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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

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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.

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 trans-disciplinary 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 value 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, where-in 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 Droysbeke (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 were 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 “mean-

ing 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.

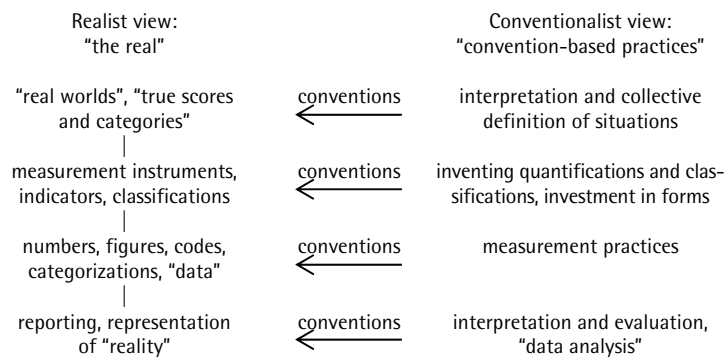
Figure 1 depicts how the process of measurement can be interpreted from EC's perspective as the categorization and quantification of social reality, which is in itself *not* a pre-given ontology. Instead, it is the result of different steps of convention-based practices, of practical forms of valuation, 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 categorizations¹⁵ 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



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).

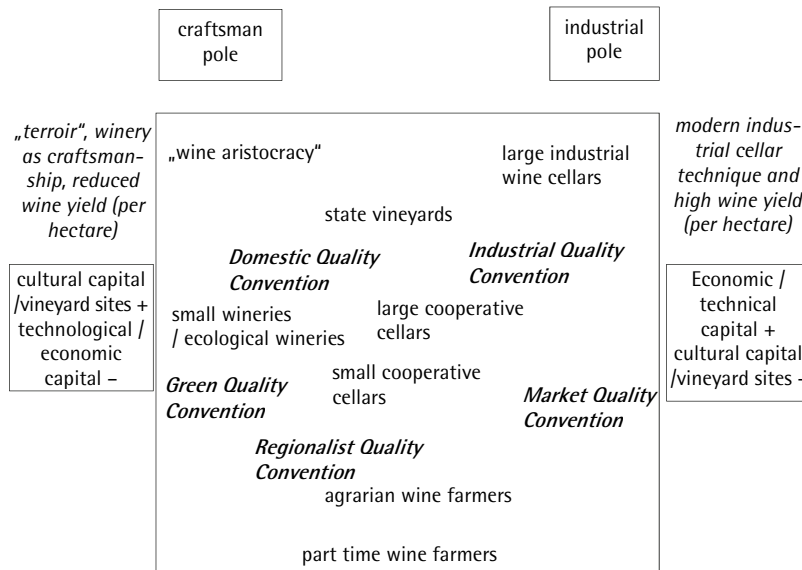
Table 2: Comparison of Main Quality Conventions

	Industrial	Market	Domestic	Opinion	Inspiration	Civic	Green	Network	Regionalist
Mode of evaluation	productivity, efficiency	price	esteem, reputation	renown	grace, creativity, 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 and consensus 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.

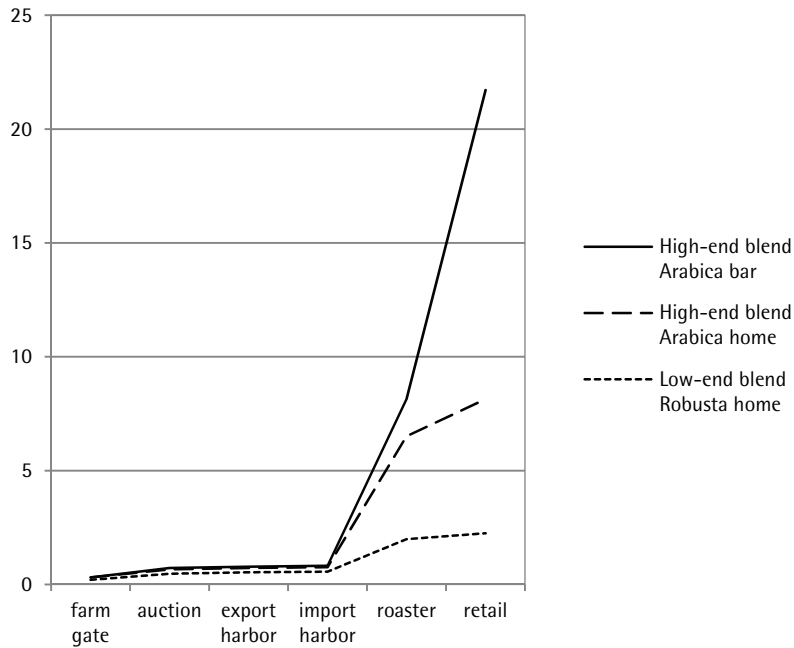
For example, wine produced in the market region of the industrial convention (“industrial pole”) is mainly categorized by country, wine producing region, grape and (lower category of) price; wine produced in the market region of the domestic convention (“craftsman pole”) is mainly categorized by the 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 con-

ventions 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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