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Quality Classifications in Competition

Price Formation in the German Wine Market

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Abstract

How do judgment devices influence price formation? We investigate this question through a study of the German wine market. The German wine market is characterized by the simultaneous existence of two classification systems: the official classification system referring to the “quality in the glass,” and the concept of “terroir,” introduced by a private association of quality winemakers, the *Verband deutscher Prädikatsweingüter*. We used a data set comprising 1,890 wines from 248 different wineries in the German wine-growing regions of Rheingau and Rheinhessen. Our results show that the two classification systems function as mutually exclusive strategic options for wine-makers. We also show that the non-official classification of terroir is much more powerful in explaining price formation within the market.

Quality Classifications in Competition: Price Formation in the German Wine Market

Understanding the characteristics and consequences of quality uncertainty has become an important topic in economic sociology in recent years (Beckert/Rössel 2004; Callon/Méadel/Rabeharisoa 2002; Karpik 2010; Rössel 2007; Uzzi/Lancaster 2004). In an increasing number of markets, there is uncertainty among buyers as to the quality of products (Beckert 2011; Hutter 2011; Stark 2009). This begs the question as to how actors form assessments of the quality of products, and shifts the focus to the processes through which products are “qualified.”

Quality uncertainty has long been a subject of investigation in the economics of information, where it is discussed as an information problem (Akerlof 1970; for the example of wine see Müller 2004 and Schneider 1997). Both information economics and cognitive science (Medin/Aguilar 1999) see classifications as being based on objective characteristics of the products. In many markets, however, the perception of the quality of products does not depend on information about their objective properties. The perceived quality of wine, perfume, art, music, food, computer technology, and even cars is only partially derived from their objective characteristics. In fact, quality in these markets is the result of a social process of qualification, in which different actors – producers and sellers, experts, journalists, industry associations, marketing specialists, and consumers themselves (Bourdieu 1999; Dubuisson-Quellier 2013, forthcoming); Eymard-Duvernay 2002; Karpik 2010) – participate in constructing the qualities of products. What qualifies as quality often also depends on the social class and status position of the consumer.

The assessment of quality is based on classification systems which take the role of “judgment devices” (Karpik 2010) in the market. Such classification systems consist of two elements: a scale along which the different products in one market can be compared, and a parameter value (rank) that indicates the specific position a product has on the scale relative to other products. If quality is assessed based on objective criteria, neither the scale nor the position of the product on the scale will cause much controversy. In the case of classification systems that judge products based on aesthetic, moral, or status-bestowing criteria, the scale to be used and the positioning of the product on the scale is contingent and is the object of cultural as well as political controversy among the individual and collective actors in the field who try to influence social recognition of products and distributional outcomes (Knight 1992). If more than one classification system becomes established in a market, there can be competition between these systems. The more important and statistically relevant classifications for price formation on markets are those that are backed by powerful status groups benefiting from high status traditions, very similar to the “legitimate culture” in Bourdieu’s work.

While information economics is a powerful explanatory tool when information on quality is asymmetrically distributed, it is of little help in cases where the uncertainty stems

from the contingent social recognition of the quality-assessment criteria (Karpik 2010; Rössel 2007). In this paper we demonstrate this proposition for the example of wine. Wine is an especially instructive example, since most connoisseurs would consider themselves to be able to differentiate between wines of different quality based on the objective characteristics that become accessible in the experience of drinking. This “objective” description of quality finds expression in the highly differentiated and ornamental language wine experts use to describe taste and flavor.¹

We focus on the German wine market and specifically on the question of competition between two classification systems in this market. Just as countries like France and the United States do (Zhao 2005, 2008), Germany features a dominant scale for classifying wine quality that is backed up by law and state agencies (Diaz-Bone 2005). The official quality classification in the German wine market differs from the other two countries, however, in that it is based on a philosophy of measuring the “quality in the glass” of a wine. In addition, in contrast to France and the United States, there is a strong and powerful alternative classification scheme being used by some of the producers in the German wine market that falls outside of the official classification scheme.² This classification scheme makes use of the notion of “terroir” – i.e., the concept used in France as the underlying idea of the AOC classification system – which is based on the conviction that the soil and microclimatic conditions as well as the craftsmanship of the wine producer determine wine quality.

Thus Germany has two competing classification schemes: the official classification system referring to quality in the glass, and the concept of “terroir.” To try to understand how competition between the two systems works and what consequences each system has on price formation, we used a data set comprising 1,890 wines from 248 different wineries in the German wine-growing regions of Rheingau and Rheinhessen. Our results show that the two classification systems function as mutually exclusive strategic options for winemakers, meaning that the two strategies are usually not combined. We also show that the nonofficial classification of terroir, which is directed at a high-status public, is much more powerful in explaining price formation in the market.

1 Theory

The new economic sociology takes uncertainty as its starting point (Beckert 1996; Karpik 2010; Podolny 2005; Stark 2009). On the one hand this approach is an analytical strategy, but on the other it is also a kind of description of current society, because markets where consumers are faced with uncertainty about the quality of products seem to be gaining in significance (Adolf/Stehr 2010; Hutter 2011). This is the result of an in-

1 For an interactionist analysis of the restrictions in describing tastes linguistically see Fine (1995).

2 This is notwithstanding the fact that in France one also finds strategies by producers to establish quality independent from the terroir principle. This can be observed especially in low-status wine areas, such as the Languedoc (see Garcia-Parpet 2011).

creasing aestheticization and moralization of everyday life and consumer products (Featherstone 2007; Rössel 2007; Schulze 1992; Stehr 2007; Sunderer/Rössel 2012).

Uncertainty is also the starting point for information economics, which focuses on information asymmetries (Akerlof 1970; Arnott/Stiglitz 1991; Schneider 1997). According to information economics, consumers are faced with information asymmetries when buyers cannot perceive certain characteristics of a good or service in advance. Whereas search characteristics such as the color of a skirt or the weight of a hammer are perceptible before purchase, this is not the case for so-called experience and credence attributes. In the case of experience attributes, certain characteristics may only be detected after purchase, such as the sweetness of a chocolate or the taste of an apple, whereas in the case of credence attributes consumers must trust producers' claims that products are produced according to ecological, religious, fair-trade, or other standards, since buyers can never know for sure (Gourevitch 2011; Waarden/Dalen 2013 forthcoming).

Producers may use signaling strategies to indicate to consumers that their product has a certain experience or credence attribute. Information economics assumes that such strategies are less costly to producers who offer products that actually are higher in quality (Kirmani/Rao 2000; for sociological applications see Gambetta 2009; Spence 1973). This leads to a sorting equilibrium in which only producers who offer a certain quality can credibly signal this quality to consumers. As a consequence of this equilibrium, consumers are able to make reliable inferences about product qualities based on the signals sent by producers. If a car manufacturer offers an especially comprehensive warranty for its products, for instance, this acts as a signal to potential purchasers that the product quality is high.

This situation is convenient for both consumers and producers, because consumers can expect not to be cheated and producers of higher quality are able to charge higher prices for their products. Information economics and signaling theory have convincingly shown how information asymmetries can be overcome through signaling, provided that the assumed cost differences in the production of signals actually exist. If such differences do not exist, a semi-sorting or pooling equilibrium may result, where consumers are not able to distinguish between trustworthy producers and producers who cheat. In this case, no stable market will arise.

However, in many markets uncertainty is not due to information asymmetries (Karpik 2010). Instead, it stems from the indeterminacy of what constitutes the quality of a product. One can distinguish between two ideal-typical types of markets. In some markets, the quality of products can be measured objectively. Even if the criteria and techniques for measuring quality are not "natural" artifacts but social ones, they are so much taken for granted that they appear to actors as "natural" and become uncontested reference points for their quality judgments. This is mostly the case in markets where the quality of the product is assessed based on "functional performance" that can be measured objectively. These markets can be called standard markets (Aspers 2009). An example would be the oil market, where different types of oil are traded. Each type of oil has a different quality because of its different chemical composition. The chemical

composition is an objective characteristic of the product that, based on the socially established criteria, provides “good reasons” for ascribing a higher or lower quality to it compared to other types of oil along a scale. Quality uncertainty in the market can be treated as an information problem.

The second type of market contains products that are at least partly assessed based on symbolic qualities, which can be aesthetic, moral, or status-bestowing. Markets for symbolic qualities lack stable and uncontested field-specific criteria for judging product quality.³ Instead, the attributes of quality are contested, change over time, and differ between social groups. Product qualities remain contingent and contestable because the symbolic qualities are not defined as fixed material properties. Wine, the subject of this paper, is predominantly an aesthetic product (Charters/Pettigrew 2005). Another example is art. Though art has a material basis (canvas, paint, etc.), this material dimension is largely irrelevant in judging the quality of a painting. In some products – for instance cars, fashionable information technology, or food – aesthetic attributes and standard attributes are combined in one product. The range of markets in which quality is contested thus goes far beyond highly specialized markets, but in “extreme” markets such as the wine market or the art market the underlying processes of “qualifying” goods can be seen especially clearly.

At a general level, the wine market is a classic example of a status market. Producers are ranked according to status based on classifications that regulate the wine market. These classifications include judgments from wine guides or critics (Hay 2010), official classifications based on legal stipulations, and other judgment devices. Consumers are ranked according to the quality of wine they buy.

At the same time the wine market has a kind of nested structure: one can observe an internal differentiation of the market into one segment that adheres more strongly to the status model, and another segment that adheres to the standard model.⁴ Wineries that work according to the principles of craft production and to a philosophy of terroir are able to form wide ranging ideas on taste differences, ideas which lend themselves to the development of a very finely-grained status hierarchy for wines and wineries. By contrast, large-scale producers adhering to principles of industrial or mass production do not necessarily develop such a status hierarchy, other than conforming to standards on the chemical composition of the wine. This has also been shown by Diaz-Bone (2005) who speaks of an industrial pole and a craftsman pole (*winzerischer Pol*) as the two segments of the wine market (see also Schenk/Rössel 2012, forthcoming). This parallel appearance of a standard market and a status market for wine holds true for all wine-producing countries. Though the exact numbers differ between wine-producing countries and regions, the status segment generally comprises only a small part of the wine produced but is responsible for a large part of the revenues.

3 Our research focuses on aesthetic products. It is obvious from Karpik (2010) and Callon, Méadel, and Rabeharisoa (2002), however, that aesthetic products do not exhaust the range of products for which such quality uncertainty exists. One can assume that the more “unique” a product or service is, the more contested quality assessments will be.

4 See also Bourdieu’s notion of a chiasmic structure: Bourdieu (1999).

Viewed from the perspective of market actors, the contested character of what constitutes quality creates a source of uncertainty in markets that is different from the information asymmetries described by information economists. This uncertainty involves the question what actually qualifies as quality and whether a specific product indeed has it. The contingency of quality assessments in such markets becomes apparent in an example from the wine market: whereas today dry wines are seen as being of high quality and enjoy high legitimacy in the market, only a century ago the situation was very different: sweet wines merited high regard. Quality evaluation can also depend on the social status and corresponding taste and lifestyle of the consumer segment, on the social situation of consumption (e.g., drinking wine on vacation or at home), or on the social network composition in the situation of purchase and consumption (buying wine in the company of colleagues who happen to be wine experts or drinking wine at home with wine novices).⁵

The sociology of art has shown that judgments on aesthetic qualities are based on social processes with outcomes that are contingent and inherently uncertain from the point of view of consumers (Beckert/Rössel 2004). This is a phenomenon that can also be found in music and literature (Dubois/François 2013 forthcoming), as well as in product design and the desirability of certain features in products. An uncertainty exists regarding the quality of products, and this uncertainty cannot be grasped by the notion of information problems but must be seen as the result of fluctuating social influences on the judgment of the symbolic characteristics of the product.

Economic sociologists (Beckert 2009; Karpik 2010; Koçak 2003) have pointed out that no market with stable demand can arise for products whose qualities in relation to other products in the market remain opaque. “If all choices are random, then there is no choice at all. ... The very existence of the market is therefore at stake” (Karpik 2010: 13). The calculation basis for rational decision-making is missing.⁶ Markets require “stable worlds” (Fligstein 2001) to establish the necessary confidence in buyers that it is worth paying the money for the product offered. No one would pay 20 euros for a bottle of wine if the same quantity of the beverage could be purchased for 3 euros, unless there were reasons to justify the more expensive purchase. These reasons must necessarily lie in the perceived better quality of the more expensive product. Otherwise an infinite regress, similar to the one described by Akerlof (1970) for the used car market, will set in. The question becomes how these “good reasons” are established when they are not simply provided by information on the functional qualities of the product that is anchored in its objective material properties.

5 Our discussion is closely related to Lucien Karpik’s notion of singular goods, but we do not share Karpik’s assumption that goods acquire the attribute of singularity and the ensuing radical uncertainty because their value depends on a structure of characteristics instead of an aggregate of characteristics (Karpik 2010: 25–26). Instead we assume that uncertainty is based on a lack of the quality criteria that would then be taken for granted and reflect objective measurement. Because such quality criteria are missing, the social processes of quality ascription that replace them may lead to quite unexpected and unpredictable results.

6 In the best case, speculators accustomed to taking unpredictable risks or believing in random walks will enter the market.

Quality through reputation

We argue in this paper that in the case of aesthetic products, the crucial differentiating properties of product quality do not refer to the functional performance of the product but rather to qualities that are symbolically ascribed to certain features of the product and recognized by the actors in a given social field. In the field, a public discourse about product quality takes place among producers, buyers, experts, and regulators, through which the different criteria for judging quality are established, criticized, changed, and applied (Bourdieu 1999; Beckert/Rössel 2004; Rössel/Eppler/Schenk 2011; Zahner 2006). Buyers look for judgments from within this discursive field that inform them on how to assess the quality of a certain good or service and how to rank a specific product on the scale.

In order to understand how markets for products with highly contingent quality measures are constituted and maintained, we must turn our attention to the processes in the market field that create institutionalized structures for the measurement of quality differentiation (the classification systems) and the judgments through which the quality of a concrete product is determined based on the legitimated criteria. These judgments in the field form the foundation for potential buyers' decisions by providing them with what they perceive as "good reasons." Because of their contingent character, however, different classification systems can also appear simultaneously in a market and compete with one another.

We claim that the significance of the assessments of product quality and the relevance of a classification system are determined by the reputation of the actor uttering the judgment. This reputation derives from the status and power of the actor in the field (Bourdieu 1999). The legitimating actors and institutions making judgments in a field – state agencies, firms, journals, experts, guidebooks, prize juries, advertising agencies, peers – are themselves assessed in terms of the significance of their judgments. Buyers in a field will assume that judgments from actors and institutions who enjoy high status based on their well-known reputations in that field are more reliable than quality judgments from low-status participants in the field (Thompson 2008: 19ff.). At the same time, these buyers are constituting and reproducing the status of actors and institutions through their acts of recognition. In the wine field, for example, Robert Parker is a highly recognized and powerful actor who makes quality judgments (Chauvin 2011; Garcia-Parpet 2011; Hadj-Ali/Lecocq/Visser 2008; see Karpik 2010). The relevance of a quality judgment can be measured through its impact on the sales volume, prices, and reputation of the product in the market.⁷

The uncertainty of the quality of a product or service can therefore be understood as uncertainty about the correctness of these quality judgments. *Correctness* here means that other actors in the field agree with the judgment and make it the basis for their deci-

⁷ This of course does not exclude that an individual buyer may pay no attention to the judgments made by Robert Parker and may value other judgments more highly. As we will show, which judgments consumers take into account and how they interpret quality signals provided in the market also depends on their position in the field.

sions as well (Beckert/Rössel 2004; Martin 2007: 18). The stronger the consensus on the quality assessment of a product, the lower the uncertainty regarding product quality.

The assumption of a reputation hierarchy in the field fits well with the empirically substantiated formal model of the emergence of status hierarchies put forward by Roger V. Gould (2002). Gould has shown that in fields where no underlying objective measure of quality exists or where quality is difficult to observe, status hierarchies are mainly based on socially recognized assessments of quality, which give rise to a self-reinforcing process of quality judgment. The less underlying measures of quality are observable as objective characteristics of the product, and the more important this self-reinforcing process of quality judgment is for the establishment of status hierarchies, the more exaggerated are the status hierarchies (Gould 2002: 1156). From the consumer's point of view, this leads to a quality evaluation of aesthetic products that is rooted in the distribution of reputation and "definitional power" in the field.

The political contestation of classification systems

Judgments of product quality are not the only things contested in symbolic qualities; the classification systems themselves are also a subject of debate. In cognitive psychology and cognitive science, it is assumed that the formation of categories and classifications is based on the cognitive processing of objective similarities (based for example on prototypicality or on the weighting of selective features) between perceived objects (Medin/Aguilar 1999). In our case, however, this model of category formation does not fit, since quality classifications are the result of a social process. Eviatar Zerubavel in particular ([1991]1993) has shown that categories are often developed in social processes that themselves also shape the content of these categories. This is true for such different classifications as the time rhythms of everyday life, the social class distinctions used to make sense of the structure of social inequality, and the classification of product qualities. But classifications are very often not only the result of social processes of cognitive categorization, but also the outcome of political contestation. This also holds true for classification systems used to assess wine qualities.

Economists have put forward the idea that prevailing institutions exist because they enhance collective efficiency and lead to (Pareto)-superior outcomes. Contradicting this assumption, Jack Knight (1992) has shown that it is not possible to explain such outcomes in microeconomic terms. Collective efficiency and Pareto-optimal outcomes have the character of public goods, and rational actors (in the narrow sense, see Opp 1999) are not willing to invest in the production of such public goods unless they are provided with selective incentives for their action. Therefore, following Knight (1992), in order to explain the emergence of institutionalized classifications we have to attend to the selective incentives for actors to participate in their construction and shaping. These are found in the expected distributional consequences of specific quality classifications.

Classifications are institutions that are shaped in a political process. Classifications in the wine market are developed, applied, and backed up by powerful organizations, including the respective state and private organizations or associations. Since the perceived quality of a wine is of importance for its price⁸ (and its demand) and products rank differently depending on the scale used to assess product quality, the classification systems are contested between actors in the field. In any classification scheme, certain characteristics of the product will be picked out while others are omitted. As a consequence, classification systems privilege some producers over others and hence themselves become the object of competitive struggles among producers.

In the wine market, we can assume that the producers targeting upper-class consumers, who are willing and able to pay high prices for wine, have an interest in the institutionalization of a classification system that will provide justification for large price differences. Such an institutionalization is possible if the system allows for highly differentiated assessments and if competent mastery of the classification system requires detailed expert knowledge of the field and thus high cultural capital. The establishment and reproduction of such high-status classification systems depend on the availability of a dominant class culture, in Bourdieu's sense, that will culturally support such a system. In the example of wine, the long-standing dominance of French cuisine and wine in upper-class culture and lifestyles is a prime example (Johnston/Baumann 2007). If the systems are trusted by upper-class consumers, high-end producers benefit from wine classifications that rely on these culturally legitimated French traditions to justify high prices for the product. Producers in mass markets, by contrast, benefit from a system that provides a rough orientation in a complex market through simple differentiations that are easy to understand and facilitate decisions at the point of sale.

Classifications and social stratification

An additional point to be included is that the use of classification systems and judgments of wine quality are related to the social stratification of consumers. Different classification systems take a distinct relevance for actors of different social status, and the parameter values in the classification system are interpreted differently according to a person's *habitus*. Following Bourdieu, *habitus* is the system of perceiving and classifying the world as well as the systematic dispositions for behavior (Bourdieu 1984). Different consumers do have different quality experiences while drinking the same wines. Those differences prevail because the consumers differ in their *habitus*, which is connected to a certain quality evaluation.

This social differentiation of the assessment of wine quality shows up today, for instance, in the separate preferences for sweet and dry wines. It is mostly the inexperienced consumer, often young and of low social status, who will favor sweet wines,

8 For the wine market see the rather strong influence of Parker points on wine price (Hadj-Ali/Lecocq/Visser 2008).

whereas the experienced wine consumer, especially if they have higher social status, will favor dry wines (Pape 2011). A recent study of the German wine market shows that wine consumption in all its different facets (consumption frequency, expenditure, taste preferences) is strongly shaped along a vertical social axis differentiated by income and education (Pape 2011).

Following Bourdieu, taste is not just an *expression* of social class; class *distinctions* are also deliberately reproduced through the articulation of preferences associated with a higher social status (Bourdieu 1984). This is also relevant for the status of classification systems that operate as judgment devices in the wine market: classification systems that aim for quality evaluations connected to claims of high social status have greater legitimacy for middle- or higher-class actors – people of higher income, wealth, and cultural capital. Becoming competent in the terroir philosophy, and the status differences of wine established through it, demands high cultural capital and is therefore also socially exclusive. Furthermore, the terroir philosophy signals social status by its orientation toward the globally dominant models of famous French wines and their reputations. Finally, in contrast to a standardized model of wine quality, the terroir model leaves much more room for signaling authenticity, since it emphasizes the craftsmanship of the individual winemaker and the specific qualities of a certain vineyard. Johnston and Baumann (2007) have demonstrated that high-status consumers in contemporary food markets tend to distinguish themselves from lower-class consumers by looking for authentic and exotic food. This striving for authenticity has also been shown for the wine market (Beverland 2005; Gade 2004). Authentic and exotic food is usually much more expensive than ordinary food, however, and thus is only within reach for wealthy and higher-income consumers. By contrast, quality classifications that promise a standard of quality without higher ambitions in taste sophistication – an example being the “quality in the glass” classification – are more relevant for lower- and middle-class consumers with lower cultural capital. This system is cognitively much easier to comprehend and is clearly not suitable for constructing distinctive ideas about authenticity. As a consequence, different classification systems in the wine market find recognition in different consumer segments, which are distinguished by wealth, income, and cultural capital.

2 The assessment of wine quality

A possible objection to the notion of quality evaluation as a social process within the context of this paper could lie in whether it does indeed apply to wine. After all, can't we differentiate between wines of high and low quality already, especially if we are connoisseurs who have a certain level of expert knowledge on wine?

The empirical evidence contradicts this assumption in very fundamental ways: an experimental study with students of enology from Bordeaux showed that most of them were not able to distinguish white from red wine just by taste (Morrot/Brochet/Dubordieu

2001).⁹ Lehrer (1975) conducted a study in which one participant tasted three wines that the participant subsequently had to describe on the basis of the San Diego wheel, a well-established instrument for describing wine tastes. A second participant had to connect the three taste descriptions to the wines he had also tasted. The number of correct classifications by laypersons was not different to chance classifications. In replications of this experiment with wine experts, the experts had higher average numbers of correct classifications but were still far from perfect in the matching of wine and wine description (Gawel 1997; Lawless 1984; Lehrer 1975; Solomon 1997; Weil 2007).

This can also be seen from the low intercorrelations in expert ratings of wine that were based on blind tastings (Brochet 2001; Cicchetti 2007; Hodgson 2008; for a study of non-blind tastings see Gokcekus/Nottebaum 2011). Less than 30 percent of wine experts have shown the level of consistency in their ratings that would be expected from an expert (Hodgson 2009). Investigating the descriptions from wine tastings, Brochet and his collaborators found no agreement in the tasting notes of four renowned wine critics. Critics mainly followed their own individual style of discourse, and their major criterion for describing the taste was the color of the wine (Brochet/Dubordieu 2001; Morrot/Brochet/Dubordieu 2001; Sauvageot/Urdapilleta/Peyron 2006). For example, critics would use fruits of a similar color to describe the taste of a wine. Furthermore, the taste descriptions varied more strongly between experts than between different wines (Sauvageot/Urdapilleta/Peyron 2006). These empirical results show that even wine experts do not exhibit a consistent quality scale in their judgments.

If we go one step further and ask if laypersons' quality assessment is correlated with market prices of wine, we again come to a disappointing conclusion. The quality evaluations of wines by laypersons actually show a negative correlation with price, meaning that wine consumers on average rate the quality of high-priced wines lower than that of inexpensive wines. This is somewhat different for the small group of wine experts (Goldstein et al. 2008). Their quality evaluations correlate positively with prices, and they are somewhat better at classifying wines according to taste descriptions (Gawel 1997; Goldstein et al. 2008; Lawless 1984; Solomon 1997). Nevertheless, even for the experts the correlations are weak, indicating basically that price and taste are not closely associated.

These results, which are confirmed in many similar experimental studies, indicate that consumers are not able to distinguish between different levels of quality in wine (Pecotich/Ward 2010). Even if one interprets the results from the experimental studies on wine tastings generously, by concluding that experts are at least sometimes able to differentiate between wines of different taste and do exhibit a somewhat overlapping scale of quality evaluation, this does not hold true at all for lay consumers, who make up the overwhelming majority of buyers in the wine market. Their assessments of wine do not have a direct link to objective quality attributes of the beverage.

9 In an even more extreme result from outside the field of wine, an experimental study showed that most people are not able to differentiate between dog food and pâté (Bohanon/Goldstein/Herschkowitsch 2009).

Instead their judgments of wine quality are shaped by factors other than the tangible qualities of the drink. The nature of these factors has been shown in other experimental studies. In several experiments, people were asked to taste wines from different price levels and from more or less prestigious wine regions or chateaus. The results showed that consumers tended to evaluate high-priced wines and wines from prestigious regions or chateaus very positively – if they knew the price, region, or chateau in advance! The evaluation was measured through questions as well as the degree of activation of gratification areas in the central nervous system (Plassmann et al. 2008; Almenberg/Dreber 2011). The assessment of a wine’s quality does not come from its objective characteristics, but from socially shaped quality markers.

3 Classification schemes in the German wine market

What is special about the German wine market – especially compared to the French market – is that the official classification scheme is tailored toward the interests of the producers for the standard market segment rather than to those in the status segment. The signaling of higher and more individualized wine qualities therefore depends entirely on the private activities of the high-quality craft producers, and a conflict ensues between the two groups of producers to reform the classification system.

Quality in the glass

The official classification of wines in Germany adheres to the principle of quality in the glass and is based on a chemical (standardized) analysis of the final product. The current classification system was institutionalized into the wine law in 1971. At this point in time, the German wine industry had recovered from the crises of two world wars and several economic slumps earlier in the twentieth century and was following a strategy of mass production and increasing productivity (hectare yields). This strategy was closely related to the mechanization of wine production following the Fordist production model in industry. The focus was on the production of cheap mass-produced wine, often enhanced in “quality” through the addition of sugar syrup. The institutionalized classification system was thus in accordance with the cultural template of the dominant production paradigm at the time. We can assume that this template operated as a cognitive support for actors who advocated the quality in the glass classification system.

The justification for not using origin as a primary quality marker also stemmed from previous experience with the arcane complexity of wine label names. Many of these names referred to geographic origin but had no relation to quality, such that legislators and associations had a good argument for significantly reducing the number of appellation names and creating “large appellations” (*Grosslagen*) as category. These appellations combined many vineyard producers under the same name without developing a

common quality strategy. Origin became unimportant in many regions thereafter, which led to conflicts between the mass producers and the status producers because the latter group was not allowed to use their individual vineyard names as judgment devices. The abolition of *Grosslagen* in favor of individual vineyard names has always been a key point of contestation between interest groups in the German wine market.

The classification system introduced in the wine law of 1971 stipulates four different quality categories that correspond to the sugar content of the grapes at the point of grape harvest. The categories are in ascending order, from *Tafelwein* (table wine) to *Landwein* (superior table wine), *Qualitätswein bestimmter Anbaugebiete* (quality wine produced in specific regions), and *Qualitätswein mit Prädikat* (quality wine with distinction). A further differentiation is made within the top category to distinguish another six categories, from the lowest-ranking *Kabinett* to the highest-ranking *Eiswein*. Again this categorization follows the chemical composition of the wine according to the sugar content of the grapes, as well as a blind tasting and other defined procedures such as the time of harvesting (*Spätlese*). This classification system of course only measures some aspects of the chemical composition of wine and thereby entails decisions on what counts in the assessment of wine quality. Wineries must inform consumers on the label of the bottle about the main category to which the wine corresponds, but they are not obligated by law to use the refined categories within the “quality wine with distinction” category. The wine is also categorized according to its sweetness (the amount of sugar not turned into alcohol in the fermentation process). Producers may – but are not required to – declare their wine on the label to be “dry,” “semi-dry,” or “sweet.” Though wineries may declare the origins of the grapes on the label, the law does not demand any classification according to precise location, showing a radical departure from the principle of origin (terroir).

While the wine law of 1971 provides the market with one classification system adhering to the logic of quality in the glass, there is also a second official classification system that follows the same logic: the wine awards bestowed by the regional agricultural associations and the Deutsche Landwirtschaftsgesellschaft (DLG), the most important association of agricultural interests in Germany. Wines submitted to these awards must already have been successful in similar competitions at the regional level. They are tested through a chemical analysis and a taste test conducted by experts. The wines are then awarded points in various categories based on the assessment of their quality in the glass. Winners receive gold, silver, or bronze medals, which may then be depicted on the bottle labels.

Critics of these official classification systems claim that they do not provide reliable indicators for wine quality. In 2009, more than 95 percent of the grapes harvested in Germany reached the quality category of *Qualitätswein*, and more than 50 percent met the *Qualitätswein mit Prädikat* distinction (Deutsches Weininstitut 2011: Table 8). The system of wine awards is not very selective either; rather, it is used as a marketing device to provide orientation for consumers with little knowledge of the product. Adherents to the terroir philosophy thus allege that the system does not allow for the identification of high-quality wines and, importantly, that it does not provide any space for the

quality criteria associated with the classification system of “terroir,” which focuses on soil, microclimatic conditions, and the craftsmanship under which the grapes are grown.

The principle of terroir

This does not mean that the concept of terroir plays no role in the German market. But it did not evolve as a classification system sanctioned by law, as occurred in France with the AOCs. Instead, it came about through the activities of a private association founded by high-status German vineyards. The Verband Deutscher Prädikatsweingüter (VDP) accepts only members who comply with its strict rules, which adhere to the quality philosophy of terroir.

The VDP uses a classification system that mimics the system used in Burgundy, using the terms *Erste Lage* and *Grosses Gewächs* or *Erstes Gewächs* (first growth) as a translation of the French grand cru and premier cru. Though the VDP counts less than 200 wineries as members, covering about 5 percent of the wine-growing territory in Germany, over the last decade it has constituted an influential alternative classification system catering to the status market.

A second significant judgment device operating in the German wine market according to the terroir principle is the Gault Millau wine guide, which lists the wines from roughly 900 German wineries and classifies their wines on a scale of 75 to 100 points. The Gault Millau guide is connected to the VDP by the similarity of its philosophy, as well as through one of its two former editors, Armin Diel, who is a winemaker belonging to the VDP. The VDP classification and the Gault Millau guide were not influential judgment devices in the German wine market until the 1990s. Interestingly enough, this corresponds to the transformation of the dominant production paradigm in industry from Fordist standardization to diversified quality mass-production models (Streeck 1991). We can speculate that the new cultural template in production also created the cognitive space for the legitimation of a classification system in the wine market that corresponded to a more individualized consumer world. Furthermore, the terroir-based philosophy benefits from the cultural legitimacy of the French wine classification system and its pervasiveness among high-status consumers. We may hypothesize, then, that the impact of terroir on price formation is much stronger than the impact of the official classification system.

Hence the German wine market is not only separated into two segments that represent the two forms of markets described by Aspers (2009), but each of the segments is structured by its own classification system. The two opposing systems do not simply exist next to each other; they struggle for dominance, and their precise framing is disputed as well. The VDP recently announced that it would be revising its classifications because of criticism regarding its generous distribution of the *Grosses Gewächs* distinction and the question of integrating the privately established classification into an ongoing reform of the EU wine market. The VDP is boycotting the official German classification

system by not using it to communicate the quality of its wines. VDP wineries also do not participate in the award competitions organized by the Deutsche Landwirtschaftsgesellschaft. On the other hand, the regional and federal agricultural associations are fighting against changes in the German wine law that would strengthen the terroir model for classifying German wine (Deckers 2010; Koch 1998).

4 Data and methods

We studied the relationship between the two competing classification systems that exist in parallel in the German wine market and the effects of each system on price formation, based on a heterogeneous sample of wines available on the German market. In contrast to most studies of the wine market (for the German market see Frick 2004; Frick 2010; Schamel 2003; Schnabel/Storchmann 2010), we used different sources to collect our sample in order to make it as heterogeneous as possible. We assembled information on all the wineries from the two German wine regions of Rheingau and Rheinhessen that were included in the Gault Millau wine guide for 2007 and on all the wineries from these two regions that were included in the wine guide published by the Deutsche Landwirtschaftsgesellschaft in 2007, as well as further information on the wines from these two regions that were sold by nine different supermarket chains. In some cases we had information about only one wine from a winery, so we collected information on further wines from the same winery using the Internet. Our sample included 1,890 wines from 248 wineries located in the appellations of Rheingau and Rheinhessen. The sample included various types of wineries, which ranged from vast wine cellars buying bulk wine to producer cooperatives, small family wineries and cloister vineyards. Methodologically, this implies that the analysis of individual wines had a multilevel data structure that had to be taken into account (Snijders/Bosker 1999).

The data set allowed us to operationalize the two competing classification systems in their different forms. We used two sets of dummy variables to operationalize the quality in the glass philosophy: first, the German wine classification according to the wine law from 1971, and second, the wine competition conducted by the Deutsche Landwirtschaftsgesellschaft (DLG). The first set of dummy variables included the different categories of quality wines in Germany (*Kabinett*, *Spätlese*, *Auslese*, *Beerenauslese/Trocken-beerenauslese/Eiswein*); the reference category was a quality wine without a descriptor. As mentioned above, the wineries organized in the VDP, which adheres to the terroir concept of quality, have mostly refused to use the official categories. Hence their wines usually appear in the reference category of quality wine without a descriptor. The second set of dummy variables referred to the medals won by a given wine in the German wine competition (bronze, silver, gold/gold extra). Reference categories were the wines that did not win a medal in the competition.

As shown above, both quality classifications are based on the same principle of measuring the wine's quality in the glass. At the same time, both are in contrast to the terroir

philosophy. We measured the German terroir-based classification system of wine quality with three dummy variables. First, we included a dummy variable measuring whether a given winery owned a site that was classified as *Erste Lage* by the VDP. Second, we included a dummy variable measuring whether the respective wine was called a *Grosses Gewächs* or *Erstes Gewächs* (premier or grand cru), the highest quality category in the classification system established by the VDP. Finally, we included a dummy variable indicating whether a winery was included in the Gault Millau wine guide, which also follows the terroir philosophy.

In addition to the operationalization of the two different classification systems of wine quality in Germany, we included a series of other variables in our models that could be assumed to influence the perception of the quality of a wine (Landon/Smith 1997; Schamel 2003; Frick 2004; Frick 2010): first, we included bottle size, since the same quantity in smaller bottles is often more expensive than the same quantity in larger bottles, and wine bottled in one-liter bottles (instead of the usual .75 liter) is usually perceived as being of lower quality. Second, we included different grape varieties. Riesling and Pinot are the most important and most prestigious grape varieties in the two regions studied, so we included two dummy variables indicating whether a certain wine contained mainly one of those two grape varieties. The reference category included all other grape varieties. Third, as mentioned above, German wines are produced in different categories of sweetness. We included a dummy variable for sweet wine and one for semi-dry wines; the reference category contained dry wines. Fourth, we differentiated between red wines on the one hand and white and rosé wines on the other.¹⁰ Finally, we took in one variable indicating the wines' age in 2007, assuming that older wines would be more expensive, and the region of production (Rheingau vs. Rheinhessen). Since the Rheingau has a long history of producing high-status wines, whereas Rheinhessen has a reputation of producing cheap and sweet staple wines (e.g., Liebfraumilch) we expected wines from the Rheingau to be more expensive.

The following section details the results of two statistical analyses we conducted: in the first analysis, we look at the relationship between the two classification systems. In the second analysis, we show the impact of the different classification systems on price formation in the wine market. Whereas the second analysis is based on individual wines as cases, the first analysis focuses on the wineries, since many variables do not differ between the different wines of the same winery. We therefore had to aggregate the variable concerning the use of descriptors. We did this by computing the percentage of quality wines from a given winery that carried a quality descriptor.

10 We did not include a separate category for rosé wine, since previous studies did not show a significant difference between white and rosé wines (Schamel 2003) and furthermore, the number of rosé wines in our sample is rather small.

5 Empirical results

How do the two systems relate to each other, and what impact do they have on price differentiation in the market?

The segregation of the field

In our first analysis, presented in Table 1, we focus on the relationship between the two classification systems in the German wine market. We conducted two statistical analyses, first studying whether a winery participated in the German wine competition organized by the DLG and then analyzing whether a wine was included in the Gault Millau wine guide. We took five explanatory variables into account: (1) the use of quality descriptors; (2) region; (3) vineyard site classified by the VDP (*Erste Lage*); (4) participation in the German wine competition in the preceding year; and (5) inclusion in the preceding Gault Millau wine guide. We computed logistic regression models for both dependent variables. In both cases, the regressions exhibit a very high pseudo R^2 , indicating that strong relationships between the different classifications exist.

Looking at the results (Table 1), we find that the wineries that participated in the German wine competition in the past also participate in the present, indicating a strong path dependency of adherence to one of the philosophies of quality and its respective system of classification. We also find that those wineries using quality descriptors for a high percentage of their wines tend to participate in the German wine competition, indicating a high degree of interlinkage between the two classifications based on the quality in the glass philosophy. Finally, inclusion in past editions of the Gault Millau wine guide strongly reduces the probability of participation in the German wine competition. This indicates a clear segmentation between the two systems of classification and their underlying philosophies.

-About here: table 1 --

This finding is supported by the results from our second analysis (Table 1). Both indicators of the quality in the glass philosophy strongly reduce the chances for inclusion in the Gault Millau wine guide. By contrast, owning a site classified by the VDP strongly enhances the probability of inclusion in the guide.¹¹ The results from these two statistical analyses are straightforward: the two philosophies of quality in Germany are strictly separated, and there is a strong reproduction of affiliation with either one of them over

¹¹ Unfortunately, we could not test the impact of earlier inclusion in the wine guide, since all wineries in the sample that were included in the past were also included in the 2007 edition of the guide, thus indicating a strong reproduction on the one hand and making it statistically impossible to test this reproduction because of the so-called separability problem on the other. This problem occurs if one of the cells of a cross-tabulation of the dependent variable, and one of the independent variables includes zero cases, which makes the estimation of statistical effects impossible (Andress/Hagenaars/Kühnel 1997).

time. Wineries usually choose a pure strategy; mixing both strategies does not seem to be a viable option.

The impact of the classification systems on price

In the theoretical section above, we have argued that the terroir-based philosophy has a higher legitimacy in the wine world and is connected to the status segment of the wine market. We would therefore expect the indicators expressing this philosophy to have a stronger impact on price formation in the wine market. We tested this hypothesis using a series of multilevel regression models with the logged price per liter of wine as the dependent variable.

Model 1, the so-called empty model that includes no explanatory variables, shows quite clearly that we had to conduct a multilevel analysis, since nearly half of the variance of the dependent variable is accounted for by the clustering of individual wines in wineries. In the next step (Model 2), we included the whole set of control variables that should be taken into account in the explanation of price formation in the wine market. The results are quite clear-cut and confirm the results of previous studies of the wine market (Cardebat/Figuet 2004; Combris/Lecocq/Visser 2000; Landon/Smith 1997; Schamel 2003; Zhao 2008): the larger the bottle, the lower the price per liter; wines made of high-status grape varieties (Riesling, Pinot) are usually more expensive; dry wine is more expensive than sweet and semi-dry wine; and red wine is more expensive than white and rosé wines. Finally, older wine is usually more expensive than wine of a younger age. All these effects are stable in all models.

-- About here: Table 2 ---

In the next steps (Models 3 and 4) we entered the sets of dummy variables operationalizing the quality in the glass philosophy. First, we entered the descriptors for the different levels of quality. This led to an increase in “ R^2 overall” of less than 2 percent. However, the increase was caused by the 7 percent increase of the “ R^2 within,” whereas the “ R^2 between” slightly decreased. This indicates that the descriptors mainly differentiate the wines and prices of certain wineries that cling to the quality in the glass philosophy and the classifications linked to this philosophy.

A look at the regression parameters of the different dummy variables indicating the quality descriptors shows a surprising result. Wines carrying the lowest descriptor, *Kabinett*, have lower mean prices compared to the reference category of simple quality wines without descriptors. Even the next higher category, the very reputable *Spätlese* category, carries only slightly higher mean prices compared to quality wines without descriptors. Only the very selective categories of *Auslese* and

Trockenbeerenauslese/Eiswein, usually exclusive dessert wines, show clearly higher mean prices than quality wines without descriptors.

These parameter estimates can be explained by the statistical influence of the wineries that follow the terroir philosophy.¹² Such wineries produce high-quality and highly legitimate wines carrying higher prices, but boycott the traditional quality wine descriptors. Hence their wines do not carry the descriptors of the quality in the glass classification system. As a consequence of this, we find a quite heterogeneous set of wines in the quality wine category, from “real” quality wines that lack descriptors, to high-status wines that are classified as quality wines but lack descriptors because their producers boycott the official German classification system.

In the next step, we entered the second set of dummy variables indicating the quality in the glass philosophy, i.e., the medals won in the German wine competition organized by the DLG. These medals do not have any impact on prices – all parameter estimates were insignificant, and the R^2 changed only at the third decimal place.

In Model 5, we included the indicators of the terroir philosophy in the statistical model. Compared to Model 3, which already included the set of dummy variables indicating the quality descriptors from the quality in the glass classification system, “ R^2 overall” jumped up more than 12 percent. Both “ R^2 within” and “ R^2 between” increased by about 7 and 10 percent, respectively, which shows that this set of indicators both differentiates between wineries (those included in the Gault Millau and those excluded; those producing on a VDP-classified site and those not) and between wines of the same wineries (those belonging to the grand cru category and those not).

In the final model (Model 6) we again included the dummy variables indicating medals won in the German wine competition. Now they turned out statistically significant and slightly increased the “ R^2 between,” indicating that they mainly differentiate between those wineries that participate in the German wine competition organized by the DLG and those that do not.

The two philosophies of wine quality are not only present in accounts describing the institutional configuration of the German wine market, but also visible as clearly distinct strategies used by wineries. The strategies tend to reproduce over time and create two distinct segments in the market. They are in competition with each other, as can be seen from their mutual exclusivity: neither the two philosophies nor the classifications based on both philosophies are usually combined. This provides evidence to conclude that a mixture of classifications based on different principles seems rather difficult (see Zhao 2008 for similar results). Actors stick to one strategy, combining only classifications that are based on the same philosophy.

12 Computing regression models that excluded the VDP wineries gave clear empirical evidence for our interpretation of these rather odd results. The statistically significant negative difference between *Kabinett* and the reference category disappeared in this case.

Based on the regression analyses, we can also conclude that the two philosophies differ in their impact on price formation in the market. If we take into account that the quality wine descriptors are a state-supported quality classification system, and the medals won in the German wine competition are distributed by the most important organization of German agrarian interests, it is striking that the official classifications explain only a meager 2 percent of the dependent variable, whereas the three dummy variables indicating the terroir philosophy, explain 12 percent. This result indicates that the terroir philosophy resonates much better with the status market segment, where price differentiation is truly important, whereas the official classification system is mainly important to the standard segment of the market, where no great price differentiation is to be expected.

6 Conclusion

We have argued that the assessment of wine quality is not simply a question of information. Instead, the quality of wine is determined in a social process, in which classification systems and the position of products on the evaluative scale of such systems are created, maintained, and challenged by powerful actors in the field. In markets for products valued for their symbolic qualities, what is being contested is the legitimation of the quality criteria itself, as well as the positioning of a concrete product along the scale being used. With reference to Bourdieu, we have additionally argued that classification systems are interpreted differently according to a person's habitus. This implies not only that different classification systems lead to different quality assessments of products, but also that these differences depend on the social position of the consumer group. The perception of quality classifications is shaped by the class positions of consumers. In the case of upper- and middle-class consumers with high economic and cultural capital, classifications based on the terroir principle possess cultural legitimacy. Producers using this classification system make use of symbolic capital that can be transformed into higher market prices, symbolic capital that especially accrues to those wine producers who conceal economic aims and produce wines that are "difficult" to drink, because the consumer must first "learn" to appreciate them and therefore must "work" on developing taste. This symbolic capital can be transformed into economic capital on the market (Schenk/Rössel 2012). The quality uncertainty in markets for products valued for their symbolic qualities, of which the wine market is one example, is of a different kind than the asymmetric information discussed by Akerlof (1970).

We have applied these general considerations to an empirical study on the classification systems used in the German wine market and their effects on prices. We constructed a data set including information on 1,890 different wines from 248 different wineries located in the regions of Rheingau and Rheinhessen. Using this data set, we showed that the two classification systems existing in parallel in Germany – the official system of measuring quality in the glass, and the terroir system introduced in Germany by the pri-

vate, high-status producer association called the VDP – are segregated. Wineries use one or the other, but do not use both systems simultaneously.

We then showed that only the system based on the terroir philosophy leads to actual price differentiation in the market. We speculate that there are two possible explanations for this. First, there is a segregation of consumer groups that corresponds to the segregation of classification systems. As assumed by Bourdieu (1999), there is a homology between the positions in a field and the social class position of its consumers. The consumer groups purchasing from wineries using the quality in the glass philosophy come more from middle- or lower-middle-class backgrounds. Their demand concentrates on lower-priced wine. In consequence, any classification system faces a high price elasticity of demand. Second, the quality in the glass philosophy cannot convey to consumers the quality differences worth paying for, since the consumers do not rely on any tradition of legitimate culture. In the end, the system comes down to the philosophy that the quality in wine to be looked for is an agreeable taste. In the terroir philosophy, on the other hand, quality remains a much more abstract concept that remains evasive: it can be understood only by actors possessing high cultural capital in the field and can be bought only by those consumers with enough economic capital to pay for the “taste” of authenticity (Johnston/Baumann 2007). The system allows for evocative fantasies to be aroused based on the qualities symbolically represented in a wine (Beckert 2011). These fantasies can then be translated into status differences and thereby provide “good reasons” to purchase the high-priced wine.

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Table 1 Reproduction and competition between classifications

	Participation in DLG	Inclusion in Gault Millau
Descriptors	3.124** (17.68)	-1.187* (4.89)
Region (ref. Rheingau)	1.021+ (3.58)	-.925* (5.57)
VDP site	-.097 (.01)	4.415** (27.85)
Participation DLG _{t-1}	4.521** (26.33)	-1.429** (9.68)
Gault Millau _{t-1}	-3.320** (34.77)	—
Pseudo R ²	.695	.441
N	248	248

— : Variables were excluded because of problems of separability.

We present logit coefficients and Wald statistics (in parentheses). + $p < 0.1$;

* $p < 0.05$; ** $p < 0.01$.

Table 2 Classifications and prices on the wine market

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Bottle size		-2.933** (-29.62)	-2.283** (-21.10)	-2.279** (-21.03)	-2.100** (-21.52)	-2.094** (-21.51)
Riesling		.126** (5.36)	.151** (6.87)	.152** (6.88)	0.063** (3.11)	.065** (3.23)
Pinot		.124** (4.13)	.110** (3.95)	.108** (3.86)	.109** (4.35)	.112** (4.45)
Sweet		-.256** (-8.01)	-.183** (-6.03)	-.183** (-6.03)	-.159** (-5.78)	-.156** (-5.68)
Semi-dry		-.208** (-7.52)	-.155** (-5.99)	-.155** (-5.99)	-.108** (-4.60)	-.111** (-4.76)
Age (2007)		.187** (15.03)	.151** (12.86)	.152** (12.69)	.120** (10.96)	.124** (11.32)
Red wine (Reference: White and rosé)		0.079** (3.02)	0.149** (5.92)	0.150** (5.90)	0.197** (8.57)	0.193** (8.42)
Kabinett			-.236** (-8.01)	-.237** (-8.01)	-.142** (-5.21)	-.149** (-5.48)
Spätlese			0.045* (1.97)	.042 (1.82)	.110** (5.16)	.095** (4.40)
Auslese			.293** (7.22)	.286** (6.91)	.368** (10.00)	.345** (9.30)
Beerenauslese etc.			.714** (12.28)	.706** (11.98)	.889** (16.65)	.867** (16.23)
Bronze				-.034 (0.81)		.138** (3.27)
Silver				.000 (0.01)		.165** (4.12)
Gold (and Gold Extra)				.047 (1.03)		.204** (4.59)
VDP site					.164** (6.27)	.165** (6.35)

Grand cru					.613** (14.39)	.608** (14.33)
Gault Millau					.338** (7.73)	.435** (8.95)
Region (ref. Rheingau)		-.307** (-6.57)	-.398** (-8.71)	-.397** (-8.52)	-.188** (-4.09)	-.197** (-4.39)
Variance u	0.464	0.281	0.274	0.271	0.261	0.254
Variance e	0.477	0.340	0.311	0.310	0.283	0.283
Rho	0.487	0.406	0.437	0.432	0.459	0.447
R ² within	0.0	0.492	0.574	0.574	0.649	0.652
R ² between	0.0	0.570	0.532	0.533	0.641	0.659
R ² overall	0.0	0.508	0.522	0.524	0.642	0.643
N level 1	1890	1890	1890	1890	1890	1890
N level 2	248	248	248	248	248	248

* $p < 0.05$; ** $p < 0.01$. Presented are unstandardized regression coefficients and z-values (in parentheses).