

Superstar Effects in Deluxe Gastronomy – The Impact of Performance Quality and Consumer Networks on Value Creation

Thomas Ehrmann & Brinja Meiseberg¹

Abstract This study analyzes whether Superstar effects (disproportionate income effects) exist in the German deep-pocket market for quality gastronomy. Following two central theories on star effects, we test the impacts of differences in (1) the quality of chefs' performances, and (2) the chefs' media presence, on chefs' financial rewards. Thereby, we investigate whether offering high performance quality or providing a "hot topic" for discussion in consumer networks is better for obtaining disproportionate incomes. In doing so, we address an economic issue of general interest: *does it pay more to develop your skills in your core business to perfection, or to invest in self-marketing?* We do not find Superstar effects corresponding to the two theories. Yet, perfecting skills and investing in self-marketing have similarly positive moderate income effects, but self-marketing seems the less risky, less stressful way to enhance income.

Keywords: Star effects, consumer networks, gastronomy

1 Introduction

'In the future everyone will be world-famous for 15 minutes.'
Andy Warhol (1928-1987)

We live in a world centered on stardom and hits. A surprisingly large number of markets are developing, or have already developed, into so-called "winner-take-

¹ Prof. Dr. Thomas Ehrmann, Dipl.-Kffr. Brinja Meiseberg
Westfälische Wilhelms-Universität Münster, Institute of Strategic Management, Leonardo-Campus 18, 48149 Münster, Germany
Phone: +49-251-8331959
E-mail: meiseberg@ism.uni-muenster.de

all” markets, where ‘Rewards tend to be concentrated in the hands of a few top performers, with small differences in talent or effort giving rise to enormous differences in incomes’ (Frank and Cook 1996).

Research provides evidence that these star effects occur in mass markets. In mass markets, often, a large number of people are willing to pay a premium to consume the services of those few individuals whom they perceive as the “best” performers. Here, Rosen (1981) was first to explain a strong connection between a person’s talent and income. In contrast to mass markets, deep-pocket markets remain underresearched. A “deep-pocket” market is characterized by the fact that a relatively small number of consumers are willing to pay a large premium to consume the services of the few “best” performers. Then, in deep-pocket markets too, Superstars may command high rents.

The objectives of our paper are first, to analyze whether Superstar effects exist in deep-pocket markets. We examine the market for gastronomy, and here, the segment of the best German restaurants. The “stars” can be the restaurant chefs. International Superstars in the restaurant sector are “house-hold name” chefs like Paul Bocuse or Jamie Oliver. German stars may be Dieter Müller, Harald Wohlfahrt, or Sven Elverfeld. Second, we analyze what factors determine the stars’ rents.

Building on Rosen’s (1981) and Adler’s (1985) central theories on star effects, we explore two potential sources of Superstardom in deluxe cuisine. First, we test if quality differences between chefs’ performances, as measured by restaurant guides’ ratings – “Guide Michelin” stars and “Gault Millau” points – have a direct impact on financial rewards. A direct income effect of superior performance could be called “direct Superstar effect”, based on the effects explained by Rosen (1981): the better and the more innovative your cuisine, the higher the customers’ willingness to pay, and the more financially rewarding is cooking for the chef (Frick (2008) finds evidence for this idea). The French chef Paul Bocuse could be a role model for direct stardom. His name is associated with the (innovative) Nouvelle Cuisine that is less opulent and calorific than traditional Haute-Cuisine and emphasizes the importance of preserving the characteristic taste of fresh ingredients.

Further, we address the impact of media presence on chefs’ financial rewards. Why would star effects in the restaurant sector be based on media presence? Adler (1985) gives a demand-related explanation: ‘The phenomenon of stardom exists where consumption requires knowledge’. The acquisition of knowledge by a consumer involves discussion with others within the consumer’s social networks. ‘Here, a discussion is easier if all participants share common prior knowledge. If there are stars, that is, artists that everybody is familiar with, a consumer would be better off patronizing these stars even if their art is not superior to that of others’. Consequently, chefs who use the media to attract attention to their cooking and to promote discussion in consumer networks about their activities rather become stars than others who are less present in the media. An impact of TV appearance can be called “classical Superstar effect”. The British chef Jamie Oliver could be a

model for classical stardom. His career gained momentum through two highly successful seasons of “The Naked Chef”, a TV program filmed in 1998/1999. The popular series brought Oliver international recognition as a star chef, and more television programs and book deals followed.

We examine if Superstar effects exist in the deep-pocket market of German quality restaurants and what factors determine the chefs’ rents. In doing so, we deal with an economic issue of general interest: does it pay better to develop your skills in your core business to perfection, or is it more rewarding to maintain your current level of skills and invest in self-marketing?

Our paper is organized as follows: In the next section, we describe the deep-pocket market of quality gastronomy. We outline Rosen’s (1981) and Adler’s (1985) theories that explain the phenomenon of Superstars (section 3). Based on the two theories, we develop hypotheses on income effects of factors that can lead to stardom in deluxe cuisine (section 4). In section 5, we present our data and methods, in section 6 we report the results. Section 7 offers some conclusions.

2 The Market for Deluxe Gastronomy

The share of quality gastronomy in the entire field of gastronomy is less than 0.5% in volume. Yet, from a qualitative viewpoint, deluxe restaurants play a key role as they define trends, shape expectations and set quality standards for the entire gastronomy sector. The chefs operate in a market that is driven by creativity, individuality, and the striving for perfection (Surlemont and Johnson 2005).

A central characteristic of quality gastronomy is that its services fall into the experience good category. The perceived consumption risk is high because deluxe restaurants charge high prices and the taste buds of many customers may not be sufficiently developed to notice small differences in meal quality. Thus, firms in the market must signal their quality to potential customers (Akerlof 1970; Deuchert et al. 2005). Restaurants can use information on prices and locations (“In-Restaurants”) or promotions (e.g. reduced-price offers). Yet, using high prices as a quality signal is problematic. First, increasing prices is virtually impossible without losing customers. Second, Becker (1991) shows that a good has a higher value for consumers when there is excess demand for that good. He argues that restaurant eating, watching a play, or attending a concert e.g., are all social activities in which people consume a service together and partly in public. The pleasure from a good can then be greater when many people want to consume it, perhaps because a person does not wish to be out of step with what is popular or because confidence in the quality of the performance is greater when a restaurant, theater, or concert is more popular. Then, skimming excess demand by increasing prices may

lead to serious drops in demand. Further, promotions may be counterproductive to image-building and discredit the restaurant's reputation as a deluxe location.²

Following selection system theory, consumers often select experience goods after considering the opinion of experts. Gemser et al. (2008) argue that due to the high credibility of the assessment, expert-selected awards are the most effective way of increasing the market success of non-main-stream products (like independent films or fine arts). This idea may also apply to deluxe cuisine: for consumers, restaurant guides like "Guide Michelin" or "Gault Millau", widely respected institutions in the market for Haute-Cuisine among chefs, restaurateurs, culinary experts, and the dining public, reduce information asymmetries (Balazs 2002; Johnson et al. 2005). For a chef, a guide's good rating, like an award, is an acknowledgement of his superior skills and efforts. As the economics of awards literature points out (Frey 2005; Frey and Neckermann 2008), people do not only strive for higher incomes than others have, but also for gaining social distinction or peer group acceptance. For some chefs, social distinction may be reached by achieving an excellent rating, even if there is no increased income associated with it. A rating demotion can have tragic consequences, as the example of the French three-star chef Bernard Loiseau shows: the media suggests the reasons that drove Loiseau to suicide in 2003, were his demotion by two points in the Gault Millau and rumors that he would lose one of his three Michelin stars (Mariani 2003).

Restaurant guides like the Guide Michelin are secretive by nature. It is difficult for chefs to determine what the guides expect in return for an excellent rating: Michelin categorically refuses to divulge its criteria. The stated purpose of such secrecy is to promote diversity in the market. If criteria were published, a framework would be defined and a standard created. Then, chefs will try to comply with that standard to be promoted. Surlemont and Johnson (2005) quote a chef who points out that making the criteria public could lead to a 'McDonaldization' of Haute-Cuisine restaurants.

The guides' top priority is minimizing beta errors, i.e. giving high ratings to restaurants that are just average (Surlemont and Johnson 2005). This goal implies rigorous rating. Before a restaurant gets a (better) rating, it is tested by several inspectors who also assess the stability of cuisine quality over a certain period. For a chef, this "qualification period" procedure involves high risks in terms of investment in the restaurant: high-quality input like exquisite ingredients, excellent personnel, and prime ambience are costly, and higher revenues are hard to realize prior to the rating promotion. Minimizing beta errors further maximizes alpha errors: some restaurants are not promoted even though they deserve it (Surlemont and Johnson 2005). These aspects carry the danger of operating at higher costs (due to investment in high-quality input) without realizing higher revenues. Chefs

² Excess demand shows when restaurants have guest lists and reservations must be made early, as with the (resigned) star chef Joël Robuchon (Paris) who maintained a two-month waiting list (Snyder and Cotter 1998). We use "quality" and "deluxe" gastronomy interchangeably to refer to those restaurants that are included in quality restaurant guides.

could make more informed investment decisions if they knew how earning substantially higher rents in quality gastronomy could be achieved. Thus, we analyze what factors determine individual stardom and stars' rents in this market. The next section outlines conditions for stars to occur and links stardom to revenues.

3 Theory of Superstar Effects

The phenomenon of so-called "Superstars" with extremely high incomes has been in the public eye since World War II. Building on the insights of Marshall (1947), Rosen's (1981) seminal work defines the Superstar effect as follows: 'relatively small numbers of people earn enormous amounts of money and dominate the activities in which they engage'. Empirical research investigates and finds evidence for Superstar effects in different industries (Torgler et al. 2008).³

Rosen (1981) suggests that two conditions must be fulfilled for Superstar effects to occur: imperfect substitution and joint consumption. Imperfect substitution means that lesser talent is a poor substitute for greater talent. Most people will not be satisfied with a less talented artist's performance if they can patronize a more talented artist instead, even at a somewhat higher price (Frey 1998). In addition, individuals prefer one outstanding performance to a larger number of poor performances (Schulze 2003). The less a substitution is possible, the higher are the obtainable incomes for the relatively talented individuals (Rosen 1981). Superstar effects further require a market concentration on a few sellers with the highest talents. Concentration is possible when rendering the service is a form of joint consumption, i.e. the costs of production do not rise in proportion to the size of a seller's market (Rosen 1981). Then, talented persons can command both very large markets and very large incomes.

Adler (1985; 2006) offers a complementary approach to Superstar effects based on consumers' learning processes. Building on the findings of Stigler and Becker (1977), Adler (1985) assumes that the more a person knows about the seller, the larger is the utility derived from the consumption of that seller's service, "the more you know, the more you enjoy". An individual can accumulate knowledge about a seller by consuming the goods offered and by discussing the seller's services with other consumers. Here, superstars emerge because art consumption (fine dining, watching a play, attending a concert e.g.) is not an isolated activity, but is socially shared (Adler 1985). Much of the pleasure from consuming art consists in the possibility of discussing it with people, especially with friends and acquaintances. For the purpose of discussion, consumers entertain face-to-face relationships or self-organize into virtual networks to create social ties and exchange

³ Chung and Cox (1994), Hamlen (1994) and Sochay (1994), and Lucifora and Simmons (2003) provide evidence for Superstar effects in the music industry, the film industry, and in professional soccer.

units of discourse (Dwyer, 2006). Through serving the individual need for communication, both kinds of consumer networks, real and virtual ones, have a strong impact on who becomes a star.

As a person cannot be equally informed about all artists in a specific field of interest, the person will choose a limited number of preferred artists whose services they wish to avail of and discuss with others. If a person chooses the most popular artists, she minimizes her search costs for finding discussion partners. Thus, once a certain number of people shares knowledge about an artist, the discussion is likely to focus on this person, which fuels the process of star creation. Then, consumers can acquire additional information about an increasingly popular artist at low cost, as such an artist is likely to have more and more media presence (Meiseberg et al. 2008). In consequence, a concentration of demand on a few artists develops, who become Superstars. These stars absorb part of consumers' "savings" in search costs by demanding higher prices for their services. If other sellers offer services of similar quality, that are not cheaper by more than the savings in search costs, consumers are better off patronizing the most popular seller (Adler 1985). In a continuous process, a few stars emerge who can demand much higher prices than their competitors and who dominate the market. For Superstars, demand concentration is reflected in differences in income and fame which far exceed any differences in talent and performance (Frey 2008).

Thus, Adler's (1985) Superstar effect can be understood as an internalization of search costs that emerges where consumption requires knowledge. While Rosen's (1981) approach explains how small differences in talent can lead to large differences in income, Adler's (1985) model also allows the emergence of stars who do not possess greater talent than their competitors, due to externalities of popularity (Adler 1985). We address the question of whether Superstars exist in German quality gastronomy and what factors determine the stars' rents.

4 Hypotheses

4.1 Superstar Effects by Differences in Talent

For Superstar effects according to Rosen (1981), consumers must be able to observe talent differences. A chef's "talent" is the ability to create a dining experience of a certain quality. By rating restaurant quality, guides offer information on the chef's talent. As Frey (2005) argues, 'prizes that rank books, plays, films and even persons may serve to lower search costs making it easier to know what to watch and read'. Thus, ratings enable consumers to view differences in talent.

Superstar effects build on imperfect substitution. For deluxe cuisine, common wisdom may say that consuming many mediocre meals is not as good as consuming one excellent meal. Further, joint consumption must be possible, meaning that the activity is reproducible endlessly at a certain fixed cost, or that production costs do not rise in proportion to the size of the seller's market. The chef's service comprises the creative composition of meals (selection of ingredients, composition of meal courses, the definition of the way the meal should be prepared, the instruction of the staff, etc.) and actual meal preparation. Meal composition is subject to scale economies as it is done once and can be endlessly reproduced. Meal preparation may be subject to decreasing marginal costs, when a high-performing chef can make more perfect meals and more of them in a given time and can reduce waste of ingredients. In addition, the staff may develop its learning, so that fewer people are needed to fulfill the tasks. Thus, production costs do not rise in proportion to the chef's market size.

Then, with higher talent, a chef's revenues can increase disproportionately⁴ (to analyze the deep-pocket market of deluxe cuisine, we focus on revenues rather than on market concentration). Revenues depend on meal prices.⁵ In line with Frick (2004), we suggest that following a positive evaluation, sellers (here: chefs) may increase prices. Several empirical studies find evidence for a connection between (high) ratings and (substantially larger) prices (Frick 2008; Snyder and Cotter 1998).

Hypothesis 1. *(H1). With an increase in the guides' cuisine ratings, the restaurant's price level increases disproportionately.*

Guides do not divulge their rating criteria. In an effort to reduce the danger that potential "quality standards" are unfulfilled, chefs may even over-fulfill some requirements since avoiding a demotion is essential: Snyder and Cotter (1998) explain that losing a one-star status makes a striking difference, and that losing a three-star status is disastrous. Michelin describes three-star restaurants as 'worth a special journey'. When a restaurant gains a third star, it usually loses many of its regional customers (due to price increases), but attracts a larger (inter)national clientele. When it loses the third star, the (inter)national clientele no longer comes, and the local clientele does not return (Snyder and Cotter 1998). For an excellent rating, apart from the chef's talent, investments in real estate, high-quality staff, first-rate ingredients and an extensive and expensive wine list are necessary (John-

⁴ "Disproportionate" means the income distribution is skewed towards more talented people; small talent differences are magnified in larger earnings differences (Rosen 1981). We do not suggest a specific curve progression. The point is that income does not increase linearly with talent, but convex: income differences (far) exceed talent differences.

⁵ Increasing the number of meals sold can also enhance revenues. Yet, using restaurant sizes, Cotter and Snyder (1998) find that 75% of their sample restaurants that were promoted do not enlarge capacities. There is no connection between rating and size in our sample either; a possible reason being that chefs prefer to benefit from excess demand.

son et al. 2005). That is, customers also pay for “non-food” parts of the experience that support the chef’s superior talent. Scully (1995, p. 64) notes that ‘Players interact with one another in team sports. The degree of interaction among player skills determines the nature of the production function’. In Haute-Cuisine, the quality of the ingredients, the performances of the staff, and the décor of the restaurant, are elements contributing to the “team” output. Then, a chef and his meals are (more or less) “only as good as the weakest link”. To convert superior talent into superior quality meals, exquisite ingredients, the best staff, and a stunning ambience are necessary.

Hypothesis 2. (H2): *With an increase in the number of different wines, the restaurant’s price level increases disproportionately.*

Hypothesis 3. (H3): *With an increase in staff costs, the restaurant’s price level increases disproportionately.*

Hypothesis 4. (H4): *With an increase in the guides’ ambience ratings, the restaurant’s price level increases disproportionately.*

4.2 Superstar Effects by Differences in Media Presence

Superstar effects according to Adler (1985) can occur when there are differences in the chefs’ popularity, when consumer utility of consuming a meal increases with knowledge of the chef (that is necessary for discussing the chef with others), and when finding information on popular chefs incurs low search costs for consumers. Then, stars can absorb parts of consumers’ savings in search costs and earn disproportionate rents. A chef’s popularity can be measured by his media presence (like TV appearances). Accordingly, the German star chef Alexander Herrmann points out that since he has been present in popular TV cooking shows, his career has accelerated immensely and his restaurant attracts customers from 500km (311m) away.

Hypothesis 5. (H5): *Restaurants with a TV-present chef have a disproportionately higher price level.*

5 Data, Variables and Methods

The sample, based on Germany’s 204 star-rated Guide Michelin restaurants and the 229 restaurants with at least 16 Gault Millau points (guides’ 2007 versions), consists of 288 restaurants. Data for 32 restaurants was incomplete, so the analysis

focuses on 256 restaurants. The dependent variable PRICE reflects the Guide Michelin maximum price for a meal (whole menu), since the minimum price information is skewed: some restaurants have special offers at lunchtime.

In line with Frick (2008), we use the cuisine rating to measure a chef's talent. The ratings of Guide Michelin (one to three "star(s)") and Gault Millau (ten to 20 "GM points") differ slightly. We expect both guides exert the same influence on consumers (and chefs), as they have sold equally well according to their Amazon sales rankings at the time of the analysis. Thus, they have equal weight in a combined rating CURATE. This rating groups the chefs into categories from one to four (figure 1).

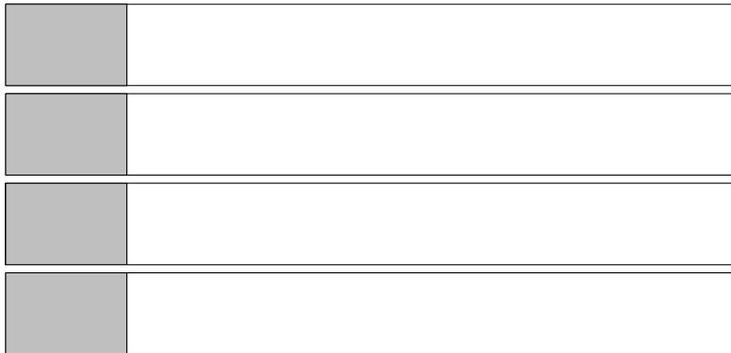


Fig. 1. Cuisine Ratings

We can obtain data on the number of different wines offered, WINE, for 197 restaurants. To assess staff costs, we use the number of employees who attend to guests or support meal preparation. To compare restaurants of different sizes, we use the number of employees per seat, STAFF (data for WINE and STAFF from www.restaurant-hitlisten.de). Décor ratings (one to five, where five is best) of both guides are combined into one measure, AMB. The dummy TVP measures if a chef is regularly present on German TV cooking shows (data from the homepages of shows and chefs). We consider several control variables. A restaurant's price level may be influenced by an adjoining hotel, HOTEL (Guide Michelin data); by strong competition, COMP, i.e. many other quality restaurants (13 or more Gault Millau points) in a certain radius (10km, 6m); or by high population density in a restaurant's county offering many potential customers (inhabitants per square kilometer, DENSITY). As conformable with the results of Ekelund and Watson (1991), restaurant demand is strongly responsive to income and employment, we also consider the gross domestic product per resident in a restaurant's county, GDP (DENSITY and GDP data from the Federal Statistical Office).

We use a stepwise Ordinary Least Squares Regression (OLS) to model the effects of the independent variables and the controls on the dependent variable. We control for absence of multicollinearity, for homoscedasticity and normal distribu-

- category 4 - three stars and/or GM evaluation of at least 19
- category 3 - two stars and/or GM evaluation of 18
- category 2 - one star and GM evaluation of
- no stars and GM evaluation of
- one star and not discussed by G
- category 1 - one star and GM evaluation of
- no stars and GM evaluation of

tion of disturbance terms, using Variance Inflation Factors (VIFs) and correlations, White-, Newey-West- and Kolmogorov-Smirnov-Tests.

6 Results

Table 1 shows OLS results, while table 2 presents descriptive statistics. Model 1 displays the influence of the controls on PRICE (table 1; adjusted R² of 12.9%). When introducing the regressors, the adjusted R² increases to 50.5% (53.7%) in Model 2 (3). WINE is used in Model 3 only, as including WINE reduces the sample size to 188. For results of H1, and H3-H6, we focus on the larger sample.

We find that an increase in the cuisine rating positively influences prices (H1). Yet, prices do not seem to increase disproportionately. To analyze this issue in more detail, we estimate another regression that uses dummies for the different cuisine categories. Here, results correspond in signs and significance levels to those in Model 2, all dummies are positively significant (1%-level), and their coefficients do not increase disproportionately. Further, we use a log-linear model. Again, results correspond to those in Model 2, but the adjusted R² decreases to 42.5%. Thus, we suggest that the relation between prices and cuisine ratings, or chefs' revenues, is not disproportionate.

The variables' coefficients for H2 (WINE), H3 (STAFF), and H4 (AMB) are (highly) positively significant. Thus, we find support for the idea that converting superior talent into superior quality requires substantial investments in talent-supporting input like ingredients, staff, and ambience. Given that supporting input has little value of its own for consumers who wish to consume a certain chef's meals in the first place, but rather helps in realizing this chef's superior talent, supporting input does not lead to disproportionate income effects either.⁶ Thus, there are no Superstar effects due to talent.

Further, TVP is positively significant (1%-level). TV-present chefs can charge about €13.27 more per meal. Hence, TV presence leads to income increases, but to moderate ones – they are rather equal to winning an additional star (worth €15.04). That means, we do not find Adler's (1985) star effects, either. Next, we outline limitations and prompt discussion.

⁶ We do not find any disproportionate effects using the same procedures as for cuisine rating. We also control for regional disposable income (insignificant). Results do not change for average prices. We further consider whether high ratings lead to TV presence. Then, TVP would not be independent. Yet, there is no evidence: the sample comprises the entire population of star chefs; of these chefs, 43% got stars before being present on TV, 43% were present on TV first. For the others, both events occurred in the same year. Also, many TV-present chefs in Germany do not have any star at all. Neither a logistic regression (CURATE (X), TVP (Y)), nor a mediation model show any explanatory value. A reduced form model (without TVP) produces identical results for H1-H4. Multicollinearity is not an issue either, as there is no correlation between CURATE and TVP and VIFs are far below the tolerance limit of ten (Hair et al. 1998).

Table 1. Regression Results

	Model 1 Coefficient Standard. Coefficient (Standard Error)		Model 2 Coefficient Standard. Coefficient (Standard Error)		Model 3 Coefficient Standard. Coefficient (Standard Error)	
<i>Constant</i>	72.594*** (4.669)		32.172*** (5.129)		32.728*** (6.060)	
<i>CURATE</i>			15.038*** 0.478*** (1.562)		14.742*** 0.487*** (1.790)	
<i>WINE</i>					0.009*** 0.154*** (0.003)	
<i>STAFF</i>			23.130** 0.115** (10.114)		10.019 0.052 (11.086)	
<i>AMB</i>			6.053*** 0.208*** (1.487)		6.124*** 0.194*** (1.877)	
<i>TVP</i>			13.272*** 0.126*** (4.736)		10.641* 0.093* (5.837)	
<i>HOTEL</i>	17.810*** 0.349*** (3.139)		7.852*** 0.158*** (2.602)		7.706** 0.147** (3.070)	
<i>COMP</i>	3.774** 0.172** (1.838)		1.104 0.052 (1.422)		0.667 0.031 (1.593)	
<i>DENSITY</i>	0.003 0.150 (0.002)		0.001 0.076 (0.001)		0.002 0.119 (0.001)	
<i>GDP</i>	0.000 0.003 (0.000)		-0.000 -0.008 (0.000)		0.000 0.003 (0.000)	
<i>N</i>	266		256		188	
<i>R²</i>	0.142		0.521		0.560	
<i>Adjusted R²</i>	0.129		0.505		0.537	
<i>F-Stat./Significance</i>	10.770	0.000	33.583	0.000	25.128	0.000
<i>Max. VIF/Durbin-W.</i>	2.487	2.069	2.670	1.927	2.491	1.993

Dependent Variable: *PRICE*. Significance Levels: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 2. Descriptive Statistics

	Min	Max	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. <i>PRICE</i>	28.000	165.000	92.992	24.863	1								
2. <i>CURATE</i>	1	4	1.778	0.765	0.639***	1							
3. <i>WINE</i>	120	4300	509.025	409.302	0.363***	0.321***	1						
4. <i>STAFF</i>	0.100	1.167	0.334	0.119	0.423***	0.405**	0.235***	1					
5. <i>AMB</i>	1	5	2.974	0.746	0.598***	0.408***	0.365***	0.376***	1				
6. <i>TVP</i> (dummy)	0	1			0.154**	0.045	0.007	0.037	0.052	1			
7. <i>HOTEL</i> (dummy)	0	1			0.249***	0.133**	0.124	0.247***	0.437***	-0.075	1		
8. <i>COMP</i>	0	3	1.622	1.120	0.185***	0.129**	0.158**	0.043	0.120**	0.048	-0.291***	1	
9. <i>DENSITY</i>	51.777	4040.344	1095.800	1216.923	0.153**	0.092	0.087	0.072	0.077	0.131**	-0.351***	0.711***	1
10. <i>GDP</i>	13467.000	75341.000	31137.559	13896.736	0.091	0.086	0.085	-0.007	0.049	0.020	-0.294***	0.554***	0.630***

Significance Levels: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

7 Limitations and Discussion

7.1 *Limitations of the Study*

The study has several restrictions. Talent cannot be quantified precisely. Cuisine rating is the best proxy available. It may also be that the most talented chefs do not always get the best ratings; they may choose, for example, to avoid investment risks. Data on restaurant profits or on chefs' wealth is not available. Meal prices as an income proxy may allow at least a relative comparison of earnings.

7.2 *Conclusion*

We analyze if Superstar effects exist in German quality gastronomy, and what factors determine the stars' rents. Following Rosen (1981), we test if quality differences in the chefs' performances influence financial rewards ("direct Superstar effect"). Following Adler (1985), we test the income effect of chefs' media presence that helps chefs become a "hot topic" for discussion in consumer networks ("classical Superstar effect"). In analyzing these sources of stardom, we deal with an economic issue of general interest: does it pay more to develop your skills in your core business to perfection, or to maintain your current level of skills and invest in self-marketing?

We find that higher performance quality increases chefs' revenues, but not disproportionately so. Therefore, there is no "direct Superstar effect". High ratings require substantial investments in exquisite ingredients, staff and ambience, which may imply negative marginal profits for additional quality. This idea is reflected in the "agony of the stars" problem (Mariani 2003) that manifests itself in the recent bankruptcies of European three-star restaurants (see Pierre Gagnaire e.g.). Guy Savoy, another three-star chef explains the simple calculation (Burros 1993): 'A bistro returns 10 times more on the investment than a restaurant like [Guy Savoy's]'. Put differently: economies of scale can be realized much more easily in a bistro than in a three-star restaurant. In this context, the economics of awards literature argues that when a person's performance can only be vaguely determined, awards are a better incentive than monetary payment, are less likely to crowd out the recipient's intrinsic motivation, and are not taxed, while income is. That is, awards are an important part of the incentive system of a society (Frey 2005). In

deluxe gastronomy, a high cuisine rating is an award for the chef that shows his rank in the hierarchy of excellent chefs. Then, incentive effects of high ratings may explain why several empirical studies find that for chefs in the highest category, financial goals are secondary: they exercise the *métier* for love for the art of cooking and for prestige (Johnson et al. 2005). That means, they weigh the acknowledgement of their excellent performance higher than monetary gains.⁷

Furthermore, TV presence has a moderate effect on income. Therefore, there is no “classical Superstar effect”, either.⁸ The fact that consumers pay TV-present chefs more – for the same quality of food that competitors offer – shows that consumer utility increases when consumers can discuss prominent chefs with others in their social networks: “the more you know, the more you enjoy”. Accordingly, the German star chef Alexander Herrmann states that since he has been in TV cooking shows, his career has accelerated immensely and customers travel long distances to his restaurant. Herrmann explains that he makes half of his income in his restaurant, the rest with TV appearances and product marketing; yet, the income made in the restaurant takes up the lion’s share of his time and is much harder to acquire than TV-related revenues (Lembke 2008).

In Germany, there is no chef who is present on screen, and who belongs to the highest rating category. This insight supports a suggestion by Surlemont et al. (2005): chefs who get the highest rating concentrate on their core business and do not diversify. Being under enormous pressure to continuously ensure highest quality, they cannot “waste time” on fostering a TV presence. Thus, as to whether perfecting one’s skills or self-marketing is more rewarding, we suggest that although both can have similarly positive income effects, self-marketing seems the less risky and the less stressful way to enhance income. This result matches the story of Gordon Ramsay, currently the most financially successful chef on earth: ‘Despite his Michelin Stars [...] two years ago his company was in the red’; ‘TV helps Ramsay cook up a £60m fortune’ (Mail Online 2006). Ramsay connects cooking and TV appearances nicely: ‘I haven’t stopped cooking. Sure, I spend some time in the office but I haven’t forgotten how I got the Michelin stars that got me here’ (Mail Online 2006). Back to Jamie Oliver, the well-known chef from the series “The Naked Chef”. What gives him a superb second position on the list of the richest chefs?

First of all, he doesn’t own a deluxe restaurant! Second, compared with Paul Bocuse and other chefs from French cuisine, he has not added that much innovation to cooking. Rather, he has brought his TV-personality to the world of quality cuisine. Thereby, he in fact demonstrates that in deluxe gastronomy, self-marketing can be much more rewarding than refining cooking skills.

⁷ We focus on price increases as a result of good ratings, not on motivational effects for chefs. Data on the impact of rating “awards” on motivation are unavailable.

⁸ A less exclusive image of, e.g. German chefs compared with French chefs, may limit willingness to pay, and the limited market size for German deluxe cuisine must be considered a factor in preserving excess demand.

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