responsibility
EFAMA: European Fund and Asset Management Association
EIF: European Investment Fund
ESG: Environmental, Social and Governance criteria
ESSEC: a French Business School
ESUS: *Entreprises Solidaires d'Utilité Sociale* (solidarity firms of social utility), a public label
EU: European Union
Eurosif: European association for the promotion and advancement of sustainable and responsible investment across Europe
EVPA: European venture Philanthropy Association
Finansol: French association for the promotion of solidarity finance
GECES: the Expert Group on Social Entrepreneurship
GIIN: Global Impact Investing Network (www.thegiin.org)
GIIRS: Global Impact Investing Rating System
II: impact investing
IRIS: Impact Reporting and Investment Standard
MOUVES: *Mouvement des Entrepreneurs Sociaux* (social entrepreneurs' movement)
OECD: Organization for Economic Co-operation and Development
SIA: Social Impact Accelerator (a fund of funds dedicated to impact investing, managed EIF)
SIFA: institution specialized in funding for entities supporting social integration, subsidiary of CDC
SIB: Social Impact Bonds
SIFT: Social investment task force, funded at the request of HM Treasury, chaired by Sir R. Cohen
SIITF: Social Impact Investment Taskforce, established by the G8, chaired by Sir R. Cohen
SRI: Socially Responsible Investment
SROI: Social Return on Investment

Between Efficiency and Resilience: The Classification of Companies According to their Sustainability Performance

Sebastian Nagel, Stefanie Hiss, Daniela Woschnack & Bernd Teufel *

Abstract: *»Zwischen Effizienz und Resilienz: Die Klassifikation von Unternehmen anhand deren Nachhaltigkeitsleistung«*. In this article, we provide a broad picture of the adaptation of economic classification technologies that were originally used to provide financial information and to classify companies according to their financial performance. The same approach is now available for the benefit of sustainability investors. The adaptation of such financial classification technologies to account for questions of sustainability has been engendered by the growing importance of financial markets and by the recognition of sustainability, as a guiding concept for contemporary societies. Since credit ratings, as well as financial accounting and reporting, are established measures for financial performance, they have inspired the development of similar classification systems for sustainability performance, and can be used to accommodate sustainability investors. We outline the adaptation of financial classification systems to the issue of sustainability and we compare the development and institutionalization, especially as it relates to the current market structure of classification systems in the financial markets, based on both financial and sustainability data. In the second part of this paper we compare the interpretation of social sustainability by three different sustainability accounting and reporting initiatives, in order to illustrate the heterogeneity of the available data applicable to subsequent classification. We point out that the operationalization of the three initiatives differs in respect to the nature and the extent of information requested. While accounting frameworks require relatively few quantitative outcomes, reporting frameworks demand more extensive quantitative and qualitative data. Finally, we discuss the opportunities and difficulties associated with the adaptation of classification systems from the field of finance to the field of sustainability.

* Sebastian Nagel, Sociology of Markets, Organizations and Governance, University of Jena, Bachstrasse 18k, 07743 Jena, Germany; sebastian.nagel@uni-jena.de.
Stefanie Hiss, Sociology of Markets, Organizations and Governance, University of Jena, Bachstrasse 18k, 07743 Jena, Germany; stefanie.hiss@uni-jena.de.
Daniela Woschnack, Sociology of Markets, Organizations and Governance, University of Jena, Bachstrasse 18k, 07743 Jena, Germany; daniela.woschnack@uni-jena.de.
Bernd Teufel, Center for Teaching and Learning, University of Jena, Carl-Zeiss-Platz 1, 07743 Jena, Germany; bernd.teufel@uni-jena.de.

Historical Social Research 42 (2017) 1, 189-210 │© GESIS
DOI: 10.12759/hsr.42.2017.1.189-210

Keywords: Classification, sustainability, financial markets, financialization, ratings, accounting and reporting.

1. Introduction[1]

After the September 2015 revelation of Volkswagen's emissions scandal, Dieselgate, the German automaker was removed from several sustainability indices, such as the Dow Jones Sustainability Index (S&P Dow Jones Indices and RobecoSAM 2015). Only a few weeks before, Volkswagen had been recognized as the most sustainable company in the automobile industry (Volkswagen 2015). When it comes to classifications, the fraud and deception in the emissions tests managed to change Volkswagen's sustainability image from being an absolute frontrunner to being a sustainability wreck within just a few days. Although these revelations did not immediately result in bankruptcy, they ruined Volkswagen's image as a green, sustainable company.

In the present article, we provide a broad picture of the adaptation of economic classification technologies that were originally conceived to provide financial information and to classify companies according to their financial performance. Such technologies can now be used for the benefit of sustainability investors. These systems are similar to the classification situations examined by Fourcade and Healy (2017 [2013]). They analyzed actuarial techniques, such as credit scoring technologies, that triage individuals into classification groups and that "classify and price people" (Fourcade and Healy 2013, 559). At first glance, credit scores determine whether an individual is qualified to be given a loan, but such scorings also represent a "force that structures individual life" (ibid.). In contrast to Fourcade and Healy (2017 [2013]), we focus on ratings, accounting, and reporting as classification technologies. Although accounting and reporting are not, per se, classification technologies, they do provide important information for ranking companies, since companies actually apply these tools when disclosing information that investors use to make investment decisions. Credit rating tools routinely assess the creditworthiness of companies. Accounting and reporting standards define the measurement and the disclosure of their financial status. For a long time, financial markets were accustomed to companies being classified purely along the lines of their creditworthiness or financial performance.

The provision of data related to sustainability and, therefore, the classification of companies according to their sustainability performance, is a more

[1] The first three authors would like to thank the German Federal Ministry of Education and Research as its funding initiative "Financial System and Society" enabled this research within the project "Double Dividend? The Contribution of Sustainable Investments to the Stabilization of Financial Markets."

recent phenomenon. Against a background of accelerating climate change, resource depletion, and declining biodiversity, companies are increasingly required to behave in a sustainable fashion, to report on the issue of sustainability, and to measure and account for it (Gray, Bebbington and Collison 2006). In the same manner, investors have begun to put pressure on financial markets to invest more sustainably, as such a change could drive the sustainable development for the entire economy (Haigh and Hazelton 2004; Louche and Hebb 2014). Therefore, companies are not only encouraged to develop sustainable business models, but also to set out reliable, comparable, and transparent corporate statements about their social and environmental impact. Due to these societal expectations, various initiatives have begun to provide comparable corporate sustainability declarations, as well as the corresponding classification structures which break down companies into sustainability classes (Waddock 2008).

We point out that the development and the functioning of a sustainable financial market has been inspired by tools that were formerly used for the financial classification of companies. This applies to ratings, as a direct tool of corporate classification, as well as accounting and reporting, which served as precursors for more formalistic classification of companies. What was previously and successfully used for the assessment of creditworthiness and financial performance of companies was then adapted to the formal and structured assessment of sustainability performance (about the "off-label" use of credit ratings, see Rona-Tas 2017, in this issue). On the one hand, sustainability rating agencies assess the sustainability performance of companies and countries. On the other hand, sustainability accounting and reporting frameworks seek to define which nonfinancial, sustainability-related corporate information should be disclosed and how such information should be measured or presented. Furthermore, we illustrate the difficulties associated with the adaptation of classification systems from finance to sustainability.

In this article, we initially compare the development and institutionalization of current classification systems based on financial and sustainability data, particularly considering the current structure of financial markets. We give a broad overview of both fields, and we canvass the main differences, in order to exhibit the opportunities and difficulties involved in the adaptation process. In doing so, we look at the conventional ratings, accounting, and reporting used for financial purposes. We describe the increased influence of financial markets and the growing importance of sustainability as two salient reasons for the adaptation of these tools to nonfinancial issues. We also show how ratings, accounting and reporting are used to provide information on and classify companies along sustainability lines. In the second section, we focus on sustainability accounting and reporting as the basis for providing reliable sustainability data. We present an illustrative case study on the operationalization of social sustainability as one facet of the concept of sustainability. We do this by comparing three different sustainability accounting and reporting initiatives. This illustration provides insight into the ground-level data applicable to subsequent classification. Finally, based on brief insights in the development and institutionalization of classification systems, as well as the illustration on sustainability data, we merge both parts of the paper in a discussion about the opportunities and difficulties of the adaptation of ratings, accounting, and reporting of sustainability-related issues.

2. Financial Classification Systems: Ratings, Accounting, and Reporting

Financial accounting and reporting provide data that is used to classify companies according to their financial performance. Credit rating agencies not only predict the creditworthiness of companies, but also that of countries and other financial bodies. Financial accounting and reporting determine how to measure and disclose the financial performance of companies. This means that the range of tools available to classify companies according to their financial performance (or the instruments required to prepare information for such a classification) is comparatively limited. While the market for credit ratings is dominated by only three different agencies operating worldwide, financial accounting and reporting is highly standardized for public companies.

Credit rating agencies assess the creditworthiness of companies, municipalities, countries, or structured financial products. As intermediaries, they reduce the information asymmetry between debtors and creditors, since creditors often simply lack data related to their debtors' willingness and ability to repay their debts (Carruthers 2013; Sinclair 2005). The classic assessment of creditworthiness is primarily based on financial expertise and judgement, in which a group of rating analysts decides about the creditworthiness of the (potential) debtor on the basis of quantitative, as well as qualitative information. The results of their work are very reductionist. The judgement of the potential debtor's creditworthiness is presented in a classification system, in which an AAA-rated company is more likely to repay debts than one rated with BB or C (Hiss and Nagel 2012, 86-126; Langohr and Langohr 2008; Rona-Tas and Hiss 2010). Due to these credit classifications, borrowers do not have to evaluate each and every bond issuer themselves but can simply rely on the agency's credibility.

The market for credit ratings is structured as an oligopoly in which three agencies, *Moody's*, *Standard & Poor's*, and *Fitch*, dominate the market (White 2010). The roots of this market structure can be traced back to the railroad expansion in the United States towards the end of the 19th century. Due to large capital requirements, railroad companies relied on borrowed capital. In order to reduce the information asymmetry between potential investors and the railroad companies, a financial analyst named John Moody began to collect and to publish financial information on those companies (Olegario 2006; Sylla

2002). Since the beginning of the 20th century, credit rating agencies have used their well-known classification systems. Nevertheless, their methods to assess creditworthiness have evolved over time and have been strongly questioned in the aftermath of the recent financial crisis (Hiss and Nagel 2012).

Financial accounting and reporting display the "economic activity" of a company (Power 2012, 301). Historically, various national accounting and reporting practices were in place and impeded the comparability of companies across national borders. As globalization progressed, the need for transnational comparisons became obvious and in the 1970s, a process for standardizing accounting and reporting practices began (Botzem 2012; Botzem and Quack 2006). The International Accounting Standards Board (IASB) developed the globally recognized International Accounting Standards (IAS), as well as the International Financial Reporting Standards (IFRS). Both frameworks were rolled out globally and, to a certain extent, have been ensuring a comparability of companies' assets and liabilities around the globe ever since. By defining a set of standardized indicators, these standards determine what a specific economic event is and how companies are required to report about it (Baker and Barbu 2007; Haller 2002). Nowadays, albeit not free from criticism or competing standards, both international standards mentioned above are used by public companies in many countries around the world to provide financial data in a standard format that is, in turn, used for classification by credit rating agencies or investors thereinafter.

By and large credit ratings, as well as financial accounting and reporting, are widely legitimized and globally accepted methods to evaluate public companies. The results are presented in a manner financial markets can use for investment decisions. The data is, due to the market structures, easily comparable and usable for investors. In the case of credit rating agencies, the data which is readily available is intentionally substantially abridged. The data they deliver is easy to interpret and devoid of intercultural differences.

3. Reasons for Sustainability Classifications: The Growing Importance of Financial Markets and Sustainability

In this section we show how the increased influence of the financial markets and the growing importance of sustainability result in two reasons for the adaptation of classification systems regarding the issue of sustainability. Due to the deregulation and liberalization of the financial system, financial markets have enjoyed increasing importance in society since the 1970s. The increased influence of financial markets in society, which is one major aspect of the financialization processes (Bieling, Nölke and Heires 2013; Davis and Kim 2015; Froud et al. 2006; Krippner 2005; van der Zwan 2014), has affected the entire economic system, because it has caused a shift from industrial capitalism to financial capitalism (Deutschmann 2005; Kädtler 2010; Windolf 2005, 2008).

There are several examples illustrating the increased influence of financial markets in society. In Germany, for example, there is an ongoing change from a bank-based to a market-based financial system. This was a catalyst that changed the orientation of companies towards shareholder value (Davis 2009; Deutschmann 2002; Faust, Bahnmüller and Fisecker 2011; Jones and Nisbet 2011; Krenn 2012; Lütz and Eberle 2008). The setup of a state-backed, private, capital-funded social security program in Germany is a luminous example of how actors and practices within financial markets can maneuver into spheres of the welfare state that were previously unconnected with the market (Ebbinghaus 2011; Frericks 2015; Naczyk 2013). Another example of the influence of financial markets is the financialization of accounting practices (Elad 2007; Perry and Nölke 2006). During this process a major change in accounting practices occurred: it was the shift from historical cost to fair value accounting (Power 2012), whereby "the 'fair' should be understood as 'useful' for investors" (Biondi and Suzuki 2007, 590). This change implies a "shift from professional to capital market governance," which replaces "the professional logic of coherent and encompassing standards for companies with limited liability […] by a logic of capital market efficiency for a few large companies listed on the world's largest stock markets" (Botzem and Quack 2006, 281).

The increased influence of financial markets in society has led actors, practices, and rationalities in the financial market to spread their wings into numerous social areas – among them sustainability. Sustainable investments are an example that illustrates the expansion of the influence of financial markets: it showed that the institutionalization of providing and classifying sustainability information for the benefit of investors is necessary. Although most investment decisions related to financial markets are still based on financial criteria, a growing number of investors complement those with nonfinancial or extra-financial measures (Hebb 2012; Hiss 2011; Sparkes 2002). Socially responsible or sustainable investors use ecological, social, and governance (ESG) criteria to enrich their investment decisions. That is where participants in the financial markets make use of sustainability, thereby setting expectations regarding sustainable businesses. As in the case of the financialization of accounting practices, the financialization of sustainability makes sustainability suitable for investors who are then able to use financial as well as nonfinancial information for their investment decisions (Hiss 2013).

However, in order to make use of sustainability, investors need reliable data on sustainability performance of their potential investments. While well-defined and relatively stable classification systems related to financial performance have been available for a long time, there is a growing market for data that is directly related to sustainable investments and it presupposes a similar data infrastructure. Investors concerned with sustainability need reliable and comparable information that is easily digestible. By adapting financial classification models to nonfinancial areas, a mainstreaming of sustainable financial markets becomes possible.

While the rising power of financial markets is one factor driving the adaptation of classification systems related to sustainability, the increasing relevance and importance of sustainability is another one. The origin of the term sustainability can be traced back to German forestry in the early 18th century but it was not until 1987 that sustainable development received serious attention (Du Pisani 2006). The Brundtland report by the World Commission on Environment and Development (1987) and the subsequent United Nations Conference on Environment and Development in Rio de Janeiro in 1992 enabled the breakthrough of sustainability to become a guiding concept for contemporary societies (Castro 2004; Redclift 2005).

Nowadays, companies are not only encouraged to develop sustainable business models, but also to transparently disclose corporate information about their social and environmental impact. Companies are confronted with different expectations and demands from various stakeholders to act sustainably and to report about it (Hess 2007; Hiss 2009; Winn and Pogutz 2013). Trade unions ask for fair wages and good working conditions throughout the supply chain. Human rights associations demand the abolition of child labor from all suppliers. Environmental associations not only insist on the reduction of carbon emissions; they also affirm the need for a less negative impact on biodiversity.

Despite its growing importance, sustainability is still an ambiguous concept. A generally accepted definition of what sustainability means and encompasses does not exist (Bañon Gomis et al. 2011; Hopwood, Mellor and O'Brien 2005). The definition of sustainable development as a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987, 41), as well as the triple bottom-line model of sustainability (Elkington 1997), conceptualizing sustainability as comprising environmental, social and economic aspects, are well-known and widely respected. But the environmental, social, and economic components of the concept are still open to interpretation (Åhman 2013; Bell and Morse 2008; Vallance, Perkins and Dixon 2011).

While the ambiguity of sustainability may enable companies to choose which of the various expectations they wish to fulfill and how they wish to report about them, this vagueness may also prove to be an obstacle to the desired sustainable development of the economy. A lack of effective monitoring systems could complicate the establishment of trust in the sustainability performance of companies (Mueller, dos Santos and Seuring 2009; Parguel, Benoît-Moreau and Larceneux 2011; Sethi and Schepers 2014). In order to enhance the effectiveness of sustainability as a guiding concept, even under the auspices of the financial markets, the level of ambiguity related to sustainability needs to be mitigated. Therefore, the increased influence of financial markets and the growing importance of sustainability require more standardized methods of assessing sustainability performance. And these methods need to be applicable and usable by sustainability investors and sustainability rating agencies. One way or another, both processes drive the adaptation of financial classification systems to sustainability.

4. Sustainability Classification Systems: Ratings, Accounting, and Reporting

Inspired by their financial counterparts, sustainability ratings, accounting, and reporting have been developed to provide corporate sustainability information and, in the case of ratings, to classify companies according to their sustainability performance. While ratings, accounting, and reporting used to be only used for financial purposes, these classification systems are now used to enable sustainable financial markets by enhancing the credibility of corporate information on their sustainability for investors, analysts, rating agencies, and other stakeholders.

In contrast to the field of financial classification, the field of sustainability classification is characterized by a great heterogeneity of approaches and actors (see Table 1). Not only have several sustainability rating agencies attempted to classify companies according to their social and environmental impact, but also various sustainability accounting and reporting initiatives have developed different frameworks for the comprehensive measurement and disclosure of sustainability data.

Table 1: Comparison of Financial and Sustainability Classification Systems and Their Predecessors

	Financial classification		Sustainability classification	
	Rating	Accounting and reporting	Rating	Accounting and reporting
Content of classification	Creditworthiness	Financial performance	Sustainability performance	
Field structure	Oligopoly	Standardized	Heterogeneity	
Market signals	Unequivocal and unidirectional		Diverse and multi-directional	
Examples of actors	Moody's; Standard & Poor's	International Accounting Standards Board	EIRIS; Oekom Research	Global Reporting Initiative; Sustainable Development Management GmbH

Source: authors' illustration.

The emergence of sustainability rating agencies dates back to the 1970s, when the New York-based Council on Economic Priorities began to gather information about the social and ecological performance of companies (Lydenberg 2005; Sparkes 2002, 280). In 1989, the first sustainable investment research and rating firm – Kinder, Lydenberg, and Domini (KLD) – was founded. One year later, KLD published the Domini 400 Social Index, one of the first stock indices to incorporate sustainability criteria into its calculations (Sauer 1997). Since then, more and more rating firms have been established to gather, evaluate, and publish sustainability data about companies.

Today, several specialized sustainability rating agencies act as intermediaries to provide data about the sustainability performance of companies and countries for the use of those investors willing to consider sustainability issues in their investment decisions (Scalet and Kelly 2010; Schäfer et al. 2006). They gather publicly available information from several sources, including corporate reports, nongovernmental organizations and the media. Additionally, they often speak with company representatives or send questionnaires to obtain additional internal corporate information. Finally, a mixture of ecological, social, and governance aspects, for example, the corporate impact on climate change or biodiversity, working conditions along the value chain, or gender diversity within the management, contribute to the ratings (Elkington and Beloe 2000; SustainAbility 2010b). The result of these ratings is, similar to credit ratings, often symbolized by letters. Therefore, companies rated with A perform better in terms of sustainability than companies rated with C. As with credit ratings, the classifications based on sustainability performance can also be used to define a specific investment portfolio, by including or excluding investment opportunities that do or do not meet pre-determined criteria.

In contrast to the credit rating market, the market for sustainability ratings is characterized by its heterogeneity. Many different organizations assess sustainability performance in order to classify companies; more than fifty different agencies and approaches were available in 2010 (Schäfer et al. 2006, SustainAbility 2010a, 3). Among them are several major agencies that provide their services globally as EIRIS, Inrate, MSCI, Oekom Research, Sustainalytics, and Vigeo.

The idea of sustainability accounting and reporting emerged in the 1960s as social accounting, where it was part and parcel of theoretical discussions related to the measurability of social and environmental performance of various entities. In the 1990s and 2000s, stand-alone sustainability reports began to gain importance, primarily as a result of pressure from nongovernmental organizations (Gray, Dillard and Spence 2009; Lamberton 2005; Schaltegger and Wagner 2006). Today, several initiatives provide frameworks for the disclosure of sustainability data which we differentiate into three instruments: The information can be published either in the form of a sustainability report, an integrated report or as a part of corporate accounting. The shared goal of the various initiatives is to inform investors and other stakeholders about the sustainability performance of companies (Schaltegger, Bennett and Burritt 2006; Searcy and Buslovich 2014). By establishing a framework that integrates the issue of sustainability into the basis of what they do, the initiatives encourage companies to collect, measure, and disclose comparable information about their nonfinancial performance, as well as the social and ecological impact of their activities. Investors, analysts, rating agencies, and other stakeholders can use this information to value, classify, and compare different companies.

Compared to traditional financial accounting and reporting, no dominant sustainability accounting and reporting standard has thus far been established. The inherent flexibility of the directive 2014/95/EU of the European Union reflects a plethora of options companies can use to inform their stakeholders. This directive relates to the disclosure of environmental, social, and diversity-related issues and applies primarily to large companies. Its intent is to enable a comprehensive view of companies for investors and other stakeholders, but it does not prescribe precisely how companies are required to disclose this information (European Commission 2016; European Parliament and Council of the European Union 2014; Kinderman 2015).

We break down the current field of accounting and reporting into three different instruments: sustainability reporting, integrated reporting, and sustainability accounting (Christofi, Christofi and Sisaye 2012; Eccles and Krzus 2010; Freedman and Jaggi 2010; Gazdar 2007). In the first case, sustainability reports are published in addition to the traditional, standardized financial reporting. For example, they typically include disclosure guidelines, as well as pertinent data related to, for example, significant actual and potential negative impacts for the labor practices within the supply chain. Second, integrated reporting initiatives seek to incorporate nonfinancial information in financial statements and to eliminate segregated disclosure of financial and nonfinancial information. For example, the effects of the supply chain on companies should be considered in corporate reporting. The goal of this particular process is to support a holistic manner of thinking within and outside of companies. Third, sustainability accounting aims to integrate quantitative nonfinancial information into companies' financial statements. It uses key performance indicators (KPIs), which define the disclosure of quantitative data, such as the total number of suppliers or the amount of CO_2 emissions.

Relevant reporting initiatives include the Global Reporting Initiative (GRI), the King Code of Governance Principles for South Africa, and the UN Guiding Principles Reporting Framework (UNGP Reporting Framework). Integrated reporting is primarily promoted by the International Integrated Reporting Council (IIRC). A variety of initiatives have developed accounting frameworks related to sustainability. Among them are the European Federation of Financial Analysts Societies and the German Association of Financial Analysis and Asset Management (EFFAS/DVFA), the consulting firm Sustainable Development Management GmbH (SD-M), the Sustainability Accounting Standards Board (SASB) and the Prince of Wales by founding Accounting for Sustainability (A4S).

Despite the proximity to classification systems that are already known within the financial field, the field of sustainability classification has developed almost independently from credit rating agencies and conventional financial accounting standards. With the exception of the foundation for sustainability reporting, the instruments – as well as the participants – differ from their financial counterparts. An entirely new market has emerged in which those involved still attempt to establish ways to provide relevant sustainability data and to classify companies by sustainability performance, thereby, making sustainability useful and suitable for investment decisions.

5. Illustrative Case Study: Sustainability Accounting and Reporting

We would like to use an illustrative case study in order to provide insight into the data applicable to subsequent classification of sustainability performance. We focus on the fundamental data and the interpretation of social sustainability based on three sustainability accounting and reporting initiatives. All three initiatives intend to standardize the measurement and the disclosure of corporate sustainability data by creating the corresponding frameworks, KPIs, and guidelines. We demonstrate how these initiatives operationalize the ambiguous concept of social sustainability and translate it into something useful for investors and other stakeholders. By doing this, we acknowledge how widely data requests related to corporate sustainability performance can differ, both in nature and in scope. Therefore, we highlight the content-related heterogeneity in the field of sustainability accounting and reporting, both as precursors to classification opportunities.

We focus on social sustainability because the requirements and limits of it are less defined, when compared to its environmental counterpart. Environmental issues tend to dominate the debate about sustainability, and they are most likely fueled by increased awareness of the earth's limitations and climate change (Jackson 2011; Meadows et al. 1972; Stern 2007). Social aspects rarely appear in the discussions about sustainability and they often only appear to the extent that social cohesion is determined to be part of any conceivable solution for ecological problems (Bebbington and Dillard 2009; Colantonio 2011). Arguably, this lack of focus is reinforced by the lack of a clear definition as to what social sustainability really is, since theoretical constructs about the concept have not yet been created and the concept tends to be rather diffuse (Åhman 2013; Dempsey et al. 2011; Weingaertner and Moberg 2014). For the reasons mentioned above, initiatives are encouraged to base their frameworks on individual interpretations.

5.1 Sustainability Accounting and Reporting Frameworks

In order to compare how social sustainability becomes assessed by sustainability accounting and reporting initiatives, we examine three different frameworks that are key drivers in the field of sustainability accounting and reporting. First, the accounting initiative Key Performance Indicators for Environmental, Social & Governance Issues 3.0, second, the accounting framework Sustainable Development-KPI Standard, and third, the reporting initiative G4 Guidelines.[2] A short description of the initiatives that were developed within these frameworks follows. Afterwards, we illustrate in detail how the frameworks operationalize social sustainability.

The first framework, the Key Performance Indicators for Environmental, Social & Governance Issues, Version 3.0 (KPIs for ESG 3.0), was launched in 2010 by EFFAS, the European Federation of Financial Analysts Societies, and by the DVFA, the German Association of Financial Analysis and Asset Management (*Deutsche Vereinigung für Finanzanalyse und Asset Management e.V.*). As an accounting initiative, their framework is based on a KPI set used for the integration of nonfinancial information into corporate financial reporting (EFFAS European Federation of Financial Analysts Societies and the DVFA Society of Investment Professionals in Germany 2010). EFFAS was founded in 1962 as an association for investment professionals. DVFA is the German professional association for investment professionals and a member of EFFAS. It was established in 1960 in order to institutionalize equal opportunities for all parties within the financial markets, to provide professional framework conditions, and to optimize expertise, transparency, and fairness within the global financial system. Although their set of KPIs is suitable for all companies, regardless of size, scope or legal form, it was specifically designed for public companies, as well as for issuers of bonds. The interests of "economic stakeholders in general and investment professionals in particular" (ibid., 8), as well as those of investment professionals and potential users were included in the development process. Therefore, the set of KPIs is associated with the global financial system via the STOXX ESG Global Leaders index.

The second framework, the Sustainable Development-KPI Standard, was developed between 2004 and 2010 by SD-M, the German consulting firm Sustainable Development Management GmbH, with the German Federal Ministry for the Environment, Nature Conservation, Building, and Nuclear Safety, auditors, investors, and analysts. This is an accounting framework that promotes the global standardization of integrating nonfinancial information into corporate reports (Hesse 2007, 2010). The framework is mainly oriented towards the interests of investors, analysts, and rating firms. By using indices such as the EURO iSTOXX® 50 SD-KPI and the iSTOXX® Europe 50 SD-KPI, this framework is closely connected to financial markets (Hesse 2004; SD-M

[2] We do not incorporate integrated reporting by the International Integrated Reporting Council (IIRC) as it does not offer an operationalization of sustainability itself. Its approach causes one to rethink corporate value creation and to integrate sustainability information into corporate reports. This initiative refers to other frameworks, e.g., the guidelines by the Global Reporting Initiative (GRI).

2014). Overall, the implementation of nonfinancial information into corporate reports by this framework aims to improve financial performance.

The third framework, the G4 Guidelines, was developed by the network-based nongovernmental organization GRI, the Global Reporting Initiative. Based on input from multiple stakeholders, including business, civil society, labor, accounting, investors, academicians, governments, and sustainability reporting practitioners, the GRI published the fourth version of its framework in 2013 (Brown, de Jong and Lessidrenska 2009; Global Reporting Initiative 2013a). The GRI describes itself as the leader in the sustainability field (Tata Consultancy Services Limited and Global Reporting Initiative 2015, 1). Its framework aims to improve the quality of sustainability reporting and to standardize sustainability disclosure by creating "the sustainability equivalent of the generally accepted accounting principles for financial reporting" (Gleeson-White 2015, 123).

5.2 Operationalization of Social Sustainability

Based on the various frameworks, we compare how social sustainability is operationalized. In other words, we examine the design of indicators used to define specific aspects of social sustainability. The question ends up being whether the indicators require qualitative or quantitative information, whether the verbal formulation of the results is open to interpretation, and whether the indicators require rather simple or more detailed information. For reasons of comparability we show our analysis based on two different aspects of social sustainability, each of which is covered by all frameworks: value and supply chain, as well as health and safety.

The first framework, KPIs for ESG 3.0, operationalizes social sustainability, by primarily requesting quantitative, precise and simple information. For example, the indicator KPI S06-01, linking supply chains to ESG criteria, requires companies to disclose the "[p]ercentage of total suppliers and supply chain partners screened for compliance in accordance with ESG-criteria" (EFFAS European Federation of Financial Analysts Societies and DVFA Society of Investment Professionals in Germany 2010, 56). The indicators S04-03 II and S04-04 II focus on the health of workers. They require reporting on the total number of fatalities and injuries in relation to full-time equivalents (ibid., 98). Therefore, this framework defines precise and comparable information companies are required to disclose. Investors and other stakeholders can easily interpret and compare these types of information from different companies.

The second framework, the SD-KPI Set, principally operationalizes social sustainability by requesting quantitative and vague information. As this framework is part of a paid service by SD-M and the sustainability rating firm Sustainalytics, their indicators cannot be applied by the companies themselves, for which only short and rather vague specifications are publicly available (SD-M

GmbH [n.d.]). Guidelines for the use or interpretation of the framework are not available. Measures that were collected from a previous survey are available and are assumed to be a valid indicator of the methodology. Nevertheless, if and how these measures are used in the actual accounting process remains undisclosed. In the 2010 version, an indicator for the real estate sector relates to the "[a]udit coverage of ILO labour standards in-house and for subcontractors", including possible criteria such as "[t]he number of fatalities, lost-time injuries, cases of alternative work necessitated by an injury and other recordable injuries, excluding first-aid injuries per million working hours for employees and especially for subcontractors" (Hesse 2010, 93). Another example from 2010 is an indicator on "Health & safety performance" for the energy sector which covers the health of workers; it includes possible measures such as "Labour conditions for workers at drilling wells" and "Reporting on Accident Rates, Fatalities and Programs to Address Employee Health & Safety" (ibid., 15). Nonetheless, most of the possible measures used for this framework require quantitative information, but lack in providing more details.

The third framework, the G4 Guidelines, operationalizes social sustainability by requesting qualitative, quantitative, precise and rather detailed information. By publishing two documents, the Reporting Principles & Standard Disclosures (Global Reporting Initiative 2013c) and the Implementation Manual (Global Reporting Initiative 2013b), the GRI gives companies extensive data on how to use the guidelines. It also gives other stakeholders meaningful information on how to interpret the data that is disclosed. For example, the guideline G4-LA7 asks for the disclosure of data regarding diseases and the risk of diseases within the staff. The GRI specifies: "Report whether there are workers who are involved in occupational activities who have a high incidence or high risk of specific diseases" (Global Reporting Initiative 2013c, 67). The indicator G4-LA14, representing aspects of social sustainability in the value and supply chain, requires the "[p]ercentage of new suppliers that were screened using labor practices criteria" (Global Reporting Initiative 2013b, 69). Additionally, this indicator is also further specified in the manual, a fact that gives insight into the importance of this data, possible definitions, and sources of documentation (ibid., 155). All in all, the GRI asks companies to report qualitative and quantitative nonfinancial information and gives detailed instructions on how to gather and interpret the data.

5.3 Results

Our case study illustrates that sustainability accounting and reporting initiatives use rather different information to assess and classify companies. While accounting initiatives reduce the concept of social sustainability to a few quantitative issues, the reporting initiative combines quantitative and qualitative data to provide more extensive data. At the end of the day, they all have different definitions as to what is relevant in regards to social sustainability.

The core difference between sustainability accounting and sustainability reporting is that accounting initiatives use sets of KPIs, while the reporting initiative uses reporting guidelines that result in different ways of operationalizing social sustainability. KPIs are quantitative instruments that promote the integration of quantitative nonfinancial information into corporate financial statements. The multifaceted and ambiguous concept of social sustainability is sharply reduced to its quantifiable aspects. In contrast, sustainability reporting initiatives promote the disclosure of both qualitative and quantitative aspects of sustainability. Naturally, information has to be reduced for reporting purposes, too, but more complex data can be disclosed. As a result, a more extensive concept of social sustainability remains after its operationalization by sustainability reporting initiatives.

Overall, sustainability accounting and reporting initiatives provide a form of data infrastructure for sustainability investors that may support the further mainstreaming of sustainable investments. The growth of this market segment is inseparably linked to an information infrastructure that ensures access to comparable, credible, and meaningful information about the sustainability performance of companies. However, as this case study illustrates for sustainability accounting and reporting frameworks, it is questionable whether classification systems would be able to sufficiently provide credible and meaningful classification criteria.

Credible and meaningful classification criteria about financial or sustainability performance depend on assumptions, definitions, and the operationalization of financials or nonfinancials. Classification of sustainability performance is, as its financial counterpart, not just an objective assessment of distinct facts, but rather a subjective evaluation with a rather large amount of leeway subject to interpretation. While the subjective nature of financial classifications is veiled by the homogeneity and stability within the field and only becomes visible in times of financial crisis, the subjectivity of sustainability classifications is indubitably demonstrated by the heterogeneity within the field and what remains as an ambiguous concept of sustainability. The question of whether a standardization of sustainability classification is desirable as it may further objectify nonfinancial information, or whether some sort of differentiation of financial classification might be preferable (as it may reveal their subjectivity) is part of the concluding discussion, in which we consider the impact of the adaptation of financial classification systems to sustainability.

6. Discussion

In this contribution, we have outlined the development and institutionalization of classification technologies in the financial markets, based on financial and sustainability data. As the development of sustainability classification systems has been inspired by their financial counterparts, it is worthwhile discussing the consequences of the adaptation of financial classification systems to the issue of sustainability.

The use of ratings, accounting, and reporting for financial purposes is less equivocal than the manner in which their sustainability counterparts use them. *Standard & Poor's*, *Moody's*, and *Fitch* dominate the global market for credit ratings. The accounting and reporting standards IAS and IFRS are used by public companies globally. These few market participants exert strong standardizing influence on financial data. In contrast, several sustainability rating technologies as well as accounting and reporting frameworks, compete with each other. Compared to its financial counterpart, the field of sustainability classification is more heterogeneous, resulting in more diverse and less clear-cut information, which lacks in integrative measures to allow meaningful company comparisons.

Within the field of corporate finance, uniform and consistent perceptions do exist about the nature of creditworthiness and about good and poor financial performance. For both, best practices have been legitimized and are commonly accepted. Within this mold, it is difficult for alternative perceptions of creditworthiness or financial performance to prevail. The classic viewpoints tend to be taken for granted. As seen in the case study, the sustainability sector is lacking in a single, generally accepted best practice, as discovered when we observed a variety of competing sustainability perceptions. The negative side of this variety lies in the lack of credibility or trust with each of the competing standards. Given the operating classification systems, financial markets are risky and poorly resilient. As soon as primary indicators point to a negative direction, as was the case during the Subprime Crisis of 2007, the result could very well be rapid market failure, because of the fact that all players in the market tend to follow the same signals. They, therefore, move into the same direction. In this sense, sustainability markets tend to be more resilient. Their market signals comprise a menagerie of factors and there tends to be less risk of lemming-like behavior. Here, the downside is epitomized by a lack of credibility given by the market.

Nonetheless, classification systems are indispensable for market creation and as social governance instruments. Sustainability classification systems create sustainability directions that participants in financial markets can work with. Put differently, classification systems enable social order and, hence, enable markets. But the difficulty for classification systems is to get the right balance between a crucial reduction of social complexity and sufficient allowance for diversity and scope of interpretation. In other words, they need to find a balance between homogeneity and heterogeneity, between efficiency and resilience.

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Will Green Remain the New Black? Dynamics in the Self-Categorization of Ethical Fashion Designers

Simone Schiller-Merkens *

Abstract: *»Bleibt Grün das neue Schwarz? Veränderungen in der Selbstkategorisierung von Ethical Fashion Designern«*. Research on categorization and category dynamics has been rather silent on the role of powerful third parties in the self-categorization of producers. This study sheds light on this question by analyzing dynamics in the self-categorization of designers in the British ethical fashion movement. Their task of self-categorization is particularly complex in a context in which conflicts between aesthetics, morality and the economy still persist. Most of them enter the field as activists. Over time, however, designers stress their moral ideals less in their self-categorization, but put more emphasis on business-related values. Some even switch their self-identities from that of activists or moralists towards identifying as entrepreneurs. In this article, I argue that the designers' dependency relations to a powerful audience member allow us to better understand these dynamics in self-categorization.

Keywords: Category dynamics, self-categorization, self-identity, power, morality, moral market, framing.

1. Introduction[1]

Fashion is a glamorous world, and for a long time, the idea that morality plays a critical role in it was unthinkable. In the past, fashion and morality were unrelated social arenas whose values were rather perceived as contradictory and incommensurable. In fact, activist producers of organic clothes in the 1970s disapproved of fashion's throwaway mentality and sought to distance themselves from the fashion arena by developing long-lasting basics without any fashionable look (Skov and Meier 2011). This led to a widespread perception of organic clothing as being unfashionable or non-aesthetic. Thus for a long time, creating "green fashion" was seen as an oxymoron. However, the times in which fashion and morality had nothing to do with each other are over. Nowadays, the broader public no longer questions the idea that moral values

* Simone Schiller-Merkens, Max Planck Institute for the Study of Societies, Paulstrasse 3, 50676 Cologne, Germany; ssm@mpifg.de.

[1] The author would like to thank Chris Rea for his helpful suggestions on how to improve the paper. She is also grateful for the editorial guidance provided by Karoline Krenn.

like the ones associated with protecting the environment or workers' rights should have a place in the fashion market. Media coverage of sweatshop labor and catastrophic events like the devastating fire in a clothing production facility in Rana Plaza in 2013, which killed more than 1,100 people, brought the lack of morality in fashion supply chains to light.

Yet long before these events, an ethical fashion movement was formed around young fashion designers who wanted to change the immoral practices of fashion production and consumption without having to sacrifice esthetic principles of fashion design. Backed by the support of established fashion designers, social movement organizations, and governmental programs, these ethical fashion activists achieved a place on the agenda of the high fashion scene: in 2006, the British Fashion Council (BFC), the organizer of London Fashion Week, decided to provide a platform for ethical fashion. With a new ethical fashion showcase at London Fashion Week ("Estethica"), moral values now visibly entered the glamorous fashion world. Activist designers who identified themselves with values such as social justice, environmental protection or animal rights entered a social arena that for a long time was only associated with esthetic values (e.g., originality, uniqueness) and economic values (e.g., profitability). Some actors in the fashion arena euphorically claimed that green was becoming the new black (Blanchard 2007), thereby suggesting that morality was beginning to constitute meaning in the market (Fourcade and Healy 2007).

With ethical fashion still an unknown category, the designers now had to explain to the broader audience what they were doing and what kind of products they were offering. In general, categories form part of the broader meaning system that audience members use to make sense of an object and to confer meaning to it (Glynn and Navis 2013; Lounsbury and Rao 2004). Particularly important in the context of this HSR Special Issue is the relationship between categories and valuation. As several papers suggest, convictions about worth are related to categories; some categories are considered to have more worth than others (see also Aspers and Beckert 2011). Being classified as belonging to an unworthy category can have serious material consequences – e.g., when access to necessary resources is denied. Confronted with the new object of ethical fashion, the audience might tend to classify it as belonging to the long-standing category of organic clothing, a classification that would make it difficult for the designers to become accepted members of the glamorous fashion field.

Thus, for ethical fashion designers, the difficult journey of categorizing a thing that would be appealing to a diverse audience of fashionistas, business-minded people and more activist-oriented individuals began. Being activists who aimed to create morally superior alternatives to the existing fashion business, they were inclined to define in moral terms what differentiated their offerings from mainstream fashion. However, relying too extensively on moral values could offend more business-oriented members of the fashion field, many of whom were important resource providers. They therefore had to ensure that their offerings became classified as fashion – hence, that they were in line with the esthetic and economic principles of the fashion market. Thus, they had to clarify the role of morality in their self-categorization at the same time as providing an account of why they should be considered legitimate members of the fashion field. How did they cope with the critical task of self-categorization in an esthetic market without neglecting the moral cause of their actions? Now that they were embedded in an economic arena, did their self-categorization change over time? And if so, what role did the BFC play as a central audience member in the field?

To address these questions, I started looking into the dynamics of self-categorization on the part of ethical fashion designers who exhibited at London Fashion Week in 2009, 2011, and 2013. Since categorization is a dynamic process (Granqvist and Ritvala 2016; Glynn and Navis 2013; Durand and Paolella 2013; Khaire and Wadwhani 2010), I sought to understand whether the kinds of moral and nonmoral values designers refer to in their self-categorization change over time. Dynamics in categories have to be seen in relation to the social context in which the categorization takes place. Most categorization research therefore refers to the role of audiences (Negro et al. 2010). The audience can influence the development of new categories by opening market opportunities for some categories while blocking it for others. Powerful organizations in particular can structure the life chances of upcoming producers when endorsing their actions and identity claims, thereby signaling their credibility to other members of the field (Tilly 2005). How powerful audience members refer to an emerging category shapes the meaning of that category at the field level. It also acts upon the self-categorization of producers, as it reflects which kind of self-categorization resonates with broader categories in the market. Thus, the way producers self-categorize their offerings needs to be seen in relation to powerful members of the audience who are able to shape collective beliefs about "appropriate" categories, categorical boundaries, and categorical attributes.

Having said this, the aim of this contribution is to understand the role of a powerful third party for the self-categorization of producers. While the categorization literature has focused on the media (Navis and Glynn 2010; Kennedy 2005, 2008; Lounsbury and Rao 2004; Rosa et al. 1999), less is known about the role of other audience members in the self-categorization of producers. Particularly when starting a new venture, producers are dependent on organizations that influence their market opportunities – e.g., by providing them with necessary resources, granting them access to resource providers, or legitimizing their venture (Fisher et al. 2016; Cornelissen and Clarke 2010; Lounsbury and Glynn 2001). New entrepreneurs therefore carefully study what these organizations expect from them, and it is likely that they craft their self-positioning claims in the market according to these supposed demands. While research has shown that powerful organizations are able to shape categorical boundaries at the field level (Lounsbury and Rao 2004), we do not yet know whether such organizations also play a role in the self-categorization of producers.

In the ethical fashion market, it is the British Fashion Council that holds considerable power as it selects the designers for London Fashion Week, thereby granting them the opportunity to participate in a world-famous fashion event that gains a lot of press coverage and is of great importance for the British economy (Entwistle and Rocamora 2006, 2011). To understand whether this organization could have played a role in the dynamics of ethical fashion designers' self-categorization, I further studied the British Fashion Council's publications in order to explore the kinds of moral and nonmoral values propagated by this organization. Comparing the self-categorization of designers with the cultural material of the BFC then helped me assess the role that a central organization in the field plays in the strategic categorization or self-categorization of producers.

2. Theorizing Self-Categorization in the Light of Powerful Third Parties

Categories are socio-cognitive entities, collectively constructed among producers and the audience, the latter consisting of both the larger public (including consumers) and intermediating audience members who broker between consumers and producers (Rosa et al. 1999; Porac et al. 2001; Khaire and Wadwhani 2010). These different actors "negotiate" an emerging category and its attributes, thereby activating the kinds of attributes that best fit the social context (Glynn and Navis 2013). Such negotiations are often rife with conflicts; hence it is fair to say that categories arise out of political processes in which powerful actors can impose categorical boundaries (Tilly 2005). As an outcome of these processes, categories are necessarily dynamic in nature (Granqvist and Ritvala 2016). Recent research has therefore started to address the question of what drives actors in their categorizations over time. Referring to Durand and Paolella (2013), Granqvist and Ritvala (2016) differentiate three drivers for category dynamics: prototypical similarity, knowledge accumulation, and actors' goals. First, in markets with mature categories, actors are likely to change their self-categorization in order to become similar to and yet different from the prototypical category in the field. Second, when actors gain expertise and accumulate knowledge they may also change how they categorize themselves. Third, actors pursue specific goals and self-categorize accordingly; changes in their aims can therefore also lead to changes in their self-categorization.

This article builds on this research on category dynamics but focuses on an aspect that has not been explored thoroughly: the role of relations to a powerful third party in self-categorization. To be clear, power has not been completely absent from the categorization literature, but it has existed more as an implicit concept. It is consistently argued that audiences play a key role in determining category boundaries. Vergne and Wry (2014, 68) claim that the "audience directly or indirectly exerts control over the material and symbolic output of category members; and […] can reward or sanction category members." In this respect, members of the audience can be considered powerful. Several studies refer to the power of particular audience members in categorization processes, when, for instance, scrutinizing the role of the media (Kennedy 2008), of high-status actors (Rao et al. 2005), or of incumbent producers (Lounsbury and Rao 2004). Furthermore, implicit reference to power is also being made in the notion of goal-based self-categorization. Self-categorization according to certain goals includes motives like accessing funding or gaining a reputation (Granqvist and Ritvala 2016; Navis and Glynn 2011), and thus motives that point to actors' dependence on resource providers. However, the question of whether these dependency relations to powerful audience members matter at the local level has not yet been explicitly studied. To be more precise, we do not yet know whether a powerful third party can influence the strategic categorization or self-categorization of producers (Vergne and Wry 2014).

In this contribution, I therefore claim that self-categorization dynamics have to be viewed in the light of power/dependency relations. I therein follow Tilly (2005), who argues that the identity claims and their attendant stories, with which actors construct who they are and what they do, "constitute serious political business." What Lounsbury and Rao (2004) showed with regard to categorical boundaries in a mature market becomes particularly important for the self-categorization of new ventures in an emerging market: powerful organizations are likely to shape the boundaries of self-categorization. New ventures are dependent on the inflow of resources and maintain power/dependency relations with organizations that grant them access to these resources. The way the entrepreneurs categorize themselves is consequential (Tilly 2005); it influences their access to resources (e.g., Fisher et al. 2016). This is because their self-categorization helps the audience to classify and evaluate them; it suggests to the audience the kinds of categorical attributes with which the entrepreneurs seek to be associated. In short, self-categorization provides an account of the broader values to which an entrepreneur adheres. Resource providers refer to these category claims in order to judge an organization's worth (Glynn and Navis 2013) and to assess the viability of the venture (Lounsbury and Glynn 2001). We can therefore expect entrepreneurs to carefully watch powerful organizations in the field, and particularly to look for these organizations' value orientations (Cornelissen and Clarke 2010). These provide hints as to which self-categorization would be resonant in the field and therefore able to attract a beneficial flow of resources.[2]

Thus, I suggest in this article that social relationships to powerful organizations are crucial in self-categorization processes. These organizations provide models for a proper self-categorization that resonates with broader values in the field at the same time that they certify or validate the claims that the actors make in their self-categorization (Tilly 2005; McAdam, Tarrow and Tilly 2001). As such, powerful audience members help entrepreneurial ventures to make appropriate identity claims with which they will be more likely to attain legitimacy in the field. Entrepreneurs perceive the boundaries of an appropriate self-categorization through its various interactions with a powerful organization – for example, when participating in mentoring programs through which they become socialized with the beliefs, norms, and values that guide behavior in the market.

3. Data and Analysis

3.1 Research Setting

The setting for this study is the ethical fashion movement among young designers in the United Kingdom. In general, ethical fashion refers to fashion that is designed, sourced and manufactured in socially and environmentally sustainable ways. One of the founding directors of the Ethical Fashion Forum, the first professional association in the emerging market, defines ethical fashion as follows:

[2] The fact that self-categorization is consequential becomes even more apparent when we look at the well-studied ordering role of categories in markets. Research shows that categories act as "sense-making and order-creating devices" (Schneiberg and Berk 2010, 257), also referred to as "default mechanisms to make sense of the world" (Lounsbury and Rao 2004). Since they allow "people [to] make sense of incomplete and imperfect market cues" (Rosa et al. 1999, 65), they are considered crucial to the social order of markets (Khaire and Wadhwani, 2010). As Schneiberg and Berk (2010, 256) summarize, "product categories provide market participants with 'cognitive interfaces' for simplifying complex realities, focusing attention, grouping and comparing products and producers, locating themselves in the world, and orienting themselves toward rivals and trading partners." Research further shows that category conformity helps to build a firm's reputation and legitimize its activities, whereas nonconformity can entail economic losses (Zuckerman 1999). Products that are difficult to classify in terms of existing categories are "difficult to evaluate because they lack clear comparability" (Khaire and Wadhwani 2010, 1282). A firm that fails to fit any recognized category is easily overlooked, dismissed and devalued (e.g., Hsu 2006; Kennedy, Chok and Liu 2012). Thus, classification into a certain market category helps consumers and investors to compare products or firms with one another, to perceive their value, and to make an informed choice.

> When we talk about ethical fashion we are taking into consideration fashion which is socially and environmentally conscious. Social issues may include topics of gender, transparency, fair pay, trade unions and good governance. Environmental issues may include carbon miles, pesticides used in farming, natural and synthetic dying methods, how we dispose of clothing and its effect on the environment, water usage during production and post production of a garment. (Elizabeth Laskar, co-founder and director of the Ethical Fashion Forum)

The ethical fashion movement in the UK became largely visible to the public in 2006 when the British Fashion Council decided to create a special venue for ethical fashion during London Fashion Week, called Estethica. The movement originally emerged from various social spheres. From the moral sphere, social movement organizations like the Environmental Justice Foundation or the Fairtrade Foundation started collaborations with fashion designers or acted as certifying agencies to label their products. Furthermore, a couple of ethical fashion designers started with activist backgrounds. The movement also emerged in part from the esthetic arena of fashion design: various ethical fashion designers had graduated from leading fashion schools like the London School of Fashion, and members of the British high fashion scene like Katherine Hamnett or Vivienne Westwood provided considerable ideational input. Finally, the government also fueled the formation of an ethical fashion movement by its increasing support for a sustainable fashion industry. This culminated in the passage of a Sustainable Clothing Action Plan, which was publically launched at Estethica in 2007.

This setting is well suited to serve as a "theoretical sample" (Eisenhardt and Graebner, 2007) for scrutinizing the dynamics of self-categorization in the light of a powerful third party. Various formerly conflicting social spheres – e.g., morality, esthetics, the economy – all provide cultural resources for the actors' self-positioning. Conflicts between these spheres still persist, as reflected in the following statement:

> It's not more expensive to create beautiful, ethically correct clothing, it's just a lot more of a hassle… You have to make social and corporate responsibility darn sexy to get people to play the game. (Peter Ingwersen, founder of the label Noir)[3]

Not only the variety of cultural resources available for self-categorization but also the perceived conflicts between these frames make self-categorization a complex endeavor, and how the designers act in this situation is an empirical question. It is therefore particularly interesting to further refer to an organization whose dominant brokerage position in the fashion field makes it an exemplary actor for exploring the role of power in self-categorization: the British Fashion Council (BFC). The BFC acts as a cultural broker of the broader values that

3 As cited on the website of the Ethical Fashion Forum <http://www.ethicalfashionforum.com/fact-cards/1-times-a-changing> (Accessed March 21, 2017).

pervade the fashion field. From the perspective of the individual designer, this organization holds considerable power. It decides who is granted access to the prestigious London Fashion Week, thereby shaping the fate of ethical fashion designers in terms of their becoming internationally known or not. According to Entwistle and Rocamora (2011), participating in the fashion week is of high symbolic value for designers, and it can ultimately accrue into great commercial success. London Fashion Week reflects the power structure of the fashion field in a nutshell (Entwistle and Rocamora 2006): in the organization of the shows, the participant lists, or the physical separation of spaces. The BFC is the organization that has authority over London Fashion Week. It is therefore a crucial gatekeeper for designers accepted to the fair, since designers thereby gain the opportunity to become visible and legitimate members of the broader fashion field.

3.2 Analytical Approach

The analytical approach in this study combines frame analysis of producer websites with content analysis of further archival material. Scholars have proposed frame analysis as a useful analytical framework for studying categorization (Fiss and Kennedy 2009; Cornelissen and Werner 2011).[4] As I will argue, the importance of frame analysis for categorization research lies in providing an analytical approach to study categorization processes at different levels – in this case, the local level of self-categorization and the broader level of (master) frames available as cultural templates for self-categorization.

In general, frames are internally coherent interpretative schemes that render events meaningful, organize experience, guide behavior, and motivate action (Goffman 1974). Fiss and Kennedy (2009, 7) claim that “frames are used to characterize what it is that’s going on in an emerging market.” They further underscore the role of existing cultural material in categorization by holding that “many of the frames used by actors to make sense of their particular situations come ready-made and are supplied by society at large” (ibid., 9). Thus we can say that in their self-categorization, actors selectively draw on existing frames to provide meaning to their activities.[5] The frames available for self-

[4] There is some debate about whether frame analysis allows one to grasp the habitualized reproduction of categories taking place in mature markets, as its supposed focus is on deliberate framing activities (and hence the deliberate choice of cultural templates for categorization). I do not share this concern. As an analytical technique, frame analysis opens up ways to scrutinize different interpretative schemes in a framing discourse, independently of the question of whether these schemes are followed in habitualized ways or are deliberately applied.

[5] To be more precise, these cultural templates for self-categorization should be conceived of as master frames – broad interpretative schemes that result from the earlier cultural work of various social groups (Snow and Benford 1992; Benford and Snow 2000). Typical master frames revolve around values of social justice, the environment or peace. According to Benford (2013, 723), these master frames “are sufficiently elastic, flexible and inclusive enough”

categorization derive from the different social spheres out of which the new arena emerges (Fligstein and McAdam 2012); in the given case, it includes frames coming from the moral sphere of social movements, the esthetic sphere of fashion design and the economic sphere of a market. These spheres can be analytically conceived of as "value spheres" (Weber 1946; see also Swedberg 2005; Friedland 2013), associated with a characteristic set of values which are reflected in a certain frame. For instance, an ethical fashion designer who self-categorizes with reference to economic values like profit maximization, esthetic values like authenticity and creativity, or moral values like social equality and environmental protection draws on frames from the economic, the esthetic, and the moral sphere.

Combined in self-categorization, frames define the social identity of an actor (Lefsrud and Meyer 2012). Actors use the frames as identity claims to reflect the kind of person they want to be seen as (Glynn and Navis 2013). As such, they locate themselves in broader categories of meaning (Navis and Glynn 2011). Framing oneself with reference to widely accepted frames thus acts as a "potent identity mechanism" in that it helps to construct a resonant account of what the actor claims to be (Navis and Glynn 2010, 1130). By using broader frames in self-categorization, actors tie their identity claims to social values, thereby not only lending legitimacy to their offering but also making it credible and resonant to others (Tilly 2005). An ethical fashion designer who wants to be seen more as an activist and less as an entrepreneur will talk more about values like equality and fairness than about efficiency or profitability, and hence draw more on moral frames than on the business frame and its associated values.

3.3 Data

The data that allow insights into categorization through framing are made up of texts. I drew upon different types of sources, the majority of which are producer websites and BFC reports and press releases.

The first set of texts helped to capture which kinds of frames the designers apply in their self-categorization and hence to scrutinize which role moral and nonmoral values play in their self-positioning in the market. With the aim of understanding the role of power in self-categorization, I focused on ethical fashion designers who had been selected by the British Fashion Council to exhibit at London Fashion Week. In order to trace changes in their self-categorization over time, the sample includes ethical fashion designers of clothes, shoes and accessories who exhibited at the spring fairs in 2009, 2011, and 2013.[6] By downloading the content of their websites in the first quarter

so that actors in different social spheres "can successfully adopt and deploy" them in their framing activities. For the sake of simplicity, I refer to them briefly as frames.

6 See the Appendix for a list of producers in the sample.

after each fair had taken place, this dataset of 61 actor websites helped me gain insights into the changing role of moral and nonmoral values in the producers' self-categorization.

Assuming that self-categorization is shaped by the values propagated by central audience members, a second set of texts allowed me to explore the kinds of values that are important to the British Fashion Council. I therefore downloaded all publications by the British Fashion Council that are available online, both their reports and press releases. These texts helped me understand the general role of this elite organization in the British fashion industry as well as to scrutinize the kinds of values that this organization communicates. Finally, complementary data from the research project provided insights into the ethical fashion market by reflecting the view of further audience members on the market. This dataset included governmental and media reports, reports on ethical consumerism in the UK, book publications by ethical fashion activists, as well as reports on ethical fashion published by social movement organizations, the London College of Fashion's Centre for Sustainable Fashion, and the Ethical Fashion Forum.

3.4 Analysis

The frame analysis of producer websites proceeded as follows: reading the documents, I coded the types of frames in each sentence.[7] In doing so, I looked for the kinds of issues addressed in the sentence, and started with issues that I knew, from my earlier fieldwork, that most ethical fashion activists seek to address. I coded the *environmental frame* for sentences in which designers refer to issues including environmental problems caused by conventional clothing production and consumption or point to measures to reduce the impact on the environment, such as the use of natural dyes and alternative fabrics (organic cotton, hemp, recycled material, leftover fabrics), local production, eco-labelling, or the consumption of high-quality products with a longer life cycle. I also coded the environmental frame when designers simply mention key words that provide generally known cues to the frame, such as "eco," "green," or "biodegradable." I coded the *social justice frame* when issues are addressed that range from fair working conditions, long-term relationships with manufacturers who are committed to ethical standards, or poor living conditions of workers in developing countries. Key terms associated with social justice, like "fair trade," "ethical," "fair employment," or "fair working conditions" also pointed to this frame. Finally, I coded the *animal rights frame* when issues or key words regarding the well-being and treatment of animals are raised.

[7] Sentences form the smallest syntactically closed unit in naturally occurring language and are considered the most meaningful unit of analysis in computerized content analysis (Fiss and Hirsch 2005; Weber 2005).

Throughout the analysis, other issues appeared that indicated further frames, both from the moral sphere and from other social spheres: a *global justice frame* which refers to issues associated with globalization (e.g., preserving traditional cultural forms, supporting local communities); a *health frame* with which designers refer to health implications for either workers or consumers (e.g., harmful substances, chemical residues in clothes); a *business frame* that relates to economically relevant issues over the whole fashion supply chain (e.g., sourcing of materials, production facilities, marketing, pricing, distribution outlets, consumers, profits, or commercial success/failure); and a *fashion frame* when designers, for instance, describe their general esthetic approach or the design of their fashion collection ("fabulous," "beautiful," "innovative"), thereby referring to esthetic values of art, creativity and uniqueness that are typical for the sphere of fashion design. The result of the full-text coding of all downloaded websites resulted in sentences allocated to particular frames which then allowed me to assess how often the designers draw on each frame, and whether that changes over time.

Furthermore, I analyzed the content of the BFC's textual material as well as publications by other members of the field operating in the ethical fashion market. For the BFC texts, I sought to understand which kinds of values they emphasize in their publications. I also looked at how they talk about the ethical fashion movement in particular. I read the complementary data to gain a deeper understanding of how different actors see the ethical fashion market. These data also provided a look at how fashion actors position the BFC in the larger fashion field. All coding and analyzing in this study were computer-assisted, using the qualitative data analysis software ATLAS.ti.

4. Results

In this chapter, I start by providing insights into the kinds of moral frames used in designers' self-categorization, since morality primarily motivates them to enter the fashion field. This is also the major category that allows them to differentiate their offerings from conventional fashion. I then go on to describe the cultural framing of the BFC as the leading audience member brokering the dominant value expectations of the fashion market. Finally, I show changes in the designers' self-categorization. I see these changes as a result of their extended exposure to these values and of their general striving to become legitimate members of the market arena.

4.1 Morality in the Self-Categorization of Ethical Fashion Designers

Ethical fashion designers are well aware of the still contested notion of morality in the fashion market. Orsola de Castro, one of the founders of Estethica – and herself a celebrated ethical fashion designer – addresses this conflict directly:

> [We see ourselves] as a kind of major designer force, as a kind of innovation within the industry rather than camping gear. What we showcase here [at Estethica] are not just brands that are here to save the planet. We are here to sell clothes. We aim at the same wardrobes as most of the other traditional designers. (Orsola de Castro, interviewed by Suzy Menkes during London Fashion Week, July 2009)[8]

Cyndi Rhoades, another influential social entrepreneur in the fashion field, expresses comparable concerns:

> We don't want to be pigeonholed as eco fashion; first and foremost it's about good design. I want this whole initiative to move out of being 'green.' It should just be the way that you do business. (Cyndi Rhoades, June 19, 2010, The Daily Telegraph)

Confronted with the conflicts between esthetics, morality and the economy that pervaded the fashion field for such a long time, we cannot expect ethical fashion designers to make ample use of moral frames in their self-categorization. Interestingly though, ethical fashion designers even emphasize moral values in their self-categorization, at least throughout the first years. Indeed, in the early years, most of them claim an identity that strongly builds on moral values. They position themselves as activists who seek to change unethical practices in the fashion industry, or at least as moralists who denounce unacceptable conditions associated with clothing production (see Table 1).[9]

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[8] The interview is available via <https://www.youtube.com/watch?v=7Ocp1AF7niY> (Accessed March 1, 2017).

[9] Claiming the identity of an activist means that a designer draws in more than half of all his or her self-categorization on moral frames. As a moralist, he or she applies any of the moral frames more than any of the nonmoral frames – although overall, moral framing still accounts for under half of all framing used in self-categorization. One of the other self-identities in the sample is that of an entrepreneur: a designer positions him- or herself as an entrepreneur when drawing on the business frame in more than half of all framing for self-categorization. Furthermore, the table points to some of the other frames with which self-identity claims become blended, thereby also indicating the extent to which this happens. For instance, activists who blend their claimed moral identity with the business frame have "some" business acumen when they use the business frame in less than 10% of their self-categorization; they have "strong" business acumen when they use it in more than 25% of their framing; and they have "very strong" business acumen when they use it in more than 38% of their overall framing activity. A full list of the designers' self-categorization, including other self-identities (e.g., fashionista) and further information on frame blending, is available from the author upon request.

Table 1: Self-Categorization of Ethical Fashion Designers (Summary of Moral and Business Framing)

2009	2011	2013
32 designers, out of which ... -19 position themselves as activists; six of these somewhat refer to, ten of them moderately refer to, and one strongly refers to the business frame; -four position themselves as moralists; each of them also moderately refers to the business frame; -two position themselves as entrepreneurs; one of them also strongly draws on moral frames	16 designers, out of which ... - six position themselves as activists; three of these moderately refer to the business frame; -five position themselves as moralists; three of these moderately refer to and two of them strongly refer to the business frame; -two position themselves as entrepreneurs, one of these also draws moderately on moral frames, and the other one draws somewhat on moral frames	13 designers, out of which ... - four position themselves as activists; three of these strongly or very strongly refer to the business frame, and one designer also uses the business frame somewhat; -two position themselves as moralists, one of them also strongly refers to the business frame; -three position themselves as entrepreneurs; one of these draws strongly on moral frames, and the other two moderately refer to moral frames

Core to their self-categorization as moral agents are issues like waste reduction, water contamination, upcycling, or organic farming on the one hand; and fair payment, cooperative production systems, education of workers, or poverty reduction on the other:

> In Britain, more than 1 million tonnes of textile waste finds its way into our landfill sites every year, 50% of which is reusable. (Good One)[10]

> Ada has also employed zero waste technology by saving the fabric residue and shredding this to create padding utilised in scarves and shoulder pads. Other fabrics used in the collection include Fair Trade organic cotton. (Ada Zanditon)[11]

> Veja buys cotton respecting fair trade rules and has long term commitments to the cooperatives. Veja offers twice the market price to the Brazilian producers to buy their organic cotton. (Veja)[12]

While social justice and environmental protection are the most important values in self-categorizing as a moral agent, designers also draw on frames related to other moral values. Some designers express their aim of supporting their communities through local manufacturing and preserving the national heritage of textile production knowledge, thereby referring to issues related to globalization and the global justice movement:

[10] <http://www.goodone.co.uk> (Accessed April 16, 2009).
[11] <http://www.adaz.co.uk/html_biog.htm> (Accessed April 16, 2009).
[12] <http://www.veja.fr> (Accessed April 24, 2009).

Through the provision of our training programmes we empower local grass-roots partners [...] supporting UK industries, traditional arts and crafts [...]. Our garments are all produced in the UK, from the grass the sheep graze on to the product in your hands. (The North Circular)[13]

Other designers are deeply concerned with animal rights when, for example, addressing the use of alternatives to leather in vegan shoes or, as in the following example, the living conditions of the animals that provide the wool:

Our flock of Wensleydale and Shetland sheep comprise mainly of animals that would have been sent to slaughter for being male, missing a pregnancy, being a little lame, being too small, being too old or having imperfections such as a black spot in a white fleece. (Izzy Lane)[14]

These examples show that ethical fashion designers express a variety of moral values when claiming the identity of an activist or a moralist. The quotes further reflect the underlying conflict between morality and the economy, and we can also note how some of the designers present as distant from business-related matters. It becomes clear that they have to resolve a critical tension when positioning themselves in a market arena in which business values dominate.

4.2 Business Values Propagated by the British Fashion Council

Throughout all its publications, the British Fashion Council (BFC) prominently addresses values associated with the economic sphere of a market arena. The overall aim of this organization is to support British fashion designers in achieving commercial success, as it claims in its self-presentation as well as in its reports:

The BFC is committed to developing excellence and growth in a sector that is a significant contributor to the British economy. We nurture, support and promote British fashion talent to a global market. (Website, About)

Designers should have an appreciation of business. It is important for them to think from a very early stage about putting in place the right business processes. (BFC, Commercialising Creativity Report)

The BFC's dedication to business values like profitability and economic growth has increased over the years, which can be seen in the light of organizational and strategic changes within the organization.[15] When a new chairman took over in 2012, she announced new "strategic pillars" led by experienced members of the fashion industry. These pillars are directly derived from the

[13] <http://thenorthcircular.com/about-north-circular>;
<http://thenorthcircular.com/green-credentials> (Acessed March 5, 2011).

[14] <http://www.izzylane.com/shopcontent.asp?type=aboutus> (Accessed April 24, 2009).

[15] The latest report, for instance, puts the economy first. It already starts with the headline: "The UK fashion industry contributes £26 Billion to the UK economy" (BFC, Annual Report 2014-2015).

organization's general aim to help the UK fashion market grow by developing and supporting the business skills of the designers. She describes the vision underlying these pillars as follows:

> We have put in place a vision for the British fashion industry […]: That the designer sector will have at its heart significantly more robust and profitable businesses; that these businesses will attract and secure investment for growth; that as a country and sector we will lead in digital and embrace technology to find new and more efficient ways to engage with a global industry; that we will inspire and support talented future generations to work in the industry through education; that we will protect and grow London and Britain's reputation for creativity, flair and business. (BFC, Annual Report 2012-2013)

To develop the economic success of its designers, the BFC uses a variety of approaches, including a mentoring program in which representatives from the fashion industry assist designers in developing their businesses:

> The key aim is to appoint high profile industry leaders who can work with designer businesses over a two year period, open their contacts book to assist knowledge gaps and share expertise across the business structure. They will also assist the designer in structuring their business, help appoint key personnel and develop essential business disciplines, knowledge and strategy to deliver growth. (BFC, Annual Report 2013-2014)

Various ethical fashion designers have also taken part in such a program:

> A dedicated mentoring programme for Estethica was established in 2009 to develop eco fashion businesses into commercially successful designer businesses. Six of Estethica's designers this year received one to one expert advice and support from one of three industry mentors: brand consultants Susanne Tide Frater, Yasmin Sewell and buying consultant Bev Malik. This initiative received support from the London Development Agency and aims to increase opportunities for ethical designers competing in the mainstream. (BFC, Annual Report 2010-2011)

It is notable that the mentors for ethical fashion designers are all recruited from the sphere of fashion business. The mentors are specialists in branding and sales, and should help designers to develop excellence in business-related matters. No doubt, ethical values like social and environmental sustainability drive the choice of designers for Estethica, but the focus of the BFC's activities is on providing them with business-related know-how, expertise and resources to become economically successful in the mainstream market.

What about values associated with esthetics? As a prominent organization in the fashion arena, esthetic values are not absent from shaping its actions. Design excellence, for instance, is a prerequisite for being selected to showcase at London Fashion Week and, even more so, for winning the prestigious British Fashion Award granted by the BFC. However, creativity at all costs is not being asked for; instead, the design must be considered saleable, something that is particularly secured by the industry advisory board that supports the

BFC "in sourcing, identifying and selecting talent […] to show at London Fashion Week" (BFC, Annual Report 2010-2011).

The focus on business values becomes understandable when one considers the BFC's role in the fashion field. As the organizer of the main field-configuring event, it unites members of the fashion field, the most important of which are commercial ones. Indeed, commercial organizations are the central players behind the BFC. The council's executive board, which was established for the first time in 2009, consists of industry representatives. It has to report regularly to an industry advisory board. Members of this board not only control for the BFC's cost efficiency but are also involved in selecting the "right" designers for London Fashion Week (whose offerings are considered well-designed *and* saleable). Fashion firms also take part in different programs dedicated to educating fashion designers:

> [M]any of our high street fashion brands support the overall talent pool through their relationship with the British Fashion Council, support and sponsorship of London Fashion Week and contribution to the talent pathway schemes available to young designers from college upwards. (BFC, Future of Fashion Report)

Furthermore, commercial organizations are the major sponsors of London Fashion Week. Not to forget that during London Fashion Week, fashion retailers place orders with an estimated value of over 100 million pounds each season. The BFC's focus on the economy and the commercialization of fashion can be seen in light of its uniting and brokering role in a field that is first and foremost an economic arena. The BFC provides central platforms for field coordination, and it acts as a gatekeeper for individual designers. As such, it exerts considerable power over upcoming designers who seek to form part of that field.

4.3 Entering a World of Business

4.3.1 Blending Values in Self-Categorization

Ethical fashion designers start their ventures in a world in which the moral values that motivate them in the first place are not taken for granted. However, in order to become legitimate and recognized members of the fashion market, it is critical for them to adhere to the business values that are central to the field. To do otherwise, they would risk failing to achieve their activist aim of changing the industry from within. An important step in that direction is to convince the BFC to grant them access to London Fashion Week. As we have learned, dominant in this organization's cultural framing are values associated with the economy, through which the BFC reflects the broader value orientation in the fashion market. In the early years, that dominance of business values is not reflected in the self-categorization of ethical fashion designers. Most of the designers claim an activist or a moralist identity. This does not mean that they completely ignore business values. Instead, designers usually seek to unite both worlds by blending the moral frames with the business frame in their self-categorization. Indeed, the blending of the business frame with moral frames is a general means to express their belonging to both worlds. A designer is not just an activist in the field but an activist with business acumen who also knows how to run a business firm:

> Veja's fabrication costs are 3 to 4 times higher than other footwear brands because the trainers and bags are produced with dignity. But Veja's 'no advertising' policy makes it possible to sell trainers at a price which is equal to competitors. (Veja)[16]

Blending is common when designers, for instance, describe their aim to develop an alternative business model, one that overcomes the "hostile worlds" perspective (Zelizer 2011) in which economic and moral values are seen as incompatible. The designer Pachacuti, for example, works hard to bring moral values into its business model:

> [O]ur endeavour [is] to redress inequalities in the global fashion industry through demonstrating that it is possible to run a successful retail and wholesale clothing business which benefits the producers and is environmentally sustainable. (Pachacuti)[17]

People Tree makes a similar effort by describing how moral values should delimit the pursuit of the core business value – i.e., profit maximization:

> Fair Trade Organizations trade with concern for the social, economic and environmental well-being of marginalized small producers and do not maximise profit at their expense. (People Tree)[18]

Still, People Tree's privileging of justice over profit-making highlights the challenges of bringing separate social spheres together, and thus, there are designers like Mark Liu who rather seek to balance these values:

> Mark Liu has come up with a solution to reduce wastage as well as manufacture costs, in a unique win-win situation for both the environment and business operation. (Mark Liu)[19]

4.3.2 Changes in the Designers' Self-Categorization

While blending is frequent throughout the whole period, in the early years, the designers put much more emphasis on matters related to morality. Table 2 reflects how the blending of moral frames with the business frame changes over time, using as an indicator the number of sentences in which these frames co-occur.

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[16] <http://project.veja-store.com/en/zero-zero> (Accessed October 5, 2013).
[17] <http://www.panamas.co.uk/about/> (Accessed March 5, 2011).
[18] <http://www.peopletree.co.uk/ifat_standards.php> (Accessed April 16, 2009).
[19] <http://www.markliu.co.uk/about.html> (Accessed April 16, 2009).

Table 2: Co-Occurrence of Moral Frames with the Business Frame in the Designers' Self-Categorization

	2009		2011		2013	
	co-occurrence (no. of sentences	% of moral frame co-occurring with business frame	co-occurrence (no. of sentences)	% of moral frame co-occurring with business frame	co-occurrence (no. of sentences)	% of moral frame co-occurring with business frame
animal rights and business	9	13%	1	4%	2	100%
anti-globalism / local community and business	64	100%	4	14%	14	40%
eco and business	84	18%	45	23%	87	45%
social justice and business	118	38%	58	33%	143	62%
Total	275	31%	108	26%	246	53%

We see that in 2009 and 2011, designers more often draw on moral frames alone – i.e., without also referring to any business value. In 2013, however, in more than half of all uses of moral frames, these frames are combined with the business frame. Thus, over the years, the blending of moral frames with the business frame increases in producers' self-categorization.

Table 3: Self-Categorization of Ethical Fashion Designers Who Participated in More than One Fair

	2009	2011	2013
Ada Zanditon	Moralist (business acumen, strong fashion credentials)	Moralist (strong business acumen, fashion credentials)	Moralist (strong business acumen, fashion credentials)
From Somewhere	Activist (business acumen, strong fashion credentials)	Moralist (business acumen, strong fashion credentials)	(not present at fair)
Good One	Activist (strong business acumen, fashion credentials)	Moralist (strong business acumen, strong fashion credentials)	Entrepreneur (strong moral credentials, some fashion credentials)
Henrietta Ludgate	(not present at fair)	Fashionista (moral credentials, business acumen)	Entrepreneur (moral credentials, fashion credentials)
Makepiece	Activist (strong fashion credentials)	Activist (strong fashion credentials)	(not present at fair)
Pachacuti	(not present at fair)	Activist (business acumen)	Activist (strong business acumen)
Veja	Activist (business acumen)	(not present at fair)	Activist (very strong business acumen)
North Circular	(not present at fair)	Activist (some fashion credentials)	Entrepreneur (moral credentials, some fashion credentials)

The trend towards business issues can also be seen in the self-categorization of designers who exhibited at more than one of the analyzed fairs. Talking more about business issues in self-categorization is common for most of the designers who participated in Estethica several times (see Table 3).

Some of these designers put so much more emphasis on business values over time that overall, the result is a change in their claimed self-identity. The design company Good One is one example of such a change in self-identity. In 2009, the extent to which its founder, Nin Castle, draws on moral frames indicates that she self-categorizes as an activist; then in 2011, drawing less on moral frames, she presents herself as a moralist. Finally, in 2013, she claims an entrepreneurial identity by focusing on business-related matters. The North Circular is another design firm which shifts from an activist to an entrepreneurial identity by giving much more space to issues related to the economic arena of a market. In 2013, they describe themselves accordingly:

> The North Circular launched at London Fashion Week in 2009. Rapidly amassing an impressive portfolio of international stockists and press from Vogue, to I-D, winning British Fashion Council awards and RSPCA good business awards. Founders Katherine Poulton and Lily Cole are both veterans in the fashion industry […]. Their passion for finding new ways of seeing the world, led them to believe in the future for the oldest methods of production. 'We wanted to return value to the hand made product, personalise the process of production, rekindle the relationship between the producer and the purchaser – knitter and scarf wearer, practically and digitally.' (The North Circular)[20]

It seems that they have become familiar with both the values and the jargon of the business world, applying a sophisticated business language that was less present in the first years.

It is also striking that over time, among all designers who are present at Estethica, a smaller portion of them claim an activist or moralist identity (again, see Table 1). While in 2009, nearly three out of four designers position themselves as activists or moralists, in 2013 not even half of all designers do so. Instead, the portion of those ethical fashion designers who claim an entrepreneurial identity increases. Is green likely to become black again? At least in the analyzed period, claiming to be truly green becomes less attractive for members of the ethical fashion movement. What has happened? As I will argue below, the designers' willingness to become part of the fashion business, mediated by the BFC as the central gatekeeper, has led them to change their self-categorization towards a greater emphasis on business values.

[20] <http://www.thenorthcircular.com/about-us> (Accessed April 9, 2014).

5. Discussion

> Perhaps nowhere else are the dynamics of organizational identity and audience assessments more transparent than in the case of new ventures seeking needed resources.

What Glynn and Navis (2013, 1129) generally claim also applies to self-categorization in the ethical fashion market: new ventures change their identity claims in the light of a powerful audience member. Between 2009 and 2013, we see several ethical fashion designers switch their claimed self-identities from that of activists or moralists towards that of entrepreneurs. Designers also pronounce their moral ideals less over time, instead putting more emphasis on business-related values. What makes the designers change their self-categorization? I argue in this article that we have to consider the designers' power/dependency relations in order to better understand the dynamics in self-categorization.

The designers under study have all been selected by the British Fashion Council (BFC) to showcase at London Fashion Week (LFW). The material and symbolic value of being part of this highly visible and prestigious fashion event cannot be underestimated. According to Entwistle and Rocamora (2006, 736), "LFW is a major promotional opportunity for British fashion designers." The designers who are chosen to exhibit at this main field-configuring event are provided with important commercial opportunities: consumption decisions of large buyers are negotiated at the fair, and the fashion critics invited by the BFC to attend the shows contribute to the perception of ethical fashion by the broader public. By granting designers access to this event, the BFC thus exerts indirect control over the resources that become available to members of the ethical fashion category. In this respect, the BFC plays an important catalyst role for ethical fashion in society. Furthermore, the BFC also acts as a gatekeeper for the chosen ethical fashion entrepreneurs. It is itself a highly esteemed and legitimate member of the fashion field, in which it acts as a broker whose guidelines and activities not only reflect the field's dominant beliefs, norms and values but also shape them. Hence, when selecting particular ethical fashion designers for its fairs, it confers legitimacy on them. Legitimacy is a general prerequisite for the survival of new ventures and also a mediator for further economic success (Aldrich and Fiol 1994). Being unknown, new designers lack the credibility that allows them to access and mobilize resources. When a powerful actor in the field supports their activities, however, they are able to overcome the difficulties that entrepreneurs usually face during their founding years.

All this being said, it is clear that the BFC plays a central role for ethical fashion designers. As a leading audience member able to reward or sanction ethical fashion designers, we can assume that designers orient their cultural self-positioning in the market along the lines reflected by this organization. The values propagated by the BFC indicate to designers what is expected from them in the fashion market, and to which values they should adhere in their self-categorization in order not only to be invited by this organization but also to be considered legitimate members of the broader field. Designers learn about the values in the market in several ways, and the BFC acts as the central mediator in the process. They participate in the fairs, programs and workshops organized by the BFC, where they become increasingly socialized with the beliefs, norms, and values in the fashion market. They also learn about them through BFC's publications, in all of which the core values of the market are dominant. As I have described, the BFC is deeply committed to supporting designer *businesses*, and its emphasis on business values becomes even more pronounced over time. The increasing role of business values in ethical fashion designers' self-categorization can thus be seen in the light of the cultural framing of the organization that is able to shape their success in the market. Here, resonance is an important driver for their self-categorization (Granqvist et al. 2013; Granqvist and Ritvala 2016; Navis and Glynn 2011), as designers strive to achieve resonance between their own framing and the framing of a powerful audience member.

What about the other drivers for dynamics in self-categorization that the categorization literature suggests? Do they help us to further understand the cultural shift in ethical fashion designers' self-categorization? To start with, literature on prototypical similarity would propose that the designers have tried to self-categorize according to a prototypical category (Durand and Paolella 2013). However, in the period under study, the ethical fashion market was in its formative years; a prototype had not yet emerged. While a professional actor in the field sought to promote a clear definition of what ethical fashion means,[21] producers disagreed on the kinds of attributes that should designate the emerging category. Some producers focused only on attributes like social justice, others on attributes associated with environmental concerns. Some saw these attributes as necessarily related – claiming, for instance, that the use of organic cotton is not sufficient to belong to the ethical fashion category but that values of social justice should also guide activities throughout the whole supply chain. Thus, given the lack of a prototype, prototypical similarity cannot provide insights into the case.

Categorization studies further show that the accumulation of knowledge shapes categorization over time (Granqvist and Ritvala 2016; Khaire and Wadhwani 2010; Rao et al. 2005). Actors gain new knowledge through their ongoing experiences in a new arena and therefore "continually reframe extant market categories […] and generate new boundaries across them" (Durand and Paolella 2013, 1105). The strategic act of self-categorization is thus shaped by

[21] See the definition by the Ethical Fashion Forum in part 3.

an actor's life experiences (Swidler 2001). Many ethical fashion designers start with a background in the moral sphere of social movements. They come to the arena with an activist agenda for social change, and their emphasis on moral values in self-categorization can be seen in the light of this agenda. Through their continued experiences in the fashion market, they accumulate new knowledge about what is appropriate and legitimate conduct in a market. And the BFC helps them to grow – by mediating their contact to buyers at LFW – so that the designers increasingly face the demand to "behave as a business" (BFC, Commercialising Creativity Report 2014, 7), both in their negotiations with buyers but also in their own organizations where they are now forced, for instance, to employ a workforce, manage production units, or implement a sales and distribution strategy. All this adds to their life experiences in the business sphere, making it more likely that they strategically position themselves with reference to the respective frame. Thus, the accumulation of knowledge can complement our understanding of why designers change their self-categorization over time. However, this driver alone would be insufficient to understand their strategic positioning in the market given that it remains silent on the role of dependency relations to a powerful audience member for dynamics in self-categorization.

Finally, studies have recently shown that actors' specific goals drive their categorization activities. Granqvist and Ritvala (2016, 213) note in this respect that "the key aspect of market categories is that they are domains of economic activity where outputs are produced and sold, with the aim of making profit, or to survive." Hence, these aims are important to an understanding of categorization dynamics. According to this view, ethical fashion actors would use self-categorization as a means to achieve certain goals. For instance, knowing that in order to become known to a larger public or to gain a reputation they depend on support from the BFC, the designers would strategically position themselves in ways that resonate with this organization's cultural framing. Specific goals and interests would then have shaped their self-categorization. Here again, the social relations to a powerful brokering organization are fundamental to understanding why ethical fashion designers start focusing on particular kinds of values in their self-categorization and identity claims. Thus, while goal-based categorization certainly adds to our understanding of the changes in ethical fashion designers' self-categorization, it does not directly address power/dependency relations.

6. Conclusion

With this study I aim to show that power/dependency relations are central to understanding dynamics in self-categorization. While the notion of power has implicitly pervaded recent research on categorization and category dynamics, this study more clearly points to the role of relations to a powerful audience member for the self-categorization of new ventures. It thereby sheds light on an undertheorized topic in the literature on category dynamics – namely the role of a powerful third party for the strategic categorization of producers (Vergne and Wry 2014; Granqvist and Ritvala 2016).

On a broader scale, this study also contributes to questions of morality in markets. The case reflects the special issue's view on markets as moralized entities that are not opposed to but constituted by moral economies (see also Weber et al. 2008; Fourcade and Healy 2007). Indeed, moral orders nurture the market under study: moral values are cultural resources that allow moral entrepreneurs to define themselves; these values form a central part in their claims on who they are and what they do. Thus this study adds to the literature that opens the "black box of morality in markets" (Fourcade and Healy 2007, 305; see also Aspers 2011), also by looking into the dynamics of morality in markets. It shows that the perceived "value" of moral values in markets can change over time: in the case of ethical fashion, morality seems less and less to be perceived as an appropriate category for positioning oneself in the market arena. Why do activists who are intrigued by the idea of building a moral alternative to the conventional firm lose faith in morality as a central element that constitutes their identity? In this contribution, I have suggested that dependency relationships with the conventional economic arena help us to understand the resurgence of an economic valuation regime, even in a moral market that was started as a deeply moral project. Actors in the ethical fashion market made themselves dependent on support from organizations in the conventional market that are core representatives of an economic logic. Developing in the shadow of the conventional market can play a role in increasingly delimiting the constitutive value of morality in the moral market. Future research on different kinds of moral markets will provide further insights into the question of whether it is the fate of all moral markets to become less moralized over time, or whether some moral markets – possibly those with fewer relations to the conventional arena – are able to maintain a central constitutive role of morality in the market.

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Appendix

List of Producers in the Sample (Designers of Clothes, Shoes and Accessories Exhibiting at Estethica during London Fashion Week)

February 2009	February 2011	February 2013
Ada Zanditon	Ada Zanditon	Ada Zanditon
Anatomy	Antonello	Beautiful Soul
Antonello	Ciel	Bottletop
Article 23	Dr Noki	Good One
Beyond Skin	Emesha	Henrietta Ludgate
Butcher Couture	From Somewhere	Katrien van Hecke
Ciel	Good One	Liora Lassalle
Del Forte Denim	Henrietta Ludgate	Lost Property of London
Elena Garcia	Junky Styling	Mich Dulce
Eloise Grey	Luflux	Pachacuti
Enamore	Makepiece	Phannatiq
From Somewhere	Max Jenny	The North Circular
Good One	Pachacuti	Veja
House of Tammam	Partimi	
Ivana Basilotta	Study NY	
Izzy Lane	The North Circular	
Makepiece		
Mark Liu		
Mia		
Minna		
Nahui Ollin		
Nina Dolcetti		
Numanu		
People Tree		
Prophetik		
Raeburn		
Reet Aus		
Rita Hraiz		
Samant Chauhan		
Sonya Kashmiri		
Stewart and Brown		
Veja		

Classifications, Quantifications and Quality Conventions in Markets – Perspectives of the Economics of Convention

Rainer Diaz-Bone [*]

Abstract: *»Klassifikationen, Quantifizierungen und Qualitätskonventionen in Märkten - Perspektiven der Economie des conventions«*. The article presents the French approach of economics of convention (EC) as a pragmatic institutionalism. It was developed on the one side for the analysis of practices of classifications and quantification. On the other side it was developed for the analysis of multiple logics of economic coordination. The basic concepts of EC are introduced and applied to the analysis of classificatory procedures in markets. The article aims to present EC as an innovative approach for the analysis of markets.

Keywords: Quantification, classifications, economics of convention, sociology of market, quality conventions.

1. Introduction

The social sciences have emphasized the importance of categories and classifications in societies. Both can be conceived as fundamental social institutions (Durkheim 1915; Lévi-Strauss 1969; Foucault 1970; Douglas 1986; Bourdieu 1984; Bowker and Star 1999). For the sociology of markets, categories and classifications – as organized architectures of categories – are cognitive infrastructures for producers, employers, employees and consumers which they apply to understand market order, product niches and the qualities of labor and of products in markets (Desrosières and Thévenot 1979, 2002; White 1981, 2002; Volle 1982; DiMaggio 1987; Bourdieu 2005; Zhao 2005, 2008; Fourcade and Healy 2017 [2013]).[1] Market intermediaries as traders, critiques and market analysts also apply these categories and classifications to ascribe and

* Rainer Diaz-Bone, Department of Sociology, University of Lucerne, Frohburgstrasse 3, 6002 Lucerne, Switzerland; rainer.diazbone@unilu.ch.

1 As Alain Desrosières, Alain Goy and Laurent Thévenot (1979) have shown, social classification cannot be developed only from theoretical considerations nor can they be derived from empirical observation. The principle how categories are delimited and integrated into a classification (sometimes with different hierarchical levels as in the case of job classifications or product classifications) is called the *convention of equivalence* (see section 3 below).

evaluate product qualities and to identify coherent product and producer identities. Many studies in the field of market sociology have analyzed the importance of categories for markets.[2] Quantification is another and related concept which is part of the cognitive and valuating structure of markets. In the economy quantification is fundamental not only because values are expressed in numerical price information, but because in markets quality is assessed by additional ratings, rankings, scores etc. as the "sociology of quantification" argues (Porter 1995; Espeland and Stevens 2008; Desrosières 2011, 2014, 2015; Centemeri 2012; Rottenburg et al. 2015; Diaz-Bone and Didier 2016). In this contribution it will be argued that classifications and quantifications in markets are built on conventions as deep principles or "logics" for interpretation, valuation and coordination.[3] The French approach of economics of conventions has worked out a framework for the analysis of socio-economic coordination and socio-economic institutions. Herein, the concept of convention has a central position as one of its core concepts. Although its name refers to economics, this approach is also a sociological approach. Economics of convention sometimes is called convention theory, in short EC. EC was developed in France in different fields as economic sociology, pragmatist institutionalism, statistics, politics, education, health, economics and others.[4] It is important to recognize the specific character of EC. It is not a closed paradigm but a scientific movement with representatives at its center and contributors at its margins (Diaz-Bone 2015).[5] In this contribution EC will be presented and perspectives offered by EC on the interrelationship between market coordination, conventions, classifications, and quantifications, will be introduced and applications discussed.

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2 See Zuckerman (1999, 2000), Rosa et al. (1999), White (1981, 2002), Lounsbury and Rao (2004), Kennedy (2005, 2008), and Bessy and Chauvin (2013).

3 The contribution builds on a foregoing article (Diaz-Bone 2016) in Historical Social Research 41 (2), prolongs its argumentation and relates it to markets.

4 The two most important monographs are "Worlds of production" (Storper and Salais 1997) and "On justification" (Boltanski and Thévenot 2006). These are completed by the monographs "The new spirit of capitalism" (Boltanski and Chiapello 2006) and "The empire of value" (Orléan 2014). See also the contributions in Salais and Thévenot (eds. 1986), Favereau and Lazega (2002), Orléan (2004), Eymard-Duvernay (2006a, 2006b), Diaz-Bone and Salais (2011, 2012), Diaz-Bone et al. (2015), Knoll (2015), Batifoulier et al. (2016), and Diaz-Bone and Didier (2016).

5 EC has been developed in the Paris region during the last three decades. The founders of this movement and the first conventionalists were Robert Salais, Laurent Thévenot, François Eymard-Duvernay, André Orléan, and Olivier Favereau. Today, one can speak of a third generation of representatives of EC in France and there it is regarded as a core part of the new French social sciences (Nachi 2006; Corcuff 2011; Diaz-Bone 2015). EC is one of the most important French scientific movements to reconcile and to link the two mega-paradigms of social sciences: pragmatism and structuralism. In the last decade, EC has started to spread outside of France. In Europe the German-speaking countries are currently heading this process.

First (section 2) the classification studies at the French national statistical institute INSEE will be presented as one of the birth places of EC. At INSEE researchers discovered the general principles actors refer to, when they justify their practices of classification and valorization.[6] Then (section 3) some fundamental concepts of EC as the "convention of equivalence," "statistical chain" and "investment in forms" will be explained and related to practices of classification and quantification. From the standpoint of EC the whole process of measurement and the social processes of categorization and quantification can be conceived as embedded in convention-based collective practices, so that one can speak of a political economy of categorization and quantification. It is argued that the new practices of "big data" bring in new tensions to collective practices of classification and quantification. Two empirical examples, how to apply the approach of EC to the analysis of markets, are sketched and important quality conventions are compared (section 4). At the end of this contribution the perspective of EC on neoliberalism and measurement is discussed (section 5).

2. Classification Analysis at INSEE

The analysis of categories and classifications at the French National Institute for Statistics and Economic Studies INSEE was one of EC's birth moments.[7] The French classification of the socio-professional categories was developed from the 1950s on and established itself not only as cognitive infrastructure for the labor market and for official statistics but also as socio-cognitive representation of social groups in the French society. Therefore, the socio-professional categories became (and still are) *highly visible* in everyday life and these categories became seemingly self-evident. The French understood and interpreted their society, its order of life styles, ordinary situations, societal processes, and social conflicts applying these visible categories as collective cognitive devices.

The INSEE as national statistical institute was exceptional in one regard for long time: economists, statisticians and sociologists worked together in transdisciplinary teams. Sociologists were engaged in the training of INSEE employees and they were involved in the different attempts to reform the socio-professional categories (Desrosières and Thévenot 2002; Diaz-Bone 2015; Thévenot 2016). In this institutional context, sociologists examined the properties of statistical classifications and the classifying practices of actors. Laurent

[6] In the French social sciences the notion of "valorization" (as in EC) is used in a comparable way as the notion of "valuation." So EC has also its specific contribution to the so-called "valuation studies."

[7] See <https://www.insee.fr/en/> (Accessed February 27, 2017).

Thévenot and Luc Boltanski asked actors to classify persons into socio-professional categories (Boltanski and Thévenot 1983). Boltanski and Thévenot managed the actors to have problems with the handling of categories because actors received incomplete information about the person to classify. So, classifiers were entangled in discussions and quarrels about how to classify and to give reason for this. In the analysis of the disputes, Boltanski and Thévenot identified deeper principles to justify the handling of categories. Here, an example is given. Two female classifiers – Martine and Renée – are quarrelling about the possibility to classify the professions of "chambermaid" and "female factory worker" into only one category or not.

> Martine: "I don't agree… Chambermaid and female factory worker… It's not the same background, it's not the same way of life."
>
> Renée: "All right, but in the end it doesn't make much difference."
>
> Martine: "I dunno… I'm trying to follow you… All the same, they're two different life-styles, the factory girl gets dirty, she works much harder than a chambermaid working in someone's house."
>
> Renée: "A domestic servant doesn't sit around all day. I think they can go together."
>
> Martine: "I think it's not the same sort of life at all. Working in a factory and working as somebody's cleaning lady or chambermaid isn't the same sort of thing at all. Now *we* put chambermaid with cleaning lady."
>
> Renée: „What they have in common, is neither of them needs any qualifications, that's an important factor, after all." (Boltanski and Thévenot 1983, 655; original emphasize)

It is important to notice that classifiers here refer not to the case level but refer to more general principles how to justify the practices of classification. Here, it is professional qualification versus life style as more fundamental principles to manage the relation between categories and professions. What is at stake here is the "qualification," i.e. the evaluation and valorization of persons in reference to categories. Qualification in French means more than training, it means to valuate persons. From its beginnings, EC focusses on mechanisms of qualifying persons and things by relating them to categories which are based on more general principles (Boltanski and Thévenot 2006). These principles were named differently by members of the EC movement as orders of justification, quality conventions or worlds of production. The different names refer all to the same reality of socio-cultural logics of valuation, evaluation and coordination, which actors rely on in practical situations of production, distribution or consumption. These socio-cultural logics can broadly be summarized as conventions, making aware that EC has identified different concepts for conventions – as conventions with semantic content and conventions without semantic content (see below).[8] For EC it is evident that the term convention does not refer to standards or customs – in the sense Max Weber used this term (Weber 1978).

INSEE was a birthplace for EC and research on categories in many ways. Robert Salais was leading the labor department at INSEE doing historical research on the emergence of labor categories. He and his team reconstructed the co-construction of the category of unemployment at tayloristic forms of labor organization and welfare states. Hundred years ago this category did not exist (Salais et al. 1999). It came up with the industrial organization of labor, wherein forms of labor contracts unlimited in duration between employer and employee were invented. The conclusion of this group is that social categories do emerge as co-constructions of institutional arrangements and coordinating practices. At INSEE there is a long tradition of research on classifications as systems of categories (Dosse 1999; Diaz-Bone 2015; Didier 2016). This research was influenced by the works of Pierre Bourdieu and mainly advanced by Alain Desrosières and his collaborators (Didier 2016).[9] They could demonstrate that social classifications can be developed neither by logical principles alone nor by empirical principles alone (Desrosières and Thévenot 1979). Instead, social classifications exhibit traces of social conflicts, social investments and collective efforts to implement a representation of collective as a (socially recognized and officially secured) category in classifications (Bourdieu 1984; Boltanski 1987).[10]

3. The Political Economy of Categorization and Quantification

Desrosières invented the concept of "conventions of equivalence" (Desrosières 1998, 2009). Conventions of equivalence are general principles not only for the pragmatics of single categories but for systems of categories. They implement

8 See for a more detailed discussion Diaz-Bone (2016).

9 For an evaluation of the importance of Alain Desrosières' work – not only for the movement of EC – see the contributions in Didier and Droesbeke (2014), in Diaz-Bone and Didier (2016) and in Bruno, Jany-Catrice and Touchelay (2016).

10 Boltanski (1987) analyzed the socio-historical process in which the social group of the "cadres" in France came into existence. He argues that the *cadres* did not exist as a recognized group and category in the first part of the 20th century in France. In the middle of this century different actors and organizations where interested to invent a new social and statistical category between the workers and the bourgeoisie. Step by step this new category was implemented and finally in the second half of the 20th century this new social group was "forged." Today, the category in France has different subcategories and is the most important statistical socio-professional category (Desrosières and Thévenot 2002). The *cadres* can be understood as the people who "manage" economic processes (the word "cadre" refers to the people who "frame" the organization).

the ways people can be compared as equal or unequal. Also Desrosières (1998, 2009) invented the notion of "equivalence space" which denominates the scope of categories. Statistics, from Desrosières' standpoint, was not restricted to the science of data analysis. He understood statistics as the science of state knowledge and its organization. For him, concepts as "conventions of equivalence" and "equivalence spaces" were theoretical tools to analyze the relation between political economy, social institutions and categories (Desrosières 2003, 2011, 2015). And he argued that state formation which he called "adunation" was based on statistical and metrological unification of classifications and its nation-wide enforcement (Desrosières 1998). The early publications of Laurent Thévenot and François Eymard-Duvernay presented work on the concept of "investment in forms" which can be inserted here. As production needs investment in "hardware" like machines, another form of investment is needed. Thévenot and Eymard-Duvernay called this investment "investment in forms" (Eymard-Duvernay and Thévenot 1983a, 1983b; Thévenot 1984, 2016). Actors rely on forms to share collective interpretations of information to which coordination is related. Investment in forms is necessary to advance the scope of coordination in time and the scope in space. Social categories – as statistical or professional categories – can be seen as examples of powerful forms because they can be used as dispositives for managing social relations. Thévenot studied how French companies tried to install their own professional categories like the "Michelin worker" or "Michelin agent" to avoid state control and union intervention in their internal industrial labor relations (Thévenot 1981, 1983, 2016).

In his influential study about the invention of the social category of the *cadres* Luc Boltanski reconstructed the policies and political struggles to establish a formerly non-existing social group (Boltanski 1987). During the interwar period, different organizations and actors battled for the category of the *cadres* to be accepted by the state, by the institutions of official statistics, by unions, insurances and employers. They finally succeeded after the Second World War and the category of the *cadres* became a powerful social representation of a professional group. Today, the *cadres* and their subgroups are established social milieus which comprise one of the biggest parts of the French society.

Desrosières and Thévenot have invented the notion of the statistical chain, to model the series of situations of data collection processes in which actors practically deal with official categories (Desrosières and Thévenot 1979; Thévenot 1981, 1983; Desrosières 2000). They realized that different actors reinterpret categories and adapt their politics of interpretation so that categories are not only top-down dispositives. Instead, they are contested and questioned. People refuse to be categorized in certain categories and are attracted to others.

As Emile Durkheim (1915) and Mary Douglas (1986) did, one can conceive categories and classifications as institutions, exerting influence on the actions of human beings. But for EC, there is an important difference between conventions and institutions. The reason from the standpoint of EC is that the "meaning of institutions" in situations of coordination is incomplete. Actors have to apply their pragmatic competences and mobilize conventions to use institutions as dispositives for intentional coordination (Salais 1998).[11]

Alain Desrosières, Robert Salais and Laurent Thévenot contributed to the perspective of convention theory not only on categories but also on quantification.[12] Desrosières stated it clearly: "Quantification is to bring in a convention and then to measure" (Desrosières 2008b, 10). Indicators, statistics and figures are based on conventions how to define concepts, how to operationalize them and how to measure. So, the politics of quantification and its critique is – from a conventionalist point of view – in fact the politics of choosing and controlling the introduction of conventions. For EC, there is a plurality of possible conventions for building indicators which are tools of governance and political deliberation.

For EC, categories and quantifications are based on conventions which are linked not only to politics but to visions of the common good to be achieved in convention-based coordination. This vision imposes the normative power of conventions and therefore of categories and quantifications. To conceive conventions as related to the common good should not be confused with the idea that categories and quantifications are practically used for acceptable purposes. But they will be justified or questioned referring to the underlying conventions. Alain Desrosières and Laurent Thévenot have invented the notion of the "statistical chain," to model the series of situations of data collection processes in which different actors practically deal with official categories. They realized that different actors reinterpret categories and bring their politics of interpretation so that categories are not only top-down dispositives. Instead, they are contested and questioned. People refuse to be categorized in certain categories and are attracted to others.

The statistical chain begins with the development of categories, then these categories are applied in surveys, afterwards the answers are coded and interpreted. Different actors are involved in this chain: scientists as statisticians and sociologists, professional developers and coders of categories as well as representatives of professional groups (Desrosières et al. 1983, 54). From a conventionalist point of view, classification and quantification rely on foregoing conventions. But users of statistics and the public expect statisticians to provide data which are a "realist" representation of reality as Desrosières has convincingly argued (Desrosières 2009). The concept of statistical chain also emphasizes problems, which are generated by the division of labor in the production, distribution and interpretation of data. Social actors want to regard the resulting numbers, figures, codes and categorizations as realist representations of an

[11] For more elaborated presentations of EC's notion of institution see also the contributions in Diaz-Bone and Salais (2011).

[12] See especially the contributions Desrosières (1998, 2008a, 2008b, 2014), Salais (2013, 2012, 2016) and Thévenot (1984, 2009, 2011, 2015, 2016).

objective reality and as reliable instruments for the evaluation and interpretation of this reality. Along the statistical chain actors transform a conventionalist beginning into a realist output. This way the underlying conventions are made to empirical principles but at the same time their foundational role is made more and more unaware or invisible in everyday life until evaluation, valuation, interpretation and coordination troubles actors, who then refer to conventions as more general principles of critique and justification (Boltanski and Thévenot 1983, 2006). In moments of critique processes of deliberation, reasoning and reflection are released and the statistical chain is inspected and actors are made aware of its elements and the entangled conventions which actors try to survey and whose coherence and adequacy actors try to assess. But in most cases, critical actors, non-governmental organizations (as consumer organizations) and social movements (criticizing social effects of categorization and quantification) do not completely succeed in discovering the convention-based practices along the whole statistical chain.[13] To solve disputes and quarrels about the quality of measurements, the instruments (classifications, indicators etc.) and their handling as well as the data analysis are checked and tested.[14] As Figure 1 shows, the concept of the statistical chain can be generalized to work out a comprehensive model which links different stages of convention-based practices of categorization and quantification.

Figure 1 depicts how the process of measurement can be interpreted from EC's perspective as the categorization and quantification of social reality, which is in itself *not* a pre-given ontology. Instead, it is the result of different steps of convention-based practices, of practical forms of valuation, evaluation, interpretation and coordination. From these processes entities do emerge, which are perceived as representations of realities and real worlds. For most empirical scientists and for everyday actors the starting point is to assume the existence of true scores of social phenomena which can be measured. But measurement of these assumed true scores requires a specific investment in forms, which again is based on specific conventions that pattern the process of operationalization, the construction and use of instruments ("measurement practices"). From EC's perspective, therefore, there is no epistemological neutrality of measurement instruments. Measurement practices result in numbers,

[13] See for examples of resistance against the usage of official statistics Desrosières (2015). Desrosières invented the notion of retroaction to describe moments of resistance against the impact of public action based on quantification. See also Espeland and Sauder (2007), Diaz-Bone and Didier (2016) and the contributions in Bruno et al. (2014).

[14] The notion of "reality test" is important for EC (Boltanski and Thévenot 2006; Desrosières 1995). Reality tests are used to prove qualities and worth and are accepted to settle disputes about qualities and worth of objects, actions and persons. Numbers and codes are tested for example for their adequacy, consistency and for their fit to quality criteria of official statistics (Desrosières 1995).

figures and categorizations[15] which exert their own reality and later impact only if they are embedded in convention-based processes of – again – evaluation, valuation, interpretation and coordination. From EC's perspective numbers and categories don't have a full and determined meaning. The way to apply them necessarily has to be related to conventions. In Figure 1 there are many conventions displayed to distinguish different situations in which they are involved. These conventions are not necessarily incoherent. But the incoherence of the conventions involved is one possibility. And one can expect incoherence to be the normal case because of the increasing degree of specialization and high level of division of labor in processes of quantification and classification. EC assumes actors to be competent in situations to criticize or to justify their actions thereby referring to underlying conventions. These processes of critique and justification mobilize deliberations about the adequacy of conventions.

Figure 1: Conventions in the Statistical Chain

Realist view: "the real"		Conventionalist view: "convention-based practices"
"real worlds", "true scores and categories"	conventions ←	interpretation and collective definition of situations
|		
measurement instruments, indicators, classifications	conventions ←	inventing quantifications and classifications, investment in forms
|		
numbers, figures, codes, categorizations, "data"	conventions ←	measurement practices
|		
reporting, representation of "reality"	conventions ←	interpretation and evaluation, "data analysis"

In Table 1 some preliminary considerations are presented in a cross-tabulation. The two criteria are coherence versus incoherence as one dimension and whether these conventions are deliberated or not.

Table 1: Ways to Evaluate Measurements

Involved conventions in the statistical chain are:	Categorization/quantification is:	
	deliberated	not deliberated
coherent	presumably evaluated as reliable and valid (legitimate)	unquestioned, unconscious, self-evident
incoherent	evaluated and criticized as not reliable and as not valid	experienced as troubling, as not transparent, as "not intelligible"

15 See for a classical discussion of measurement, quantification, and categorization as different measurement levels: Blalock (1972).

Nowadays, public deliberation on data and its usages becomes more and more a widespread practice. The reason for this is the growing amount of data and data generating procedures in administrations, in business, and in internet usage. Public actors, scrutinizing and criticizing visible processes of quantification, contribute to this process. But more and more private actors explore and exploit huge data sets. The buzz word here is "big data" (Mayer-Schönberger and Cukier 2013).[16] One has to be aware that this sphere is not only private in character because data markets and data analysis are run by private companies, but it is private because this practice is not visible for an interested and critical public.

The question of legitimation or in terms of EC, the question of justice, justifiability and justification arises here. And it seems to be the case that the oppositions presented in Table 1 should be completed by another opposition which is the opposition of conventions with a semantic core or a semantic content on one side and conventions without a semantic content on the other side (Diaz-Bone 2016). EC became widely recognized for its concepts of quality conventions (see section 4). These can be considered as socio-cultural logics because of their semantic content. But EC has also examined conventions without semantic content. An example for a convention without semantic content is the rule in central Europe to drive cars on the right-hand side of the street. There is no inherent necessity for this practice and it is sufficient that everybody applies this convention (and it is therefore prescribed by law). This convention can be explained only by historical contingencies but not by referring to an inherent logic or rationality.[17] Examples for conventions with semantic content are the quality conventions presented in Table 2. They offer a substantial "logic" as content which can be understood by actors as an ideal type (in the sense Max Weber introduced it) for coordination, evaluation and interpretation.[18]

Having brought in this third opposition one has to consider two aspects. (1) The first one is the problem of coherence and incoherence in the generalized model of the statistical chain. Conventions with a semantic content have some inherent cognitive power to enforce coordination along the chain.[19] The condition for this is their visibility. (2) The second aspect is related to the invisibility of processing big data in the private sector but also in the social sciences. If categories or metric measurements are not based on conventions with a semantic content, not only any basis for justification will collapse but also the link between categories and measures on one side and social representations and possibilities of deliberation on the other side.

[16] The methodology was formerly subsumed under the notion of "data mining."

[17] And one can consider "standards" to be mostly conventions of this kind, for a more profound discussion see Busch (2011) and the contributions in Lampland and Star (2009).

[18] See for an elaboration of this argument Diaz-Bone (2016).

[19] The reason is their property as a logic with an "inherent meaning" which offers for coordination the cognitive resource to mobilize a collective intentionality. See also Diaz-Bone (2016).

4. Categories and Quality Conventions in Markets

It is evident that representatives of EC transferred and applied concepts – such as the introduced ones developed by Desrosières, Salais, Eymard-Duvernay, Thévenot and others – to the analysis of modern markets, where consumer categories, life style categories, risk categories, product categories have to be made comparable and where politics of scope of conventions are engaged to enhance the validity and legitimacy of these categories and classifications. And for the analysis of the agro-food sectors there is already a long tradition of conventionalist research.[20] Product and producer categories define market boundaries and actor's attention to it (White 2002),[21] inventing product categories is part of market dynamics. Classifications in markets are an important contribution to the cognitive organization of markets.[22]

For mainstream economists, product quality is a given fact and is evaluated by possible buyers. Seen from this perspective, product quality is external to the market mechanism itself and needs to be reliably identified by actors or institutions. But markets are in danger of collapsing when the quality of their products is uncertain, not reliable or not visible, as Akerlof (1970) has shown. EC refuses the externalist argument and argues that the social construction of economic qualities is *internal to economic coordination itself* and is grounded on conventions, actors rely on in their evaluation and interpretation in situations (Orléan 2014). In these situations, convention-based economic indicators, figures and categories contribute as cognitive forms to "define" and "measure" economic values. But they are not only cognitive forms, they are also dispositives for the exertion of economic power, control and governance (Thévenot 2009; Ponte et al. 2011).[23] The politics of quantification and its critique is – from a conventionalist's point of view – in fact the politics of solving the problem of uncertainty of qualities, but also the politics of choosing and thereby controlling the introduction and application of conventions and standards in markets and economic organizations. One example is the control of the definition and implementation of certificates (Thévenot 2015). For EC there is a plurality of possible conventions for building indicators which are tools of

[20] See the contributions in Allaire and Boyer (1995), Nicolas and Valceschini (1995), for an overview on English written publications of conventionalist research see Ponte (2016).

[21] See also Zuckerman (1999, 2000).

[22] From EC's perspective, the difference between markets and organizations is not a general one as it is in the transaction cost approach (Williamson 1985). For EC markets are organized, and organizations are not reducible to systems of contracts (Diaz-Bone 2015; see also the contributions in Knoll 2015).

[23] Here, the theory of Michel Foucault has gained influence on EC (Thévenot 2014, 2015; Diaz-Bone 2016). Foucault has related his notion of dispositive – translated also as "apparatus" – closely to the strategic interest of exerting and enhancing power in social relations (Foucault 1980, 1995).

governance and deliberation in markets. All in all, for EC categories and quantifications are based on conventions which are linked not only to politics but to collective visions of the common good to be achieved in convention-based coordination (Boltanski and Thévenot 2006; Salais 2016). This vision imposes the normative power of conventions and therefore of categories and quantifications. To conceive conventions as related to the common good should not be confused with the idea that categories and quantifications are practically always used for collectively acceptable purposes. But they will be justified or questioned referring to the underlying conventions.

However, EC became internationally renowned for its studies on qualities of products and services. Again, EC relates the quality of products and services to conventions, here quality conventions. At the beginning of the 1980s François Eymard-Duvernay and Laurent Thévenot identified quality conventions as socio-cultural logics of production (Eymard-Duvernay and Thévenot 1983a, 1984b). Later, Robert Salais and Michael Storper identified similar logics of production in what they called worlds of production (Storper and Salais 1997).

Quality conventions or worlds of productions focus on the construction of products in convention-based coordination. For EC, the ontologies, properties and qualities of products are not pre-given. Instead, the qualities and properties are ascribed to products and services, but also to persons and objects, in processes in which actors share a collective interpretation of what is going on and of what is at stake in terms of goods, other relevant realities, categories, forms and goals. Qualities are results of quality conventions.

There is a plurality of quality conventions existing, as the industrial convention, the market convention, the domestic convention, the civic convention, the green convention and others.

The following table presents a selected set of the most important quality conventions, comparing their properties as logics of interpretation, evaluation and coordination.[24]

[24] See for more details to the first six quality conventions (industrial convention, market convention, domestic convention, convention of opinion, convention of inspiration and civic convention) Boltanski and Thévenot (2006), see for the green convention the contributions in Lamont and Thévenot (2000), see for the network convention Boltanski and Chiapello (2006) and for the regionalist convention Storper (1997).

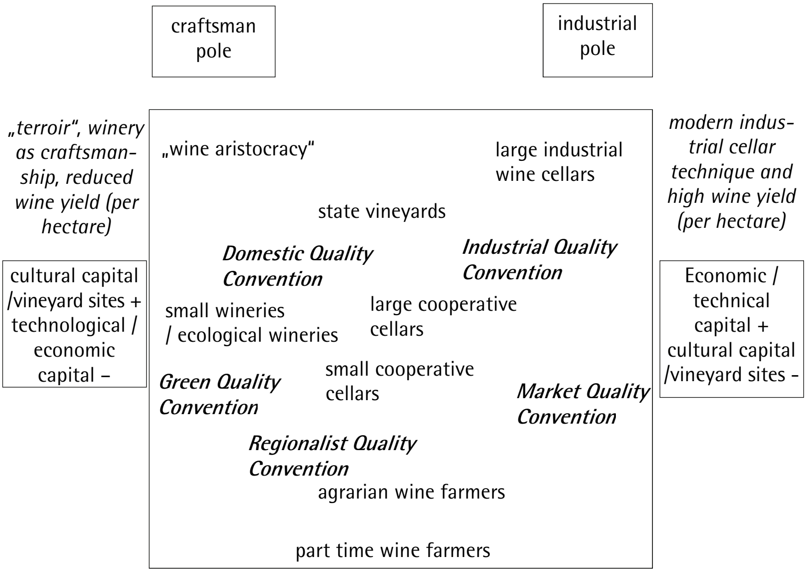
Table 2: Comparison of Main Quality Conventions

	Industrial	Market	Domestic	Opinion	Inspiration	Civic	Green	Network	Regionalist
Mode of evaluation	productivity, efficiency	price	esteem, reputation	renown	grace, creativeness, non-conformity	collective interest	integrity of environment	activity, self-management	locality
Cognitive format of relevant information	numerical measures, certificates	monetary	oral, exemplary, anecdotal	semiotic	emotional	formal, official	narrative	conversational	symbolic and narrative
Elementary relation	functional link	exchange	trust	recognition	passion	solidarity	responsibility	project-orientation	closeness
Product quality	produced for mass consumption, scientifically controlled	instable, depending on demand	specially produced for individual customer	prestigious	innovative and unique	produced while respecting claims and rights of third parties	produced and consumed avoiding externalities	unique result of coordination in project	produced distributed and consumed in the region
Human qualification	professional competency, expertise	desire, purchase	authority	celebrity	ingenuity	equality	knowledge about and respect for ecology	flexibility and team-orientation	commitment to and identification with region

(Sources: Boltanski and Thévenot 1999, 368; Diaz-Bone 2015, 152-3).

All of them are present in markets as logics of valuation and evaluation, and they do work as socio-cultural frames for proving and testing qualities. Because this plurality of conventions is present in almost all markets, these markets are internally differentiated spheres or segments. Products of the same main category of products can be produced, distributed and consumed in one and the same market in different ways which are patterned by different quality conventions.

Figure 2: German Wine Market Structured by Quality Conventions



Source: Diaz-Bone (2013).

One example is the German wine market. The legally bound German wine classification defines wine qualities by the degree of grapes' sweetness at times of harvest (measured in degrees Oechsle) as equivalence principle. The equivalence space is by law the national wine production (not the consumed wines in Germany). Also the wine law defines wine growing regions which obtain a protected designation of origin. However, this classification by law is apparently too weak to grasp the market's demand for quality definitions. The German wine classification does not categorize the resulting wine in the bottle nor properties of its taste nor even of its producers. The consequence is a plurality of different logics of quality conventions. Today, the German wine market can be characterized by identifying the quality conventions patterning the quality categories of wine produced in Germany (Diaz-Bone 2013; Rössel and Beckert 2013; Beckert et al. 2014). Figure 2 sketches the wine market relating wine quality conventions to organizational forms and resources which are different depending on the market segment. In the different segments wine is categorized applying different criteria.

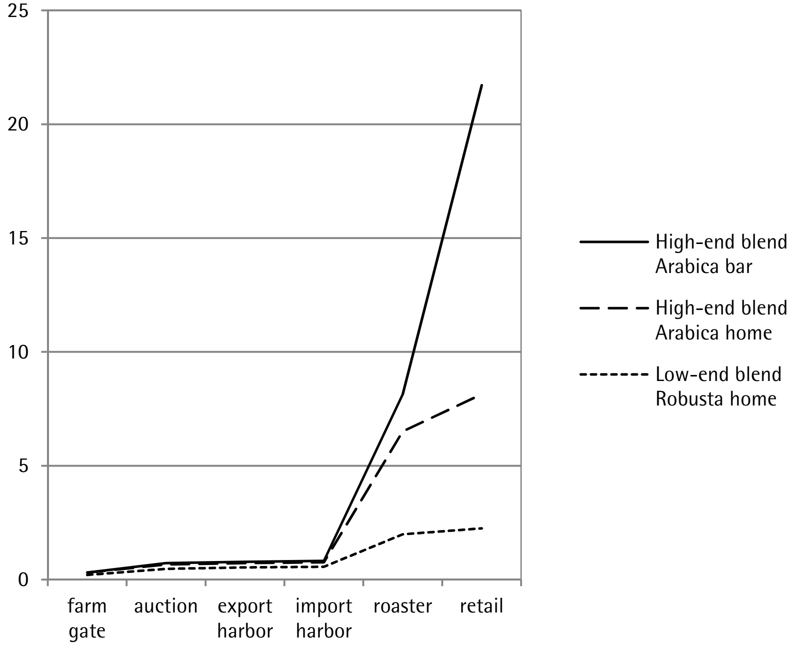
For example, wine produced in the market region of the industrial convention ("industrial pole") is mainly categorized by country, wine producing region, grape and (lower category of) price; wine produced in the market region of the domestic convention ("craftsman pole") is mainly categorized by the producers' reputation as scored in wine guides; wine produced in the market region of the regionalist convention is categorized by regional taste habits and the mostly personal acquaintance of the wine producer. One can infer from the wine market that also other markets will not be characterized by homogeneous product categories and product qualities.[25] The legal wine classification has a national scope, the national wine production is its equivalence space, but because of its equivalence convention (sweetness of grapes, see above) it is too weak to implement a strong general quality definition for consumers, which is therefore done in the different segments of the wine market – which is experienced by consumers as more and more globalized and not as national. Evidently, market models like this one are contradictory to the neoclassical conception of markets assuming standardized and comparable product properties (White 2002). However, Figure 2 depicts only a cross section image of quality differentiation and quality production in a market. In fact, production, distribution and consumption are coordinated through series of stages that can be found in the next example.

EC applied the concept of quality convention to value chains. In their study on coffee production and distribution, Benoît Daviron and Stefano Ponte (2005) compared three value chains of coffee, starting from Tanzania and ending in Italy. These three value chains generate coffees which are categorized differently, also the prices for consumers vary. Two coffees are sold in supermarkets, one is delivered to specialized coffee bars. Consumption takes place in the first two cases at home, in the last case in the coffee bar.

As Figure 3 demonstrates, coffee prices (in US $ per pound in 1999/2000) do not rise until the coffee is imported into Italy. But then, coffee prices rise and they rise differently. It is remarkable that two Arabica coffee blends finally have different levels of prices and are interpreted as different products. The more expensive coffee is consumed in coffee bars as a specialty. The other one is sold in supermarkets. Both coffee categories are produced out of the same pre-product but end with different price levels. What explains the huge difference in price for the consumer? Table 3 relates the links of the value chain to the dominant quality conventions.

[25] There is a growing number of sociological studies on wine markets and wine quality classifications as Benjamin and Podolny (1999), Podolny (2005), Zhao (2005, 2008, 2009), Zhao and Zhou (2011) and Carter (2015).

Figure 3: Coffee Prices Depending on Value Chains



Source: Daviron and Ponte 2005.

Table 3: Quality Conventions in Three Coffee Value Chains

Chain links or stages	Low-end blend (100 % Robusta) supermarket	High-end blend (100 % Arabica) supermarket	High-end blend (espresso) (100 % Arabica) coffee bar
farm gate	market	market/industry	market/industry
auction	market	market/industry	market/industry
export harbor	market	market/industry	market/industry
import harbor	market	market/industry	market/industry
roaster	market/industry	domestic/industry	domestic
retail	market/industry	domestic	domestic

In the three different columns the different series of dominant quality conventions are presented. One series corresponds to a value chain. The three different value chains exhibit transformations of quality definitions as indicated by the switch of quality conventions. The second and the third value chain start with the same pre-product, but in the end they are based on different quality conventions. It is not the physical substance of the coffee that guarantees its quality. It is the difference in convention-based production and valuation that explains the different value chains. From EC's point of view it is the switch of quality conventions that is introduced at the stages of the coffee roaster and the retail that explains the different price dynamics in the chains.

There are some inferences which can be drawn from EC's perspective. The first one is that quality categories are not substantially based on pre-given product properties but on underlying quality conventions. The second one is that markets are organized social spheres of coordination and valuation, patterned by quality conventions and embedded in value chains. Market classifications and its categorizations need to be regarded as embedded and prepared by foregoing convention-based economic coordination.

5. Economic Classification, Measurement and Neoliberalism

In the last two decades, sociology of markets, economic sociology and sociological theory in general more intensively analyzed and discussed neoliberalism (Foucault 2008; Davies 2014, 2015). Neoliberalism is not simply the radicalization of the (neoclassical) market principle and its extension to all social spheres. As William Davies (2014) recently argued, in the era of neoliberalism, enterprises avoid real competition in working markets (which is in fact a practice against the ideology of neoliberalism). Instead, neoliberal policies support companies to occupy formerly publicly driven branches by transforming them into private property, transforming public service into private business and turning citizens into clients and customers.[26] The privatization also intrudes into markets, where monopolies are established to avoid competition. This is an antiliberal element in this strand of economic thinking, because it is directed against liberal and ordoliberal concepts of free markets.

The neoliberal tendency is to introduce quantitative methods of evaluation as assessments, benchmarking, accounting, scorings, ratings, rankings and others into the different social spheres to insert a cognitive infrastructure for privatized governance and to implement incentives for actors to act as "rational agents." Economic classification and quantification of social phenomena, behaviors and values, therefore, are increasing and intruding into the social (Davies 2010, 2014, 2015). Society becomes embedded in economics and marked by the performance of economic measurement (Callon 1998; MacKenzie et al. 2007).

From the perspective of EC, introduced above, the conventional foundation of classifications and quantification becomes invisible when private companies are in charge to implement the statistical chain for economic measurement and

[26] See for a discussion of the role of the state in times of neoliberalism Desrosières (2011, 2015) and Davies (2014); and on different conceptions of the state and its role Diaz-Bone (2016) and Salais (2016).

are allowed to establish their measurements as influential evaluations of economic values. Examples are the private rating agencies *Moody's*, *Standard & Poor's* and *Fitch* in the financial market (see Orléan 2014), economic indicators calculated and published by private companies.

Because of the missing transparency for ordinary market participants the underlying conventions for measurement cannot be criticized and deliberated (but the missing transparency itself can be and is criticized). Fourcade and Healey have emphasized the new situation in which "many important classificatory systems are now embedded in markets. They are private even to the point of being trade secrets" (Fourcade and Healy 2013, 561). While in liberal and ordoliberal conceptions of the market, price formation is a public process, which reflects publicly accessible information, price formation in neoliberal economies in many cases is privatized and privately controlled. Price relevant classifications and measurements are generated and controlled by private companies and in examples as listed before some private classifications and measurements have a monopolistic or oligopolistic position nowadays.

6. Conclusion

The liberal model of free markets was related to the common good, to have a collective cognitive mechanism which enables optimal allocations of scarce resources to the benefit of every individual. The market convention in convention theory represents this model of social coordination, evaluation and interpretation. But the processes of privatization and invisibilization (of the whole statistical chain and its conventional basis) in the neoliberal economies undermine the collective intentionality to pursue a common good and to relate quality and worth to collectively acknowledged and accepted social models. This is represented by conventions with a semantic content identified by EC (see Table 2). This undermining is not only a fundamental problem for the market mechanism but from actors' perspective in concrete situations also a problem for the legitimacy of economic governance as such. The upcoming phenomenon of big data contributes to the increasing privatization of valuation. For example, actors and assets are scored on the basis of data mining using huge data sets (Fourcade and Healy 2017 [2013]). Google has a similar position offering the most important Internet search engine worldwide, offering ranked search results and scientific categorizations and quantifications (as in *Google Scholar*), which depend on the invisible algorithms of this company. Again, the conventions and the algorithms generating scores and decisions are not visible. Because of the compilation of different data sets (which can be bought on markets for data sets), the resulting calculations are in danger to generate an incoherent meaning that cannot be interpreted. Different categorizations and quantifications without foundations on the same set of coherent conventions (along the statistical chain) generate numbers which are not comparable (Desrosières 2000).

What is also at stake is the plurality of quality conventions in markets (not to be confused with incoherence of conventions along the statistical chain). As demonstrated for the German wine market, markets can be structured by a co-existing plurality of quality conventions, each dominating a market segment and bringing in its own rationale for categorization and/or quantification as cognitive form and model how to evaluate economic worth and product quality. The plurality of quality conventions in the wine market offers different wine producers the possibility to make a living in their segment.[27] The form of quality evaluation is the result of institutional and historical processes. Consumers are used to these complex quality evaluations, which combine numerical information with quality signals ("labels," "certificates") and narratives in different ways, depending on the dominant quality convention. In most cases the quality evaluation is not related to numerical information – and even the price is a result of the quality evaluation and not a substitute as quality signal.

One can conclude that the privatization of economic measurements, making their construction and calculation invisible, and the tendency to monopolize private economic measures as valuations in markets do undermine the fundamentals of the political economy of categorization and quantification, thereby disentangling economic measurement from collective, coherent and legitimate practices of interpretation, evaluation and coordination.

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[27] See for a similar interpretation of the need for a plurality of quality conventions in the labor market Eymard-Duvernay and Remillon (2012).

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Theories of Valuation – Building Blocks for Conceptualizing Valuation between Practice and Structure

Anne K. Krüger & Martin Reinhart[*]

Abstract: *»Theorien der Valuierung - Bausteine zur Konzeptualisierung von Valuierung zwischen Praxis und Struktur«*. Phenomena of attributing value to objects, practices, and people, and of assessing their value have become a popular subject in sociological research. Classification, among other valuation practices, represents a central topic in these studies. Thus, the sociology of valuation is emerging as a new field that, however, lacks common ground in theorizing about its subject even though preoccupation with valuation has a long-standing history in sociology. Authors such as Durkheim, Simmel, and Dewey have interpreted valuation as more than a specific localizable phenomenon, in that valuation is a constitutive element of the fundament of the social. Discussing classical approaches to valuation and relating them to current sociological work, we identify key concepts within different theoretical approaches that need to be taken into account when theorizing valuation. We suggest five building blocks – valuation practices, value structures, valuation infrastructure, valuation situations, and reflexivity of valuation – theories of valuation need to consider for coming to terms with the multifaceted empirical studies in the sociology of valuation.

Keywords: Valuation, practice, structure, infrastructure, situativeness, reflexivity.

1. Introduction

Suggesting that "classification situations may have become the engine of modern class situations" (Fourcade and Healy 2013, 559), Fourcade and Healy have demonstrated that markets do not just reproduce social structure but generate new classifications that have structural consequences. Classifications in markets, i.e. in their case the attribution of credit worthiness based on big data and new technology, assess value not simply based on a pregiven value system but

[*] Anne K. Krüger, German Centre for Higher Education Research and Science Studies, Berlin, and Department of Social Sciences, Humboldt Universität zu Berlin, Unter den Linden 6, 10099 Berlin, Germany; anne.k.krueger@hu-berlin.de.
Martin Reinhart, German Centre for Higher Education Research and Science Studies, Berlin, and Department of Social Sciences, Humboldt Universität zu Berlin, Unter den Linden 6, 10099 Berlin, Germany; martin.reinhart@hu-berlin.de.

DOI: 10.12759/hsr.42.2017.1.263-285

instead generate their own specific value structure. Classification is thus a powerful valuation practice.

This finding is not only consequential for economic sociology and the sociology of markets, but also for sociological fields of study such as the sociology of science or science and technology studies among others. Understanding classification as a performative act of valuation that generates its own value structure thus raises the question of how valuation practices and value structures relate to each other.

In this paper, we aim at deducing insights from different fields of sociological analysis to conceptualize valuation by drawing on classical and current literature. Market classifications will be one current and prominent case of a valuation process that provides a starting point to move from the sociological analysis of markets to sociological theory on valuation in general. In the context of this HSR Special Issue, Fourcade and Healy's work will be used to ask what further insights can be gained by conceptualizing market classification as one of many valuation processes.

Even though value or values are central to many (classical) sociological theories, interest in the concept has waned in the second half of the 20th century as the explanatory significance of value(s) for social action has become increasingly implausible. However, a recent interest in valuation practices is clearly discernible across a number of fields within the social sciences (Lamont 2012). Despite the heterogeneity of this debate, a common perspective lies in viewing valuation as a practice and thus as performative. The growing interest in valuation practices may be explained as a reaction to ubiquitous evaluation regimes and the diagnosis of an audit society (Power 1997). The shift from value to valuation – or from class to classification as in the case of Fourcade and Healy – suggests a reemergent interest in the generation of value and the commitment of people to value ascriptions (Joas 1999). Even though these questions were central to theorists at the end of the 19th and the beginning of the 20th century such as Friedrich Nietzsche, William James, Emile Durkheim, Georg Simmel, Max Scheler, or John Dewey (Joas and Knöbl 2009, 524) systematic reference to these works is largely absent from the current debate. It is, thus, only fitting that Lamont (2012) has called for more theory building based on the numerous and heterogeneous studies on valuation.

In order to meet the need for more theoretical coherence within the sociology of valuation, the field has to overcome two challenges. First, as a highly diverse field providing no obvious commonalities to base a theory of valuation on, common ground besides the interest in valuation practices has to be established. Second, the currently growing interest in valuation suggests that valuation practices have changed and grown in societal importance so that a straightforward extension of existing theories of valuation has little appeal and classical approaches may provide only partial solutions. We think that these challenges can be overcome, when one accepts that a single, all-encompassing theory of valuation may not be the answer.

Therefore, our aim in this paper is to identify central assumptions and key concepts within different theoretical approaches that need to be taken into account when theorizing valuation. First, we will discuss some classical approaches to valuation and, second, relate them to current work in different fields of sociological analysis that, however, can be considered as part of the sociology of valuation. Third, we suggest five elements – valuation practices, value structures, valuation infrastructure, valuation situations, and reflexivity of valuation – theories of valuation need to consider for coming to terms with the multifaceted empirical studies in the sociology of valuation. Finally, we will conclude with some thoughts on positioning valuation between practice and structure.

2. Classification within Valuation Studies

In their eponymous contribution to this HSR Special Issue, Fourcade and Healy (2017 [2013]) argue against the idea that classifications that become relevant *in* markets can only be found *outside* the market provided by other institutions such as e.g. the state. Instead, they find that new technology has moved the action of classification within the market. Large amounts of consumer data and sophisticated algorithms allow to classify people based on past market behavior in fine-grained risk groups without having to rely on classifications from elsewhere. These market classifications "thrive on the market's competitive logic, demanding that people be measured against one another, and then separating and recombining them into groups for efficiency and profit" (Fourcade and Healy 2013, 560). The broader social implications stem from the increased reliance on quantification and algorithms to determine life-chances instead of "a priori identification of fundamental social categories […and] 'subjective' schemes of perception and action" (Fourcade and Healy 2013, 561). Market classifications are thus not simply seen as producing heterarchical modes of valuation by providing different services to consumers according to their individual preferences or needs. Instead, when the services offered differ in merit or cost, thus allowing for hierarchical modes of valuation, market classifications do not only display but moreover generate the life-chances of the individual.

The work of Fourcade and Healy is exemplary for a sociology of valuation in that it focuses on classification as a valuation practice. Phenomena of attributing value to objects, practices, and people, and of assessing their value (for this distinction see Lamont 2012; Kjellberg and Mallard 2013, 20), have become a popular subject in sociological research, particularly in economic sociology,

sociology of science and science and technology studies[1] following up on a line of work including e.g. Zelizer (1978, 1985, 2011), Espeland and Stevens (1998, 2008), or Bowker and Star (1999). Classification, among other valuation practices, represents a central topic in these studies. As valuation practices, classifications are foundational in that they, on the one hand, ascribe value to objects comparatively and, on the other hand, prearrange objects for further valuation. Classification can thus be understood as the construction of a particular order among objects, practices, and people due to the comparative attribution of value.

From such a view, classification appears not only as fundamentally social but also as fundamental to the social. We thus claim that, first, theorizing classification implies theorizing classification as a valuation practice and, second, that a theory of valuation should provide more than a conceptualization of valuation practices in that it should also theorize them as an omnipresent and fundamental activity of the social.

Michèle Lamont (2012) refers to various studies on a broad range of topics that, however, deal in each case with similar questions about the attribution and assessment of value. By subsuming different strands of research under a "sociology of valuation and evaluation," she calls for a dialogue between these different approaches and suggests theory-building for a more fundamental conceptualization of valuation and evaluation. Referring to Lamont in their editorial to the first issue of *Valuation Studies*, Claes-Fredrik Helgesson and Fabian Muniesa (2013) also point to diverse areas in sociological research that are currently dealing with forms of valuation. Their journal seeks to provide "a good amalgamating area that facilitates dialogue and debate between different scholars of different approaches and disciplines" (Helgesson and Muniesa 2013, 3). However, they also notice a problematic aspect in their rather broad conceptualization of "valuation as a social practice" (ibid., 4). Seeking to integrate as many of the existing studies from various areas as possible into valuation studies, then, valuation studies as a newly emerging research field is hard to demarcate. Taking this into account, Helgesson and Muniesa argue that the aim of valuation studies should therefore be to discuss, first of all, what value and valuation is basically about. Similarly, a special issue in *Human Studies* is in search for a sociology of valuation and evaluation as "a focus of perspective, transversal to all the social sciences" (Cefaï et al. 2015, 2). The introduction emphasizes that a "sociology of valuation and evaluation is not only concerned with a specific sector of social life or a minor segment of grand theories" but rather "opens an intellectual space in which core issues in the social sciences such as interaction, agency, values, norms, collective action, and the role of institutions are discussed" (ibid., 6).

[1] Reviews of the literature with varying depth and foci are provided by Lamont (2012), Haywood et al. (2014), Cefaï et al. (2015).

The emerging field, as described here, does not only subsume different empirical observations under the same label. It also explicitly builds on classical sociological theory and neighboring disciplines most notably on ideas from Émile Durkheim, Georg Simmel, or John Dewey (Beckert 2011; Bowker and Star 1999; Diaz-Bone 2011; Espeland and Stevens 1998, 2008; Fourcade 2011a, 2011b; Lamont 2009; Munck and Zimmermann 2015; Stark 2009; Zelizer 1978, 2011). The preoccupation with valuation in sociology and neighboring disciplines has furthermore a long-standing history and it is significant that these authors have interpreted valuation as more than a specific localizable phenomenon. Instead, they have analyzed valuation as a fundamental activity that is linked to or even constitutes the fundament of the social. A sociology of valuation, therefore, must not only turn to presently witnessed phenomena. It moreover has a long-standing history in social theory that needs to be taken into account while theorizing valuation practices such as classification.

Our contribution to the current discussion is twofold: We will present prominent lines of thought in social theory that have addressed valuation as a fundamental social activity and outlined insights into its significance to social life. The selected range of theories is necessarily limited but represents influential lines of thought that shape recent discussions. Furthermore, we will delineate central assumptions and key concepts by arranging them into five building blocks for developing an analytical perspective for theorizing valuation. We thereby pay attention to similarities but also to incompatibilities between different lines of thought.

3. Social Structure as Source of Valuation – Émile Durkheim

Émile Durkheim's study on the elementary forms of religious life analyzes the development and the structure of classificatory systems that attribute value to objects and practices (Durkheim 1912) and represents an important point of reference for valuation studies. He focuses on primitive religions as the adequate subject for analyzing religion as a fundamental social phenomenon. Durkheim defines religion as based on two central classifications – the sacred and the profane.[2] Religious thinking thus means classifying the material and immaterial world into these two opposite classes.

Jointly with Marcel Mauss, Durkheim furthermore finds that sacred objects and practices are sorted into distinct groups (Durkheim and Mauss 1987). They

[2] See for a more detailed discussion on the definition of religion the first chapter of the first part of this study (Durkheim 1912) where Durkheim problematizes existing understandings and develops this basic definition.

show that these classification groups originate from social groups with a particular position within a hierarchical social order (ibid., 179, 250 et seq.). The structure of social order thus provides the classificatory system for sorting objects and practices into distinct groups; thereby organizing them into a particular hierarchy. This hierarchical order ascribes a specific value to objects and practices. Their interrelatedness within this hierarchical order makes classification possible. It is critical for assessing their value and for understanding how the different objects and practices fit into a coherent perception of the world as a whole (ibid., 249). Classificatory systems are therefore not only central for defining whether something is sacred or profane and for grouping specific objects and practices together or apart, but moreover for defining the interrelatedness of objects and practices as the fundamental origin of valuation and sense-making. A classificatory system and the specific interrelatedness of different objects and practices are collectively shared beliefs that provide meaning for corresponding actions.

Both authors therefore describe classification as a fundamental social activity. Besides sorting objects and practices, classification means a process of valuation that emerges from the hierarchical interrelatedness of social groups. Classification generates a hierarchical order that entails valuation which provides the ground for making sense of the world. However, this order in itself is grounded in a pregiven social hierarchy. Durkheim and Mauss's understanding of classification and valuation is thus inseparably linked to social hierarchy. The hierarchical classification of society provides the ground for the classification and valuation of objects and practices. This implies that if the hierarchical social order is destabilized through economic collapse but also through sudden economic wealth, then the classificatory system for valuating and understanding the social world also becomes instable (Durkheim 1897). Thus, from Durkheim's point of view, not only are classificatory systems inseparably linked to a hierarchical social order but provide through this link the basis for normativity. When the social order dissolves, the normative classificatory system gets lost. In this view, classification, i.e. hierarchical classification, is the fundament of the social.[3]

4. Subjectivity as Source of Valuation – Georg Simmel

Georg Simmel's insights into a sociology of valuation differ in one crucial point from those by Durkheim and Mauss. It is not the collective representation

[3] Durkheim's view has been discussed extensively, critically and celebratory. Our aim in this paper, however, is not to retrace the discussion of classical approaches up to the present but to identify conceptual elements that keep recurring over time and between different approaches. The accounts of the different approaches we are able to give are thus necessarily rudimentary.

of social order that provides the template for a classificatory system. On the contrary, it is the subjective attribution of value that creates a meaningful framework for ordering things and structuring the world.

Economic sociologists have drawn especially on the *Philosophy of Money* (Simmel 1900) for analyzing phenomena such as the monetarization of non-monetary goods, for instance, human life (Zelizer 1978) or nature (Fourcade 2011a, 2011b), as Simmel deals with the functionality of money in attributing value to objects and with the value of money as such. However, before elaborating on how objects attain an objectively perceived but still subjective (economic) value for the one who desires them and on the distinctive properties of money, Simmel posits some fundamental thoughts on the role of value for the subjective construction of meaning that produces a corresponding order among objects, thoughts, and experiences.

No objective experiences are possible but only valuations of experiences that create what we perceive as objectively given reality. The subjective attribution of value thus creates the order of social life. Nonetheless, the value of a particular object – although emerging from subjective judgement – is neither arbitrary nor random; it is subjective in that it is not a given property (Simmel 2008 [1900], 29). However, it operates as a natural fact that cannot be changed or put into question easily.

While Simmel, on the one hand, describes the value of an object as its "subjectivity" (ibid.) emerging from subjective judgment, on the other hand, value and the process of valuation as such are naturally given phenomena. Value and valuation are defined as substantial for making sense of the world and therefore must be naturally given at any time as a precondition for social life. While value as the result of subjective valuations is a social product, the process of valuation and the existence of value are given facts. Simmel conceptualizes value as relational, similar to Durkheim. The explanation or the "Wertbeweis" (ibid., 27), i.e. the proof that something is valuable, depends on the value of other objects that are related to the object in question. Such classification is the fundamental operation for making sense of the world.

Simmel therefore provides us with two basic insights: First, value is the subjectivity of an object. It is not an objectively given property but a socially constructed judgment that nevertheless appears to individuals as natural fact. Similar to Durkheim who argues that the classification of particular objects into particular groups cannot be logically explained, Simmel also finds that there is no way of deducing the attribution of value to a particular object from any given facts. Only the relation that is set up between different objects, i.e. their classification, can explain why an object attains a particular value. This means, second, that value and valuation are the fundament of the social. This runs contrary to Durkheim who, from an anthropological point of view, interprets social hierarchy as the foundational explanation for a value order. Simmel instead finds that value and valuation are the precondition for social life. Every human experience needs to be valuated in order to be cognitively understood. Valuation is thus fundamental for the attribution of meaning and for making sense of the world.

5. Trouble as Source of Valuation – John Dewey

Claiming that valuation is an empirically observable phenomenon and asking for its empirical analysis and furthermore for a "theory of valuation" (Dewey 1939), Dewey argues against approaches that see value as given and thus not accessible to empirical research. For him, valuation as a judgment about value (Dewey 1916) is immanent to each situation that involves problem-solving and decision-making. Valuation as a fundamental social activity becomes thus subject of inquiry.

Dewey starts his investigation with an etymological analysis of the vocabulary attached to value and valuation. The colloquial differentiation of valuation into "prizing" and "appraising" allows for insights into two elementary practices of valuation (Dewey 1939, 5-6). "Prizing" is understood as a subjective and emotional decision about attributing value to something or somebody. The attribution of value through prizing thus has a definite personal reference. "Appraising", on the other hand, focuses on estimating the properties of something or somebody in relation to others as an intellectual process. Appraisal thus involves an act of comparison. This differentiation of valuation into emotional prizing through personal desires and interests (ibid., chap. 3) and intellectual appraisal based on comparison (ibid., chap. 4) becomes the point of reference for the development of Dewey's theory of valuation.

Dewey's point of departure for studying valuation are situations that are beyond mere routine but comprise some kind of problem or "trouble" (ibid., 33). Trouble either arises when multiple preferences occur at the same time or due to the resistance of environmental conditions to ongoing action. In these situations, reflection upon individual desires and interests becomes necessary, involving thoughts about the value of desirable ends, the valuation of the means that need to be invested, and the anticipated consequences according to the environmental conditions of the situation (ibid., 35). Dewey thereby criticizes "the belief that there are such things as ends having value apart from valuation of the means by which they are reached" (ibid., 36). Prizing and appraising cannot be separated into distinct processes of prizing specific ends and of appraising appropriate means. Prizing can only take place alongside the appraisal of necessary means that are needed for achieving particular desirable ends. Valuation thus happens as an integrated process of defining "ends-in-view", i.e. of defining a specific purpose that expresses anticipated results and a particular means-end relation that corresponds with the specific conditions of a particular situation. Situations in which valuation occurs are thus any situation "whenever behavior succeeds in intelligent projection of ends-in-view that direct activity to resolution of antecedent trouble" (ibid., 49).

The focus of ends-in-view as a "plan" that relates anticipated results to invested means emphasizes that Dewey regards valuation as a process that is inseparably bound to the perception of a problem (see Joas 1999, 168). Valuation is inherent to any situation in which an individual cannot routinely rely on an existing order (ibid.), but needs to reflect and decide consciously about further action and hence about the adequate valuation of appropriate means and ends. Thus, every situation that takes place beyond everyday routines entails the need to decide about further action which makes it necessary to reflect upon the preferences for certain ends and the possibilities for realizing them. This idea of reflection about certain desires, possible means, and the conditions of a particular situation demonstrates that Dewey does not envision a fixed value order or a valuation standard that always attributes the same value to the same ends. On the contrary, valuation of desirable ends depends on the valuation of the means that are necessary for achieving them which again depends on the specific context of a particular situation. In addition, this reflection may change what was considered as desirable at first. For new "troublesome" situations a standard for valuating future results is simply not possible (Dewey 2004 [1916], 241).[4] In Dewey's view, therefore, value emerges only from reflection within a particular situation and can neither be thought of as a fixed objective standard nor as a given subjective feeling nor as intrinsic to certain objects or practices (Dewey 1939, 10-1, 26-7). Valuation is instead a specific intervention that reorganizes a particular situation by promoting a future course of action based on whether something is good and on how good it is (Dewey 2004 [1916], 229-31). Value thus only comes into effect when actions based on value judgments are taken.

At least three conclusions can be drawn from Dewey's theory of valuation[5]: First, every situation beyond "business as usual" makes reflection about preferences and thus about the value of means and ends necessary. No fixed standard value order proclaims the only possible way of dealing with unforeseen "trouble." Instead, diverging preferences about means and ends make reflection necessary in order to prize and appraise what is best in a given situation. This demonstrates, second, that valuation consists of the attribution of value and of value assessment at the same time: The assessment of certain means influences the attribution of value to specific ends. Thus, the attribution of value and therefore individual preferences about what is desirable can change. This indicates, third, that means-ends relations always emerge from valuation processes

4 Although Dewey admits that "a certain order of precedence" (1916, 245) based on past experiences can be established which is, however, always only presumptive.

5 He recognizes that he rather provides "the conditions which such a theory must satisfy" (ibid., 53) than outlining a complete theory of valuation.

and cannot be thought of as pre-given facts. Judgment about means and ends always is a judgment about their value in the light of anticipated results within a particular situation.

6. Justification as Valuation – French Neopragmatism

Neopragmatism is one of the labels attached to the work of a group of French researchers (Groupe de Sociologie Politique et Morale, GSPM) most notably Luc Boltanski and Laurent Thévenot.[6] In the beginning of the group, the label may have been nothing more than a signal of opposition against the sociology of Pierre Bourdieu but the ensuing work shows notable continuities with pragmatism and especially with the work of Dewey (Bogusz 2013). In their account, critical situations are moments of indeterminacy that give rise to the need for actors to justify their viewpoints and actions. These are mostly situations of conflict in which opponents do not resort to violence but negotiate by invoking "justice" or "being justified" as the measure of discourse (Boltanski and Thévenot 2006). Justification relies on "orders of worth" which represent "collective conventions of equivalence" (Boltanski and Thévenot 1999, 362). Initially, Boltanski and Thévenot proposed six orders of worth: inspired, domestic, civic, opinion, market, and industrial. Integral to each of these orders are rules determining what is deemed valuable. In a dispute, for instance, one opponent may rely on a civic mode of valuation by claiming that his view represents the collective interest, while another may rely on the market as mode of valuation by claiming that his view offers a solution that is less costly in a monetary sense. Internally, orders of worth are structured hierarchically while, in relation to each other, these orders have no common measure according to which the worth of an object would be comparable. Conflicts can be resolved when opponents agree on the order of worth that is suitable for the situation. If, however, opponents rely on different orders of worth to justify their position, a fragile compromise is the best possible resolution (Boltanski and Thévenot 2006, 275 et seq.).

Both, Dewey as well as Boltanski and Thévenot, emphasize the capabilities of individual actors to handle indeterminacy in extraordinary situations either through "intelligent action" or "justification" and both anchor these capabilities in the reflexive handling of valuation practices. For Dewey, valuation happens as judgements about relationships of means to ends that seem accessible in the situation. For Boltanski and Thévenot, the situation is less indeterminate in that

[6] The many labels – neopragmatism, sociology of conventions, sociology of critical capacity, sociology of tests – may seem confusing at first, but reflect the far-reaching claims and the theoretical development inherent in the groups work over the past 30 years (Diaz-Bone 2015, Potthast forthcoming).

valuation must rely on a limited number of orders or worth in which judgements about relationships between means and ends are already determined. In classical pragmatism, valuation is born out of individual, psychological capabilities while neopragmatism takes a more structural and sociological stance by focusing on the interplay between value orders and valuation practices in situations of conflict. However, this is far from conceptualizing society primarily as order but preserves the pragmatist view that society is a permanent process of ordering (Bogusz 2013, 314).

By adding a structural component (orders of worth) to a pragmatist view of situations, the question must be raised of how structural and situational elements work together in such a mode of valuation. Boltanski and Thévenot propose, alongside science and technology studies and actor-network-theory, a specific valuation practice in which situational justifications are related to orders of worth: "tests" (Boltanski and Thévenot 2006, 127 et seq.).

> The involvement of objects requires human beings to rise to the occasion, to objectify themselves by bringing objects into play and valorizing them, that is, endowing them with value. The use of valorized objects allows people to compare the singular situation in which they find themselves with other situations; recourse to the higher common principle can be achieved by means of tools. Objects substantiate worth, but at the same time they impose constraints on tests by calling for valorization. (Boltanski and Thévenot 2006, 131)

In critical situations, the value of certain objects and actors is unclear or contested, calling for tests to establish the value within one or multiple orders of worth. Tests are the equivalent to Dewey's intelligent or experimental action in that they reduce complexity or remove indeterminacy by attributing value to objects. For valorization to work, the test has to establish a stable connection between the object and an order of worth thus making value structures part of the situation and part of the test. It is the valorized objects that "translate" the value structures from one situation to the next. As long as their value is commonly accepted they remain invisible and value structures are reproduced largely unchanged. Only when conflict about the value of an object arises a test updates the value of the object and possibly the value structure, as orders of worth are historically changing.

7. Money as Valuation – Economic Sociology

Since the departure from what David Stark (2000) has called the Parsons' Pact, i.e., that sociologists deal with values and economists with value, economic sociology has struggled with the question of the social construction of markets and of value in markets. The economy is no longer seen as external to society but as in itself deeply social. The value of goods is nothing fixed and objectively given but results from social valuation processes in which the value of something is constructed (Aspers and Beckert 2011). Fourcade's work on the monetary valuation of the invaluable in the case of nature and the oil spill litigations in France and the United States (Fourcade 2011a, 2011b) is one telling example. She draws on Simmel and his idea that the objectification of subjective value in money is bidirectional in that it creates even more subjective value in the moment of sacrificing money for it. She suggests that economic valuation increases subjectively experienced value. In this, she furthermore refers to earlier work by Viviana Zelizer on the value of human life (Zelizer 1978), i.e., on "life insurance as a prudent investment in the future rather than an obscene wager on human mortality" (Zelizer 2011, 4) and on the value of children (Zelizer 1985), i.e., on "how Americans shifted from treating children as economic assets to considering them as priceless" (Zelizer 2011, 4). Zelizer was among the pioneers who contributed to the "resocialization" of economic value, by starting with the "problem of establishing monetary equivalences for such things as death, life, human organs, and generally ritualized items or behavior considered sacred" and wondering whether "the absorption of many social scientists with 'market' models and the notion of economic man led them and others to disregard certain complexities in the interaction between the market and human values" (Zelizer 1978, 592). Drawing on Durkheim and Simmel, she deals with the phenomenon of putting a monetary price on emotionally charged sacred things. In her account, the quantity of money becomes the expression for subjectively ascribed value pointing to a cultural change in perspective. A relationship between the sacred, such as human life, and the profane, such as money, is established. To price the invaluable is no longer regarded as the sacrilegious intent to spend money on something intrinsically priceless. Instead, spending money on something sacred becomes regarded as attributing even more value to it. Sacred things become worthy to spend money on. Classifying the monetary value of sacred things thus raises their subjective value.

Zelizer's work has become a prominent point of reference within economic sociology, where the question of the construction of monetary value is central. Numerous further studies address the market itself as the locus of value construction (see Hutter and Throsby 2008; Beckert and Aspers 2011; Beckert and Musselin 2013; Antal et al. 2015). Fourcade and Healy (2017 [2013]) – as already mentioned – go even one step further. They focus not only on the social influence on markets or processes of attribution of value through markets but moreover on the influence of value attribution through markets on social structure.

8. Commensuration and Quantification as Valuation – Sociology of Science

Questions of quantification and commensuration provide another take on the problem of classification and valuation. Theodore Porter (1986, 1995), Alain Desrosières (1998), or Bettina Heintz (2012) have emphasized the phenomena of quantification and commensuration in their works on the rise of national and international statistics. Sharing a perspective on statistics not simply as an assessment of national or international conditions, they point to the authoritative effects of statistics as classification systems where categories are not just defined in order to capture "the world out there" but rather to contribute to its creation.

In their special issue in *Historical Social Research* on conventions and quantification, Rainer Diaz-Bone and Emmanuel Didier provide a transdisciplinary perspective on statistics (Diaz-Bone and Didier 2016). Jointly with authors such as Laurent Thévenot or Etienne Penissat et al. they highlight that categorization and classification are essential for quantifying the social world and for fitting it into statistical figures and numbers.

Wendy Espeland and Mitchell Stevens have also given this research a more generalized theoretical turn. They draw on Simmel's *Philosophy of Money* (among others) and the objectification of the value of a particular entity into generalizable money allowing for the comparison of disparate entities. As commensuration this process is defined as "the transformation of different qualities into a common metric" (Espeland and Stevens 1998, 314). They regard this practice as "crucial to how we categorize and make sense of the world" (ibid.). Commensuration relies on the quantification of social phenomena (Espeland and Stevens 2008) by which qualities are translated into (numeric) quantities that can be compared easily in standardized ways. Because it "changes the terms of what can be talked about, how we value, and how we treat what we value [...], commensuration is no mere technical process but a fundamental feature of social life" (Espeland and Stevens 1998, 315). Commensuration thus creates new relationships between otherwise disparate entities by sorting them into the same category thereby making them comparable and open for valuation.

The political dimension of commensuration lies in that it establishes "new interpretive frameworks" for the perception of reality through constructing new categories and hierarchies (ibid., 323). Commensuration is thus, on the one hand, a process of homogenizing differences by assigning disparate entities to the same category. On the other hand, it reduces disparate entities down to one particular aspect that becomes the one and only criterion of distinction and thus emphasizes differences even more.

Valuation through commensuration therefore takes place in three ways. First, value is attributed in choosing a particular perspective on the world that is turned into a category under which disparate entities are subsumed. Second, by subsuming disparate entities under the same category their qualities are turned into calculable quantities that already express value. And third, the attribution of value takes place in the application of a common metric that allows for comparison and thus for the classification of different entities in ratings and rankings.

9. Categorization and Classification as Valuation – Science and Technology Studies

Durkheim and Mauss' focus on classification has been the source of inspiration for Geoffrey Bowker and Susan Leigh Star's *Sorting Things Out* (1999). Here, classification works in "ordering human interaction" (ibid., 5) by attributing value to objects, practices, and, in particular, to people. They define classification as "a spatial, temporal, or spatio-temporal segmentation of the world" based on "consistent, unique classificatory principles" and "mutually exclusive" categories (ibid., 10). Classification therefore depends on making everything fit into predefined categories within a particular area or aspect of life. With regard to the health system, Bowker and Star demonstrate how the diagnosis of illnesses depends on the classification of symptoms into given categories. The arrangement of entities within a particular category or of a set of categories within a broader classification system depends on a particular logic such as i.e. the severity of an illness or the costs of its treatment that puts them into a specific hierarchical order.

Delineated in such a way, classification is always based on valuation in a twofold way. First, constructing exclusive categories that are designed to capture the entire area of a particular issue either causes the exclusion of those entities that do not fit or imposes a redefinition of them from the outside. Second, arranging the categories into a particular classificatory order implies a differentiated attribution of value to them. Yet, contrary to Durkheim and Mauss, Bowker and Star do not regard a given social hierarchy as the structuring principle for classification. Instead, they stress the constructedness of categories and classification systems and their impact on social structure. A commonly accepted classification system presents but one picture of reality that however claims – the more it is widely spread and standardized – to be the only existing one. Bowker and Star thus demonstrate that the construction of categories and classification systems is a process of valuation. By assigning objects, practices, and people into specific categories within particular classification systems such as, e.g., classifying homosexuality as an illness, but also by neglecting and forgetting others, the attribution of value takes place.

Bowker and Star furthermore emphasize their point on classification as valuation by referring to the growing importance of technological infrastructure. Classification systems are increasingly used for making objects and practices accessible and accountable. They constitute the framework for databases which are sought to collect and provide information about particular areas or aspects of life. However, at the same time, they do not simply capture "reality." Instead, through assigning objects, practices, and people to a fixed set of categories they influence how they are perceived and, furthermore, perform(ed). This classification-based infrastructure thus not only provides information about the material and social world but helps to create it.

Bowker and Star therefore seek to make us aware of the political and ethical dimensions of classification. Categorization and classification are valuation practices in that they have political and ethical implications by defining how objects, practices, and people ought to be understood and valorized. "Each standard and each category valorizes some point of view and silences another" (ibid., 5). They thus highlight that the construction of categories and classification systems, mediated through technological infrastructure, effects social structure.

10. Building Blocks for Theories of Valuation

Taking a broad view on a sociology of valuation reveals numerous and diverse empirical studies on valuation as well as intricate and long-lived theoretical thinking on value and valuation as a fundamental aspect of the social. By reviewing some of the empirical literature and, more importantly, three theoretical strands extending to the present we aim to reduce some of the complexity in the field to identify suitable elements for theorizing and analyzing valuation phenomena. Reflecting the current sociological discourse while keeping relevant traditions of theoretical thinking in view, we suggest five *building blocks* for future theoretical and analytical work in the sociology of valuation: valuation practices, value structures, valuation infrastructure, valuation situations, and reflexivity of valuation. These building blocks[7] represent commonalities that span large areas of the current sociology of valuation and indicate aspects of valuation that will be difficult to neglect.

"Classification" and many other central terms in the debate – categorization, comparison, commensuration, commodification, standardization, evaluation, etc. – clearly indicate a preoccupation with action. These *valuation practices* imply doing valuation either in terms of attributing or in terms of assessing value. They are crucial for producing and reproducing value. Speaking with Dewey, valuation entails the practices of "prizing" and "appraising" the value of objects, practices, and people. Both can be found wherever non-routinized action takes place, thus, requiring the prizing and appraisal of appropriate

[7] The labels for these building blocks should not be confused with theoretical concepts, as their main purpose is to meaningfully relate different ideas by different authors to each other.

means and desirable ends. Valuation is therefore immanently practiced whenever problem-solving and decision-making becomes necessary. Durkheim and Mauss furthermore emphasize that valuation practices are fundamental to sense-making. Classifying objects and practices into a hierarchical order provides the ground for the construction of reality. Simmel argues in a similar way that valuation is fundamental for making sense of the world and thus for guiding action. The action side of valuation and thus how valuation is practiced is exemplarily demonstrated in studies by Fourcade and Zelizer on pricing formerly priceless entities or by Bowker and Star or Espeland and Stevens, who provide insights into practices of categorization, classification, and commensuration. In these studies, analyzing valuation practices has contributed to a process perspective on valuation that highlights how actions lead to the attribution or assessment of value and thereby to the construction of reality. Boltanski and Thévenot are even more specific by tying valuation practices to the need for justifying action in a contested public setting.

Yet, there is no practice without a relation to structure because by attributing value, valuation practices contribute to producing order. Similarly, by assessing value, valuation practices contribute to its reproduction. Valuation is thus inseparably linked to *value structures*: Valuation produces or reproduces value structures that persist as an objectified element of the social beyond specific situations and practices. In the case of Durkheim, the attribution of value to objects, practices, and people reproduces preexisting social hierarchies. A value structure in terms of a classificatory value system for sorting objects, practices, and people into a hierarchical value order derives from the structure of social order. Contrary to Durkheim, Simmel suggests that it is the subjective perception of value, which is, however, understood as intrinsic to objects, practices, and people, that creates a meaningful value structure for ordering and thus for making sense of the world. More recently, the implicit structures that influence valuation practices have received attention from Boltanski and Thévenot as "orders of worth." Here, we also find the idea of a pregiven, but historically changeable, value structure that, however, in this case is explicitly defined as a plurality of coexisting orders of worth that are reproduced whenever action takes place. Bowker and Star as well as Espeland and Stevens, instead, focus on the emergence of value structures through valuation practices that furthermore lead to consequences in social structure as also Fourcade and Healy have demonstrated.

This immaterial value structure has material aspects not only in its consequences but moreover in its translation into *valuation infrastructure:* Ideas on the importance of infrastructure in valuation processes have their representatives in particular in the more recent literature. Fourcade and Healy provide a telling example for the role of technological infrastructure as a problem for the sociology of valuation. Their account of market classification is especially interested in data infrastructure and algorithms necessary to value people according to their past market behavior. In the case of Espeland and Stevens, numerical representation plays a key role in valuation. They describe quantification as the prominent trend behind the construction of tools for measuring the world. Calculation devices, databases, and algorithms are core interests of Bowker and Star, who particularly emphasize the power of such tools in practicing valuation and creating value structure. However, additionally, they introduce a much broader understanding of infrastructure that comprises "a set of working practices, beliefs, narratives and organizational routines" (Bowker and Star 1999, 319). Infrastructure is thus by no means reducible to technology but consists of any kind of facilitating support that provides the operational basis for practicing valuation. Altogether, these authors underline that such infrastructure never plays a mere value-reproducing role but rather contributes essentially to changes in value structure.

Yet, material and immaterial structures and practices are frequently discussed as depending on temporally and spatially defined *valuation situations*: The need to pay attention to valuation situations stems from conceptualizing valuation as practice and thus as specifically situated in space and time – not only physically but also socially. It also follows from the insight that valuation, with respect to process and outcome, depends on the specific contexts in which valuation practices take place. Dewey points to the situativeness of nonroutinized action. He claims that there is no such thing as a fixed value order. Instead, he points to the environmental conditions of a particular situation that crucially influence the valuation of means and ends. The situativeness of valuation practices is also fundamental to the work of Boltanski and Thévenot. Although there are multiple value structures present that can be used to justify corresponding action, it is in a particular yet indeterminate situation that these value structures are put into a distinct order that then allows for action. The work of Fourcade and Healy is also insightful here. Classification (practice) takes place in markets (situation) to produce classification situations (structure). Although the term "classification situation" may be misleading,[8] it is evident that the interest in classification as valuation derives from its situational embeddedness and its structural consequences.

Another concept that always comes with the focus on the situativeness of action is the question of *reflexivity of valuation*: In studies on valuation, reflexivity is often conceptualized as the break with routines and thus as the trigger for valuation. The idea of reflexivity can thus be considered as inherent to valuation practices and situations. Dewey emphasizes reflexivity as crucial for

[8] The term "classification situation" may be misleading in this case, as it refers to a structural and not a situational element. It is derived from Max Weber's term "class situation" which in the German original reads "Klassenlage" (Fourcade and Healy 2013, 560-1, Weber 1980, 177 et seq.). "Lage," in German, blurs the distinction between situation and structure and can be translated as "situation" or as "position."

valuation. He claims that valuation is triggered by the perception of a problem that calls for valuating means and ends in order to solve it. The perception of a problem is thereby inseparably linked to breaking with routines, which provides the ground for reflexive thinking. One possible way of breaking with routines happens in situations of conflict. This take on reflexivity is promoted by Boltanski and Thévenot. "Critical moments" bear the chance of reflecting about a situation and thus of redefining the attribution of value to particular objects, practices, and people. Reflexivity can thus be understood as the prerequisite for attributing or assessing value in a yet uncertain situation. The idea of reflexivity can even be taken one step further by understanding reflexivity either as the cause for further valuation or as the valuation about valuation. This understanding points to a second aspect of reflexivity as reflexiveness. It refers to the effects of valuation practices not only on the attribution and assessment of value but furthermore on social structure. This particular reflexiveness is emphasized by Fourcade and Healy as well as by Espeland and Stevens and by Bowker and Star as the crucial task of a sociology that deals with questions of valuation.

Summing up these five building blocks, we claim that theorizing valuation to analyze empirical phenomena must include a conceptual understanding of valuation practices, immaterial and/or material value structures, and valuation infrastructures accompanied by an awareness of situational aspects and considerations of reflexivity. The building blocks thus provide an analytical perspective for further research on valuation. They moreover allow for further insights into valuation processes in existing research.

Simone Schiller-Merkens' contribution to this HSR Special Issue (Schiller-Merkens 2017) can serve as a telling example for how we suggest theorizing valuation with reference to the five building blocks. Her analysis of ethical fashion designers and their self-categorization provides a pertinent case-study. She stresses valuation practices that are discursive (self-descriptions on websites), address changing and expanding audiences over time (investors, British Fashion Council, consumers) and thus exhibit ways in which compromises are found to accommodate heterarchical value structures (ethical, esthetic, and economical frames). Schiller-Merkens highlights the embeddedness of these valuation practices in valuation situations with her focus on biannual spring fairs organized by the British Fashion Council featuring multiple valuation situations that provide similar value infrastructures (fashion shows) and are linked over time. Schiller-Merkens' analysis is particularly telling with respect to the reflexivity of valuation in that the connectedness of similar valuation situations and infrastructures allows actors to adjust their valuation practices by drawing on changing value structures.

This study on self-categorization in the ethical fashion market therefore also provides a relevant case for a sociology of valuation. It illustrates, first, that the building blocks generally are core elements of studies on valuation that are crucial to identify in empirical work and, second, that they provide a backdrop for further theoretical discussion beyond the specific case. This discussion may, on the one hand, relate to how the individual building blocks are conceptualized. Schiller-Merkens, for instance, conceptualizes value structures as frames thereby providing an alternative to e.g. Boltanski and Thèvenot's orders of worth. On the other hand, the building blocks may alert to new aspects that point to particularities of cases that can, however, be built upon in following studies. In the case of Schiller-Merkens, these are the particular dynamics that take place from one valuation situation to the next or the specific influence of audiences on valuation that add to the theorization of valuation.

11. Valuation between Practice and Structure – Conclusion

In this paper, we have highlighted that classification is more than a distinct empirical phenomenon only taking place in markets but rather a fundamental activity of the social. Starting from Fourcade and Healy's insights on classification in markets we have sought to demonstrate that classification can be described as a valuation practice that is omnipresent in social life. We have furthermore shown that the major challenges for a sociology of valuation that reaches beyond particular fields of study lie in the search for common ground that cannot be provided simply by an extension of already existing theories. Calling for a multitude of theories of valuation, we have identified central assumptions and key concepts within different theoretical approaches that need to be taken into account when theorizing valuation. As a result, we have suggested five building blocks – valuation practices, value structures, valuation infrastructure, valuation situations, and reflexivity of valuation – theories of valuation need to consider being able to deal with empirical valuation phenomena.

However, besides their conceptualization, the question needs to be raised how these building blocks relate to each other. Regarding self-categorization in the ethical fashion market, Schiller-Merkens points to the relation between reflexivity and value structures when she demonstrates how ethical fashion designers reflect about the audience they address and therefore adjust the value structure. Thus, Schiller-Merkens' study on the ethical fashion market can be seen to contribute to the more general question on how stable compromises between heterarchical value structures are achieved.

In addition, we find that the question of the interplay, in particular between valuation practice and value structure is crucial to a sociology of valuation, especially since a strong basis in practice theory striving to transcend the dichotomy between practice and structure is present in writings on valuation. Discussing the relation especially between valuation practice and value structure, may provide new fuel for "[t]he question of how individual action brings about and reproduces social structures at higher levels of aggregation, which at the same time constitute the opportunities and constraints for social action, [...] characterized as the 'Holy Grail' of sociology" (von Scheve 2014, 5; DiMaggio 1991). This aligns with a theoretical trend within sociology to exchange the problem of the relation between social structure and individual action for an emphasis on the practical nature of the social, the generation of structure from practice and the presence of social structure in situations of practice (Giddens 1984; Sewell 1992; Schatzki et al. 2001). It is the focus on valuation situations, which allow for reflexivity, that seem to transcend the divide of practice and structure. Even though conceptually, structures and situations tend to be incorporated in the description of valuation practices, questions surrounding the role of structure and the specifics of situations are regularly raised, e.g. by the work of Boltanski and Thévenot.

Furthermore, a general theoretical trend in sociology – especially visible in practice theory and actor network theory – to dissolve the distinction between practice and structure has not only led to a preoccupation with situations but also with materiality and technology. Valuation infrastructure seems thus another take on overcoming the divide because as described by Fourcade and Healy it is the technological infrastructure that not only provides a value structure for assessing value but also practices valuation by influencing the attribution of value to people.

Dealing with classification as a practice of valuation can therefore not only contribute to the analysis of classification in markets. Moreover, studying classification as part of a sociology of valuation may provide insights to answer predominant questions not only in the sociology of markets but in sociological theory in general.

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Categories All the Way Down

Marion Fourcade & Kieran Healy *

Abstract: *»Kategorien auf der ganzen Linie«*. Scores and classifications are dual to one another. Cardinal and ordinal measures are repeatedly used to produce nominal classifications of essential worth. Conversely, presumptively natural kinds provide the basis for new measurement and scoring systems. Over time, the iterative application of nominal classifications and quantifying measures produce involuted, nested systems whose structure and origins are hard to disentangle. While careful studies of earlier systems and methods have often uncovered these arbitrary aspects, newer technical tools for classification are at once substantially more opaque than their predecessors and more likely to be employed on very large scales. The classification situations to which they give rise thus have the potential to produce the sort of naturalized facticity characteristic of classical social facts.

Keywords: Market classifications, scores, categories, classification situations, market sociology.

The articles in this HSR Special Issue "Market Classifications" explore scoring and classification tools across a range of economic settings, and from a variety of perspectives. The settings range from the German wine market (Diaz-Bone 2017) to the American subprime credit sector (Rona-Tas 2017), from the sustainability and social investment sector to the British fashion world (Nagel et al. 2017; Schiller-Merkens 2017; all in this issue). The perspectives taken variously see scoring and classification methods as tools for solving coordination or action problems in markets, as means for establishing and maintaining identities (Pridmore and Hämäläinen 2017, this issue) and as portable judgment devices with the capacity to be put to use beyond their original context (Chiapello and Godefroy 2017, this issue). Across the contributions is the sense that, as Citron and Pasquale (2014) have suggested, we now live in "scored societies" where increasingly large tracts of social life are subject to these methods, and in an increasingly automated manner. Discussing the credit crisis of 2007-08, MacKenzie (2011, 1830) asks "Should we understand the conduct of those practices and the use of their results as having been driven by belief in them, or should it be seen as cynical, as driven simply by the pursuit of gain (e.g., by

* Marion Fourcade, Department of Sociology, University of California, Berkeley, CA 94720-1980, USA; fourcade@berkeley.edu.
Kieran Healy, Department of Sociology, Duke University, Durham, NC 27708, USA; kjhealy@soc.duke.edu.

earning fees from ratings)?" As devices or tools for action and judgment, scoring and classification methods seem both in and out of the hands of their users, instrumental but disciplining, indispensable yet opaque. In this short paper, we ask: just how opaque?

1. The Duality of Scores and Classifications

Scores and classifications are dual to one another, in two senses. First, tools for scoring and ranking – for measuring and comparing on a cardinal or ordinal scale – are repeatedly used to produce nominal classifications associated with judgements of essential worth (Fourcade 2016). Continuous measures are cut into ranked scales, which in turn come to life as classes or categories of person, organization, or group. Second, over time the nominal classes and categories we interpret as basic to social life provide the starting point for new efforts to measure, score, and rank again. Prior classifications provide the basis for new measurements and scores, and scoring systems give rise to newly classified kinds.

Modern institutions, both public and private, rely on tools and procedures that track individuals, assess their behavior, and assign them membership in various categories. They use them, variously, in their efforts to monitor conduct, calculate risk, or extract value. Moved by the seemingly infinite possibilities offered by digital technologies, contemporary market organizations relentlessly segment and score large quantities of behavioral data. Seeing and knowing people by way of these tools changes how markets and states work. Their sorting and slotting procedures shape the availability and price of many goods and services, not only in traditional commodities markets but also in health care, insurance, education, legal services, and housing. Beyond these conventionally institutional arenas, we also increasingly find them reformatting the structure of ordinary sociability, from opportunities for friendship and dating to getting around town at the weekend. As we have argued elsewhere, the partially achieved, partially assigned categories that result from this widespread expansion of algorithmic decision-making can be thought of as *classification situations*. They shape the possibilities offered to individuals differentiated by them – in Weberian terms, these systems structure their life chances (Fourcade and Healy 2013, reprinted in this HSR Special Issue).

Across the range of markets and settings they organize, scores and the categories generated by them are market-derived and market-oriented tools. They identify important or valuable individuals, where the criteria for "value" is determined by criteria internal to the particular market in question. To the extent that these modes of evaluation are shared across market settings, and perhaps more importantly to the extent that data, methods, and tools for evaluation are also shared in this way (Rona-Tas 2017), classification situations may cohere in a systematic and increasingly consequential manner.

From the point of view of individuals, meanwhile, classification situations have objective consequences that can be measured in prices lowered or raised, fees incurred or waived, and opportunities proffered or lost. They also have a phenomenological aspect (Fourcade and Healy 2016). Because these new technologies of social classification are personal, pervasive, and moralized, the experience of being "well-situated" by them is often a pleasing one. We feel that the market or service (Amazon, Netflix, etc.) "gets us."

Occasionally, though, this expectation is betrayed. Personal cost, inconvenience, and awkwardness typically accompany a poor match. For the conventionally well-situated, a bad match occurs when the wrong product is pitched, or pitched at the wrong price. In these cases it is increasingly common for people to be consciously annoyed at the choices the algorithm has made for them. (How can Amazon be so stupid as to recommend this to me, given how much they know about my purchasing?) More interesting are cases where the quality of the match is "good" from the market's point of view but potentially "bad" from the point of view of the customer's sense of their own experience or identity. For example, the value of an individual in the subprime credit market may come from them having a "bad" credit score and thus ending up in the "wrong" category. They would prefer to be classified elsewhere, but the potentially stigmatizing classification is all that is available. In these cases, the phenomenology of one's classification situation may involve both firms and customers, who may be seeking some destigmatized understanding of the exploitative or predatory arrangements they are about to enter into. Subprime customers are encouraged to feel (and often do feel) that the expensive credit product is "right for them," or presented by a firm that "understands their needs." Increasingly, the same is true of the experience of those who sign up to for-profit schools and colleges (Cottom 2017), or poor-quality health plans. Deceptive sales pitches for bad products are as old as the market itself, but they find new expression through the machinery of category matching and tailored pricing.

2. Categories All the Way Down

The study of classification is nothing new in the social sciences either. Understanding the social foundations of the construction of the categories through which people apprehend the world around them, and struggles over this process (Bourdieu 1984), is the central problem of the sociology of knowledge. Scholars since Durkheim have singled out this question as a necessary precondition to any properly sociological or anthropological inquiry. As Warren Schmaus puts it, "social life as we know it, [Durkheim] thought, would not be possible if people did not share certain conceptions of time, space, causality, and classification" (Schmaus 2004, 4). Shared categories, vocabularies and nomenclatures express, enable and sustain social coordination. They also align and mobilize – in other words, they are political in essence. The "economics of convention" approach as it developed in France in the 1980s and 1990s emphasized this point, seeing categories and in particular statistical nomenclatures as devices that *constitute* communities. In a world marked by both uncertainty and the need for stable qualifications, different types of conventions organize the pragmatics and formatting of action: people appraise and classify the persons and things around them, and they do so in reference to emergent sets of common expectations, "grammars of worth," and evaluative conventions (Boltanski and Thévenot 2006; Lamont 2012).

It is in the work of Laurent Thévenot and Alain Desrosières that the tight connection between classification and quantification is most explicitly articulated. (See Diaz-Bone, this issue for a summary; Desrosières 1995; Thévenot 2016; Diaz-Bone and Didier 2016).[1] Quantifying implies sorting, and to sort is to pass through a categorical lens. There is no measurement that does not go through the lens of a classifier. As we, in this issue, ponder over the classifying consequences of market scoring processes, we must remember that these new classification situations, produced by measurement and quantification efforts, are themselves built on top of other classifying practices and the schemes yielded by them. The classifying (a score, a ranking, a rating) is itself a classified product.[2] For instance, the composite devices that are our main focus here, such as credit scores, depend in the first instance on choices about the way credit events are defined and measured. A small change in the measurement system, or a reweighting of the precise mix of factors deemed relevant for an assessment, may have dramatic effects on the outcomes.

Quantification not only implies classification, it implies classifications on top of other classifications – indeed a classificatory architecture that pulls in variegated ways of boxing and measuring people and things to some end. The pristine numerical output of a final score may bear a tangled relationship to its underlying strata of classes, groups, and types. In this sense, scores are categories all the way down. Most scoring systems are dependent on the categorical work of third parties. This tends to make them vulnerable to fads and shifts in data collection, measurement, and organization that happen elsewhere. For instance, a change in a bank's approach to credit limits will automatically reverberate into the credit score of its customers, since the ratio between balance transfer and credit limit is a common component of the latter. A lower limit will

1 Characteristically, the French economics of conventions was born at the French statistical institute.
2 Both meanings of classified, i.e. categorized and secret, are often pertinent when we discuss scoring methods.

worsen the score, while a higher limit will automatically improve it, even in the absence of any active intervention by the users.

Second, if scores are categories all the way down, then they might offer infinite possibilities for combination. The design of a new type of score leads immediately to the emergence of a field of competitors, all vying to establish dominance over a particular type of measurement, or at least over a niche market within it. If your magazine wants a piece of the college rankings business, better find some unique way of slicing the data. Indeed the most powerful scores in the economy are those that combine stable market anchoring roles with flexibility in implementation. Credit scores have that quality. They generally anchor the lending business (few would lend without a credit check) but the companies that produce them have also made the device customizable to predict, for instance, the likelihood that an applicant will be tempted by and pay as agreed on a *particular* type of loan. As Sevignani aptly reminds us in his own contribution (2017, this issue), asymmetric relations between owners and users of the means of information, surveillance and communication are a source of exploitation in the classic Marxist sense, where powerful companies are able to appropriate the wealth created by users as they navigate digital systems. Importantly, the systems themselves also facilitate a derivative form of exploitation where the data thus obtained is repurposed and manipulated to facilitate the extraction of profit. In Donald MacKenzie's (2006) phrase, borrowed from Milton Friedman, digital technologies are not simply cameras that provide an objective picture of the customer's creditworthiness or reputation. They have become the engine of the value extraction machine: the wide-ranging knowledge on users enables a fine-tuning of the products on offer to broader aspects of the person, from the ability to detect someone's reservation price to identifying their propensity to be fooled.

Third, if scores are composed of categories, then understanding how the resulting sausage, so to speak, is made, is big business. Wendy Espeland and Michael Sauder's recent study picks apart the structure and effects of the dominant *US News and World Report* ranking of Law Schools in the United States (Espeland and Sauder, 2016). The system is of interest for several reasons. First, the ranking is not "official" in the sense of being sponsored by the state, or even by a professional association of lawyers or legal academics. Nevertheless, it is the chief means by which aspiring law students and Law School Deans alike orient themselves to the public status order of their discipline. Second, the ranking is calculated from a mixture of sources, ranging from the average standardized test scores and undergraduate grade point averages of admitted students, to measures of faculty and student expenditure. It also includes a reputational component extracted from a survey of Law School Deans and placement directors, legal professionals, and judges. Some of these sources are themselves highly refined individual-level instruments being used in the "off-label" manner Rona-Tas (2017) describes. Others are organizational features of the schools that are somewhat under the control of the staff. Still others are measures of the existence of the very status order that the ranking will quantify and express. Schools seek to manipulate their place in the pecking order by focusing their action on these various components of the ranking, that is, on the classifications that are *baked* into the *US News and World Report* performance measure. But this work requires a delicate – and somewhat unstable – balancing act, since some components have inherently contradictory dynamics. For instance, given the existing applicant pool and the institutionalized measures that are available, it may be impossible to simultaneously increase measured diversity and test scores. When faced with dilemmas of this sort, very high-status actors may occasionally move unilaterally to rebalance the regime, ignoring or shifting their criteria while banking on their old-fashioned unquantified public status to carry them through.[3] But most actors in a status order do not have this move available to them. This is a rejoinder to Karoline Krenn's point in her article (Krenn 2017, this issue) that powerful or wealthy actors have in effect more freedom *vis-à-vis* objective measurement systems than less privileged ones.

Law schools and similar professional rankings are opaque and transparent at the same time. They are internally opaque, in that they incorporate a heterogeneous body of measures and weigh them in a way that, if not entirely arbitrary, is at least open to question. Yet they are transparent in the sense that it remains possible to see the various ingredients. Indeed, one of the central puzzles of the rise of third-party rating and ranking systems in this area is why they have been so successful. The hold they exercise over the minds of applicants and the disciplining effects they have on decision-makers at professional schools seem out of all proportion to both the authority of the entity doing the ranking (a news magazine relatively few people read) and the quality of the methods used to generate the results. Moreover, the feedback built into the measures seems to ensure the reproduction of the existing status order in an obvious way. And yet even so poor a measure of status as this has successfully acquired the mantle of an unavoidable, objective social fact about legal education in the United States. The constraint is deeply felt: in Espeland and Sauder's phrase, the rankings act as "engines of anxiety" for applicants and administrators alike, , who cannot

[3] See, for example, Harvard Law School's recent decision to accept Graduate Record Examination (GRE) scores from applicants instead of the traditionally required Law School Admissions Test (LSAT) score. The decision was taken on the grounds of diversity, of a general kind. A spokesperson said the school was seeking to "diversify our community in terms of academic background, country of origin, and financial circumstances." Note that, even in a case like this, Harvard's decision is not to abandon its use of a standardized test but to take advantage of a somewhat different test instrument for moderately off-label use. See Elizabeth Olson, "Harvard Law School, Moving to Expand Applicant Pool, Will Accept GRE", New York Times, March 9, 2017, p. B5. <https://www.nytimes.com/2017/03/08/business/dealbook/harvard-law-will-accept-gre-scores.html> (Accessed March 9, 2017).

help but submit to what Krenn in her introduction to this issue (2017) calls "the measurement fallacy." This anxiety, in turn, fuels a prosperous consulting industry specializing in the management or gaming of ratings. The process is very similar, indeed, to the search engine optimization industry that developed around Google's algorithm, PageRank (Ziewitz 2015). Sometimes the rankers even provide these governance services themselves, as in the case of the *Times Higher Education* World University Rankings, which is marketing "strategic solutions" for universities to "improve through performance analysis and benchmarking."[4] Indeed the opportunity to sell a suite of associated services may be the prime motivation for investing in the development of a new ranking or scoring method in the first place. The production of classification situations is a valuation practice (Krüger and Reinhart 2017, this issue) that has both evaluative and valorizing, or economic, aspirations (Vatin 2013).

3. Whither the Categories?

The relationship between scores and rankings on the one hand, and the categories they rely upon on the other, raises a fundamental problem in the sociology of knowledge. Donald MacKenzie (2011) reminds us that it was in part the financial actors' belief in the facticity of their new composite products, the ABS CDOs, or tranches of tranches of bundles of mortgages, that blinded them to the dangers within. In their efforts to redistribute risk through securitization, people lost sight of both the declining quality of the components (the category 'all the way down,' the individual mortgage) and the possibility of even a modest correlation among those ABSs, which the 2008 credit crisis ultimately revealed. As MacKenzie notes, the market participants overlooked these risks partly because they believed them to be good tools, and partly because it was in their financial interest to act as though they were good. There was a lot of money at stake.

As the skills required to understand the internal structure of algorithms become more demanding, ranking and scoring devices are less easily accountable. Furthermore, the inner workings of the vast majority of scores, rankings and algorithms currently in use are *deliberately* shrouded in secrecy. The opacity of instruments in the name of state or trade secrets lies beneath the "black box society" criticized by Frank Pasquale (2015) and Catherine O'Neill (2016). But as Jenna Burrell (2016) has argued, these two modalities of opacity (proprietary codes and technical know-how) have now been superseded by another, more intractable form. Machine learning procedures have been developed in cases where an explicit logic of decision-making remains elusive, or simply where

[4] <http://timeshighereducationonline.com/clienthub/strategic-solutions.html> (Accessed March 8, 2017).

the abundance of data makes such an approach more efficient. In contrast with traditional artificial intelligence, where computers were programmed to follow an algorithm designed by a coder, the machine-learning approach uses statistics to identify patterns directly in the data. The computer "learns" from these patterns, and optimizes its performance of a task accordingly. Computers can also learn to classify data on their own, and thereby predict where new data should fit. In other words they can produce a model, but the difference with human programming is that the rationale for why certain decision rules end up in the model is not always obvious. In the most advanced techniques, this rationale is in fact impenetrable for the human mind. Owing to the recent resurgence of 'deep' learning procedures, the model's outputs are now based on multiple, sometimes thousands of processing layers. Each layer produces its own representation of some piece of the data and relays what it has learned to the next layer, and to the next layer, and so on until the final layer, which uses all the information passed along the way to generate the classification.

Methods for layered neural networks have been developed since the 1960s, and they began to be seen in more widespread use in applied statistics in the 1980s and 1990s. At the time they were seen mostly as "a flexible non-linear extension of multiple logistic regression" (Venables and Ripley 2002, 342). Their usefulness seemed relatively limited. In comparison to more familiar methods they were both less transparent and caused more computational trouble. However, continuing research, the rapid expansion of cheap, large-scale computing power, and the concomitant availability of enormous datasets for analysis resulted in a step change in the usefulness of these methods. Their application began to yield rapid progress in notoriously intractable problems such as speech recognition, image classification, and natural language processing. The result has been a huge surge of interest in these approaches, and a new wave of experimentation with them in many different areas.

A characteristic feature of discussion around deep learning is that while its success is results-driven, a satisfactory theory of why these methods work so well is harder to provide. Research and applications continue to surge, but it is striking to see the enthusiasm for these methods intermingled with the frank acknowledgment, even by experts, of how opaque they are in practice. It is common enough for well-understood technical methods to be deployed as packaged tools for use by nonexpert (but often still "professional") practitioners. But deep learning techniques have much more of this quality than usual. Due to the high-dimensional character of the data and the model, the way these procedures operate, calculate, and classify is typically impervious to human interpretation. It is often impossible in practice to identify the role of individual inputs, which makes the devices rather intractable to manage when problems arise. That was Google's hard-learned lesson after its image recognition software classified black people as gorillas, and the only workable solution (since the classifier could not be unpicked to fix this error alone) involved preventing *any* photo from being tagged to the word gorilla. Categories all the way down, but what were the categories in the end?

As the tools of deep learning are just beginning to be applied across market settings – for instance in credit scoring –, the issue of opacity is returning to the forefront with a vengeance. The law requires that scoring tools be interpretable or comprehensible to scorer and scored alike, but the new methods are much harder to make sense of than the old, both in a technical way and in a regulatory one (Kroll et al., forthcoming). At the same time, they are also more powerful, and better able to generate the kind of outcomes that mortgage and credit issuers want (e.g., better predictions of risk). Once again, we see the prospect of enigmatic methods that are at once technically effective, rhetorically useful, and financially rewarding, often combined with a certain kind of blind confidence that nothing will go terribly wrong, as in the credit crisis case.

Traditional mechanisms of social classification are powerful. Legal or political classifications of an arbitrary sort can become imbued with the character of a taken-for-granted fact. Amateurish or barely defensible data collection and ranking schemes turn out to have the capacity to control the status order of professional fields, partly just in virtue of their quantitative character. Perhaps a deeply arbitrary order is better than no order. Perhaps, as Gillespie (2014, 192) points out, "we want relief from the duty of being skeptical about information we can never assure for certain." The new classifiers seem to combine and supercharge these features. They are technically more sophisticated than many of the methods that preceded them, and are also set to be applied on a much larger scale. At the same time, they are far more difficult to fathom – perhaps intrinsically so – even for well-informed users. To exaggerate, but only a little, they fuse the rational legitimacy of technical analysis with the enigmatic but undeniable force of a Delphic oracle. The classification situations to which these methods give rise thus have the potential to produce the sort of naturalized facticity characteristic of truly social facts. Both the act of classification and the criteria for it fade into the background, and we are left with what seems simply to be the world itself, delivered to us as a set of natural categories that it is in our best interest to believe in, act upon, or live up to.

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Cooperating Associations / Networks / Journals

QUANTUM (Association for Quantification and Methods in Historical and Social Research) http://www.gesis.org/en/hsr/profile/quantum.

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Special Issue: Karoline Krenn (Ed.): Markets and Classifications. Categorizations and Valuations as Social Processes Structuring Markets.

In the last couple of years the discussion on market classifications has received new topicality through the unbounded possibilities offered by digital technologies to track behavioral data. Understanding the social foundations of categories and classification systems is a fundamental problem in sociology. In markets, classifications are present in the variety of goods traded, in quality differentiations and their association to goods, and, also their matching with consumers. From a pure business perspective such marking of market identities is based on objective characteristics. In contrast, it is the aim of social science studies to pay attention to the formation of market categories, to examine the social construction processes underlying these classifications and to demonstrate their contingencies.

In this vein, the contributions to this HSR Special Issue, which come from various theoretical schools such as the new economic sociology or the economics of convention, present recent research across a range of economic settings: financial markets, fashion markets, consumer markets and others. Despite the varieties of markets and national institution settings, essential resemblances show. Among the topics covered: The case of the French impact investment market, arguing for a dual function of judgment devices, demonstrates the close connection between boundary-building and boundary-blurring. A study on Dutch marketing agents reveals that the same actors who promote new classifications have difficulties in implementing these differentiations in their own performances. The example of self-categorizations in the British ethical fashion industry shows that the relevance of classifications is connected to reputation and power. And, analyses into the US-credit market discuss the off-label of classifications and its adverse societal consequences.

Furthermore, this HSR issue contains a Mixed Issue.

ISSN
0172-6404

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