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Understanding the business of wine critics – The case of Robert M. Parker

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Abstract

The paper develops a typology of potential information services that might be included in wine ratings and describes the resulting business models of wine critique. Business models falling into the broader categories of "consumer guidance" and "consumer education" have predictable effects concerning the relationship between ratings and the development of wine prices. In an empirical investigation the relationship between the ratings given by famous critic Robert M. Parker to different wines and their prices and price changes is studied based on a large sample of auction prices for red wines of the Bordeaux area. We find strong evidence that Parker does quite a good job, although it remains somewhat unclear if he is a good guide, a good educator or both.

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1. Introduction

It is the aim of this paper to contribute to a better understanding of the business of so called wine critics. What kind of useful information do people get from consuming wine ratings? Which is the economic content of the good “wine rating”?

Considering the availability of relevant data, Robert M. Parker and his ratings serve as the empirical background of our analysis. Parkers’ consumer guide “The Wine Advocate” has over 40000 subscribers in the United States and in 37 other countries. His eleven books on wine have mostly been fulminant best sellers not only in their original versions but also in their translations in France, Japan, Germany, Sweden and Russia. Parker has received many honors and decorations. Among others he was made a *Chevalier dans l’Ordre National du Merite* by President Francois Mitterand and a *Chevalier dans l’Ordre de la Legion d’Honneur* by President Jacques Chirac and a *Commendatore* in Italy’s National Order of Merit by Prime Minister Berlusconi and by the President of the Italian Republic, Ciampi.[3] In February, 1999, Robert M. Parker was profiled in a two-part front page article in the *Los Angeles Times* by their Pulitzer Prize winning media critic, David Shaw. Shaw brought it to the point when he called Parker *„...the most powerful critic of any kind, any where“* [4].

It is a fact that Parker is much more successful than other critics as producer of a good called wine rating. However, we do not intend to focus on Parkers’ relative success as a critic in this paper.[5] Instead we would like to

3 See http://www.erobertparker.com visited on March 1, 2005.

4 See http://www.erobertparker.com visited on March 1, 2005 for this and other quotations of the kind. For example, according to President Jacques Chirac “Robert parker is the most followed and influential critic of French wines in the entire world.”

5 See Schulze (2003) for a general treatment of the question why “superstars” may emerge in some professions as well as for an overview of the relevant literature.

focus on the good that Parker sells. What do Parkers' customers really "consume"?

In a first step we develop a typology of potential information services that might be included in Parkers' wine ratings and describe the resulting business models of wine critique (section 2). All business models falling into the broader categories of "consumer guidance" and "consumer education" have predictable effects concerning the relationship between ratings and the development of wine prices. Section 3 presents an empirical investigation of the relationship between Parkers assessments of different wines and their prices and price changes based on a large sample of auction prices for red wines of the Bordeaux area. We find strong evidence that Parker does quite a good job, although it remains somewhat unclear if he is a good guide, a good educator or both. Even if the empirical results are compatible with both the guidance and the education view, there are theoretical arguments suggesting that education presupposes some success in guidance first. Not all potential services included in wine ratings are covered by the concepts of consumer guidance and consumer education. However, we will argue that those services will nonetheless be only marketable as long as the critic is also good in guiding and/or educating consumers. In section 4 we conclude with a brief overview of the major findings and point to open questions for future research.

2. The Parker rating translated into potential information services and business models

We shall start with some information about Parkers' production process. During nine month of the year he tastes wines at his home in Maryland following a certain procedure which he describes as "peer-group, single-blind".[6] This means that the same types of wines are tasted against each other and that the producers' names are unknown. Parker also travels to

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[6] See for this information http://www.erobertparker.com visited on March 1, 2005.

prominent wine growing regions for three month every year and tastes the wines on the spot employing the same procedure. In spite of his high productivity - Parker is known as a "workaholic" who tastes wines six to seven days a week - he has not been able to cover the whole world-wide supply of fine wines with the same intensity.[7] Fine wines from France, and here especially from Bordeaux, and Californian wines play a prominent role in his work. However, Parker has tried to extend his market coverage by adding a second and recently even a third prominent taster to his team. Pierre Antoine Rovani, who joined in 1996, covers regions like Southern France, Loire, Alsace, Burgundy, Champagne, South Africa, Germany, Austria, New Zeeland, Oregon und Washington State whereas Daniel Thomases, who joined in 2003, focuses entirely on Italian wines.

Reflecting his impression gained by tasting a wine, Parker writes down short and structured notes giving information on identity, taste and consumability of the specific wine in question. However, the most prominent information included in his rating is a point value accredited to the wine on a quality scale ranging from 50 to 100 points.[8] Figure 1 shows an example of such a rating dating back to July 2001.

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[7] For example, in August 2002 Parkers "Consumer Guide to Fine Wines" gave information on the following numbers of wines from 18 countries: Argentina (184), Australia (1477), Austria (494), Chile (208), France (22941), Germany (604), Greece (21), Hungary (1), Israel (1), Italy (4244), Japan (15), Lebanon (1), New Zeeland (104), Portugal (149), Russia (7), South Africa (119), Spain (810), USA (10524); see http://www.erobertparker.com visited June 8, 2002.

[8] Parker explains his point values as follows: „96-100: An **extraordinary** wine of profound and complex character displaying all the attributes expected of a classic wine of its variety. Wines of this calibre are worth a special effort to find, purchase, and consume. 90-95: An **outstanding** wine of exceptional complexity and character. In short, these are terrific wines. 80-89: A **barely above average to very good** wine displaying various degrees of finesse and flavor as well as character with no noticeable flaws. 70-79: An **average** wine with little distinction except that it is soundly made. In essence, a straightforward, innocuous wine. 60-69: A **below average** wine containing noticeable deficiencies, such as excessive acidity and/or tannin, an absence of flavor, or possibly dirty aromas or flavours. 50-59: A wine deemed to be unacceptable." See http://www.erobertparker.com visited on March 1, 2005.

CASA DE LA ERMITA 2000
TINTO JUMILLA (SPAIN)
RED

Rated: 90

Jumilla, one of Spain's up and coming backwater areas, is the origin of the estate-bottled blend of 75% Tempranillo, 15% Cabernet Sauvignon, and 10% Mourvèdre. The wine boasts a dense purple colour as well as a big smoky, volcanic ash-like, chocolate, graphite, and blackberry/cassis-scented nose. Layered, full-bodied, dense, and super-concentrated, it is an amazing offering for the price. Enjoy it over the next 5-6 years.

Figure 1: Example of a wine rating by Robert M. Parker (source: erobertparker.com Wine of the Day (19/July/2004))

Parker first publishes his ratings in his bi-monthly consumers guide called "The Wine Advocate". Enriched with additional data, analyses and tools they later become part of Parkers' books on specific wine regions as well as of information products like for example the "Cellar Manager".

We will now turn to the economic substance of the primary good that Parker sells, namely his rating. What do customers of the rating really "consume"?

2.1 The "consumer guidance" view of wine ratings

In general wine critics are viewed as consumer guides that help their own customers to make proper wine buying decisions. However, consumer guidance can have many faces.

Rating as delegated search

As a point of departure suppose that the quality of a wine is an objective property. In this case all (trained) consumers would be able to taste the wine and agree if it is good or bad. The wine market would be vertically differentiated reflecting the existence of wines with different quality levels.

The service a wine critic could offer to his customers in this scenario can be described as delegated search. Specialized on tasting a wide variety of wines, the critic would prevent his customers from making poor buying decisions by selecting wines with a poor price-quality-ratio. Search economies are at the core of this business model: By specializing on search the critic is able to substitute the search activities of many potential customers.

There is only one reason to have more than one wine critic in this case. A second specialized searcher only makes sense if one searcher is not able to cover the entire market due to capacity restraints. In this case customers have incentives to consult a second critic because they could miss a good offer not covered by the tasting and rating activities of the first critic. However, it would not make sense in this scenario that two critics rate the same wine. Differing opinions cannot exist by definition.

Obviously, this scenario based on objective quality and only allowing for vertical product differentiation can only serve as a point of departure here. As it happens, different critics rate the same wines and they sometimes substantially disagree about their true value. We will therefore gradually relax the restrictive conditions and allow for more complexity in the following business models.

Rating as forecasting

The quality of a fine wine could be an objective property, but, one that is hidden at the beginning and that gradually reveals as the wine matures. This “slow revelation feature” is a common assumption regarding the quality or value of wine in the literature. For example Ashenfelter (*1989, p. 32*) states in this context:

„In the future the true value of the asset will be revealed, but meanwhile the consumer must be satisfied with an estimate of its value.”

Ashenfelter (*supra*) gives the precise description of the work of wine critics in this scenario:

„What Parker and many other wine writers attempt to do is to infer the likely quality of a red Bordeaux, Burgundy, or California wine when it is 10 or 15 years old from the taste of the wine when it is only a few month old."

Wine critics create value as forecasters in this setting. By anticipating the quality of the mature wines when tasting the young wines, they reduce the quality uncertainty in the market for young wines.

Obviously, wine writers would only taste and rate young wines if wine journalism would be mere forecasting in the sense described here. However, in reality wine critics like Parker also taste and rate mature wines. Ratings may include but do not seem to reduce to forecasting alone.

Rating as matching

Even if a certain wine reaches maturity, different (trained) consumers and even wine critics may still disagree with regard to its quality. This means that quality cannot be treated as a purely objective property of the wine. Instead, quality is subjective at least to a certain extent if personal tastes and habits play a role when judging a wine. The market for fine wine is not only vertically but also horizontally differentiated in this case.

Horizontal differentiation gives rise to a new business model of wine journalism, where wine critics like Parker can be portrayed as producers of matching information. In this model consumers rely on the search activities of a certain critic because he exposed a taste similar to their own in his past judgements and ratings. Wines of a certain "making" get matched to consumers with a compatible taste through the intermediation of critics specialized on market segments characterized by specific tastes and habits. If one critic like for example Robert Parker is more famous than other wine writers he simply serves a bigger market segment of people with a rather standardized taste. This scenario leaves room for other critics, who simply match wines of different "making" to customers with the specific compatible taste.

Just as in the initial model with objective quality, search economies are at the core of the matching model. However, a critic like Parker would not have to find out the best wines out of a complex supply in this case but just the best wines for customers with a compatible taste. These customers profit from his ratings since they are able to make proper buying decisions without an investment in own screening activities. To a somewhat lesser extent even customers, who expose tastes deviating from the Parker doctrine, may profit. At least they know that they should avoid wines with high Parker ratings and that they should concentrate their own exploration to the wines without or with low ratings.

The predicted relationship between ratings and wine prices

The common features of the consumer guidance models are quite obvious. Matching and forecasting are both delegated search in certain segments of the market (defined by consumer groups and by the maturity of the product).

All models of consumer guidance support the same relationship between ratings and wine prices. When a fine wine (young or old) is first offered to the market (or to the relevant segment of the market) consumers are uncertain about its likely quality. With time passing an increasing number of informed consumers taste and test the wine and its true value will increasingly be revealed to the market (or to the relevant segment of the market). Market prices should therefore become more and more accurate with time and reflect the true quality of the liquid asset.

Inferring the likely quality of wines faster than the market is therefore at the core of consumer guidance. On average, high ratings given to wines by a critic should be followed by more than average price increases in the future. A good consumer guide detects the high quality of a wine before it will be revealed to the entire market so that its price gets driven up.

2.1 The "consumer education" view of wine ratings

Parkers' critics stress that he has become "too powerful"[9]. They fear that he dramatically changes the structure of the wine industry by imposing his taste on others. Is there an economic background supporting such ideas?

Rating as trendsetting

A further relaxation of the initial assumptions leads to the question whether tastes and habits are fix and stable. In a seminal paper Stigler/Becker (1977) argue that consumption entails an investive element. The utility an actor is able to derive from the present consumption of certain goods depends on the consumption capital which the actor has already accumulated by prior consumption of these goods. For example, the more somebody becomes a "connoisseur" in the music of Beethoven the more he will generally enjoy hearing a certain piece like e.g. the Fifth Piano Concerto. He will be able to devote attention to small matters and interpretative nuances, which a beginner is not even able to detect.

If the consumption of fine wine is comparable to the consumption of classical music in the sense that it entails significant investive elements, wine consumers too have incentives to specialize and become connoisseurs. By concentrating on wines of a certain "making" they build up the consumption capital which allows them to capture the superior utility of a connoisseur. The existence of a process of formation of consumption capital implies that the tastes of consumers are formable to a certain extent. Tastes are at least partially "learned" if past consumption contributes to the specific accumulation of consumption capital constituting a connoisseur.

Adler (1985) supplemented the theory of Stigler/Becker (1977) by drawing attention to an additional effect which can be described as a kind of network externality. According to his theory individuals not only profit from specialization in consumption by capturing the superior utility of connoisseurs. They capture additional utility if they co-specialize, that is if they

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9 See e.g. Haeger (1998)

become connoisseurs in the same area of competence. Co-specialized connoisseurs profit from facilitated communication and from shared experiences. For example a group of Beethoven "aficionados" can share the joy of a great performance and afterwards discuss its details, give attention to subtle issues and simply have a good time understanding each-other. In a certain sense this additional utility stems from the positive interaction among like-minded people.

It follows from this additional aspect of the theory that ceteris paribus newcomers profit if they accumulate consumption capital in those areas where the probability to find other connoisseurs and get the chance of positive interaction is high. Obviously, the cost of finding like-minded connoisseurs is lowest if newcomers adhere to the tastes and habits which already have the largest "installed base" among consumers of the respective good. We can speak of a network externality here because newcomers profit from the existence of a network of other consumers that already internalized certain tastes by accumulating specific consumption capital.

To the extent that these mechanisms hold for wine consumption, the business of wine critics could be based on an additional service which can be described as trendsetting. If a critic like Parker manages to enlarge the installed base of connoisseurs compatible to his own taste up to a certain critical level, network externalities start to work. Newcomers profit from a "parkerization" of their taste by being able to capture the positive interaction effects within the large community of already "parkerized" consumers.

A critic acting as a trendsetter in the described sense adds value

- promoting specialization in consumption among his adherents by directing their demand to wines of a certain "making". This allows them to capture the superior utility of connoisseurs (the Stigler/Becker effect).

- promoting co-specialization in consumption by providing newcomers with an installed base of connoisseurs. This allows them to capture additional utility from positive interaction after investing in the relevant consumption capital (the Adler effect).

Rating as code

The quality concepts discussed so far - objective quality, objective quality with a slow revelation feature, subjective quality, and learned subjective quality – implicitly all focused on tasting and drinking as a the most obvious aspects of wine consumption. However, the quality or value of wine cannot be discussed solely with respect to this restricted context of consumption. Even somebody lacking the consumption capital of a connoisseur and even somebody who is not drinking any wine at all can profit from the proper "utilization" of wine in social contexts. People do not only drink wine, but they also serve or order wine as hosts, give wine as a present or talk about wine in social contexts. To be able to pick the right wine for specific occasions as well as to value proper wine buying decisions of other people is an aspect of social interaction, as we know from our own experience.

People who whish to master the "language of wine" without being able or interested to devote resources to the necessary investment in consumption capital, are potential addressees of wine ratings. Obviously, these people – we will call them imitators - prefer ratings that are easy to understand and, at the same time, widely respected. Compared to the poetic and complicated essays of traditional wine journalists, Parker's point values were extremely easy to understand and did not require any specialized knowledge and therefore any investment in consumption capital at all. Parker traduced the "language of wine" into a simple code. The more adherents – genuine connoisseurs and imitators – Parker attracted, the more interesting this code became for additional imitators. Parker's ratings enable to mimic the social behaviour of genuine connoisseurs who had invested substantially in consumption capital.

Indeed, the danger to make a fool of oneself when buying, picking or judging wine in social contexts is close to zero as long as the Parker code is respected.[10] An imitator following the Parker code is appreciated by con-

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[10] Even the president of France, Jacques Chirac, found out, that "influential" people respect the Parker code in social interaction. At the occasion of making Robert parker a *Chevalier dans l'Ordre de la Legion d'Honneur* in June 1999, president Chirac said: "Robert Parker is the most followed and influential critic of French wines in the world, something I witnessed recently when choosing wine for presindet Clinton, who automatically re-

noisseurs and also by other imitators, who like himself do not really care about drinking wine. Imitation is the source of an additional network externality. The more people adhere to the Parker code, the more newcomers, who wish to properly communicate in the world of wine without investing in connoisseurship, profit from following the Parker code.

This business model suggests that Parker opened the market for fine wine to a group of new customers. These imitators are not interested in tasting and drinking wine, but in using it as a means to communicate their status and pursue their interests in society. As a consequence, a significant number of high rated wines may end on the tables of mere "pompous fellows" without the ability and the interest to taste and enjoy drinking wine. Connoisseurs may perceive this as a waste and as a curse of the Parker system.

The predicted relationship between ratings and wine prices

The consumer guidance models were based on the idea that Parker did not influence the wine prices through his ratings. He was simply faster than the market in detecting the likely quality of the wine. As soon as a sufficient number of informed consumers had tasted the wine, the market would find out its true quality and price it accordingly. Highly rated wines would command substantial price increases simply because they are better and Parker only knew in advance that the market would ultimately discover their high quality. But that discovery would have taken place anyway, so that the prices would haven risen even without the ratings.

In contrast, the consumer education models predict changes in the structure of demand. High ratings lead to higher demand for the highly rated wines. Since supply can't be expanded fast enough to match higher demand, prices get driven up for these wines. In a sense, the ratings become a self-fulfilling prophecy. Consumers are trained to like what Parker tells them is good or they just buy what is rated high to be able to show off in social contexts.

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ferred to Robert Parker as his reference for making proper wine buying decision." See http://www.erobertparker.com visited on March 1, 2005.

Although consumer guidance and consumer education models fundamentally differ in their structure, they make similar predictions concerning the relationship between ratings and wine prices.

2.3 The "consumer entertainment view" of wine ratings

Imitators derive utility from buying wine without having to taste or drink it. However, they use the ratings for the same purpose as connoisseurs do: to make proper wine buying decisions.

What about people who "consume" the ratings without making any or any substantial wine buying decisions at all? For them the ratings would be self-sufficient information. Parker would be a genuine writer if the people buying *The Wine Advocate* and his books were just consumers of self-sufficient information.

Consumption of self-sufficient information is a well-known phenomenon in the world of literature. At first sight ratings that offer information on goods traded on markets are different from pure fiction. However, a closer look at the world of test magazines suggests that consumption of self-sufficient information must be a prevalent phenomenon. Take the popular magazines devoted to the testing of automobiles as e.g. *Car and Driver* in the U.S. or *Auto Motor und Sport* in Germany. Highly expensive luxury and sports cars like Ferrari, Porsche, Mercedes, BMW or Rolls Royce are by far overrepresented in these magazines. The vast majority of readers of these magazines will never afford to buy and drive such cars. Obviously, the producers of these magazines believe to attract more business if they inform their readers about goods that these readers will never be able to possess or "consume" than if informing them exclusively about affordable goods. If "small" product markets, as for example the market for high performance sports cars, are superposed by "large" information markets (offering extensive coverage of every novelty and innovation), information must be self-sufficient for most consumers by definition.

It cannot be excluded that Parker too serves many consumers of self-sufficient information. All consumers that regard the Parker rating as a mere buying advice – be they connoisseurs, imitators, investors etc. – do at least have the chance to receive the relevant information offered by Parker without paying for it. The point values awarded to certain wines very often will be disseminated by producers, wine merchants etc. as part of doing their own business. But even if the point values awarded to certain wines can be portrayed as almost public information, Parkers books and his magazine are private goods. You need to purchase them in order to be able to quietly sit down, turn over their leaves and enjoy thinking and reading about the world of exclusive wines. You may become a fan of Chateau Margaux basically through contemplation, just as many became fans of Ferrari without ever being able to possess and drive such a car. By buying his books and magazine, consumers of self-sufficient information thus contribute to finance the ratings, from which the other groups interested in delegated search, forecasting, matching, connoisseurship and imitation may partly profit as public information.

Presumably, Parkers business in the market for self-sufficient information is not independent from the other business models discussed so far. Even those readers of Parkers publications that do not buy substantial quantities of wine themselves, would be disappointed if they learned that Parker constantly gave high scores to wines that nobody liked. In a certain sense the other business models validate the sale of self-sufficient information.

As to the relationship between ratings and wine prices, the production of pure self-sufficient information should be of no relevance.

3. Is Parker doing a good job?

The empirical section to follow is devoted to the assessment of Parker's abilities as a consumer guide and/or consumer educator. Since our approach is a price-based approach and the predictions concerning the relationship between ratings and prices do not differ between the two models, we can only find out whether Parker really does a good job, but not whether his job is more that of a guide or more that of an educator.

The price-based approach is the consequence of an obvious problem of data collection. In order to tell whether Parker is a good consumer guide, one would have to show that consumers really like the wines recommended by Parker. But since we have no information on the consumers' appraisals, we obviously can't follow this procedure. As a consequence we rely solely on prices. This would pose a significant methodological problem, if we would assume that prices at any given time exactly mirror quality. If that were true, then nobody would need a consumer guide because prices would already contain all relevant quality information. This in turn would induce vineyards to try to push high priced bad quality wines in the market, thereby destroying the quality revealing property of prices. Our - we feel more realistic - view exposed in section 2 avoids this problem. We assume that there is quality uncertainty in the market at any given point in time regarding any single wine. But, this uncertainty is declining over time due to more experience and maybe due to ratings. In line with this, we conjecture that prices over time tend to reflect quality with increasing accuracy. Whether quality is then defined by taste or some other characteristics of the wine in question is of no relevance anymore.

The sample contains information on 1234 red wines from the Bordeaux area. They were produced between 1961 and 1996. Each vintage of each vineyard is counted as one wine. So the 1961 Margaux is one wine while the 1964 Margaux is another. The wines in our sample were produced by 63 different vineyards. Price information was obtained from decanter.com, a division of London based IPC Media.[11] The decanter.com database documents auction prices from different auction houses around the world. All prices are denoted in British Pounds per 12 bottle case. The time series of prices start 1983 earliest and end 2001. For most wines, two prices per year were available, typically one price of a spring auction and one of an auction

[11] See www.decanter.com.

in autumn. We checked whether results hinge on which prices we choose as a basis for our analysis. They did not, so we report results on the spring prices only. Robert Parkers' ratings were collected from the German editions of his Bordeaux wine guides.[12]

Robert Parker rates wines on a scale between 50 and 100 points. We start by estimating the relation between the ratings and price changes. Let R_{it} be the price change of wine i from year t to year t+1. Then we estimate:

$$R_{it} = \beta_{0t} + \beta_{1t} \times \text{Rating}_{\text{i}}$$

for each year. The ratings employed are those of 1985. The results of this estimation procedure are given in Table 1:

Tab. 1: Relation between Parker's 1985 rating and subsequent price changes.

t	β_{0t}	β_{1t}	$t(\beta_{1t})$
1985	-0.189	0.003	0.937
1986	-0.014	0.001	0.548
1987	-0.091	0.002	2.271
1988	-0.073	0.001	1.683
1989	-0.508	0.007	2.951
1990	0.127	-0.001	-1.291
1991	-0.055	0.001	1.727
1992	-0.201	0.002	3.286
1993	-0.189	0.003	2.149
1994	-0.240	0.005	2.119
1995	-0.288	0.006	2.384
1996	0.013	0.001	0.676
1997	0.188	-0.001	-0.737
1998	0.183	-0.001	-0.356
1999	-0.142	0.002	2.279
2000	-0.034	0.001	0.775

[12] See Parker (1985), Parker (1991).

The average of the β_{1t} is 0.002. This average is significant at the 1%-level and implies that each rating point is followed by an additional yearly price increase of 0.2%. As Table 1 also reveals, in only 3 out of 16 years the effect of the rating on the price change has been negative. A first conclusion therefore is that Parker recommends wines that become relatively more expensive later on. If prices over time eventually start to reflect quality, Parker obviously identifies those wines correctly, at least on the average: Higher ratings are accompanied by higher price increases in the future.

In order to gain more insight in the precise form and economic importance of this relation, we firstly took a closer look at the scatter plots. These suggested a nonlinear relationship between ratings and price changes. It seemed to be mostly the extremely high rated wines that heavily increased in prices later on. We therefore divided the sample into two groups and put all wines with a rating of at least 90 points in one group and the other wines in the second group. We then looked at the price changes of these groups over longer periods of time by estimating the following five year regressions starting in year t:

$$R_{it} = \beta_{0t} + \beta_{1t} \times D_i$$

Where $D_i = 1$ indicates that the wine belongs to the 90-100 point group of good wines and $D_i = 0$ indicates the other wines. Results are given in Table 2.

Tab. 2: Price changes of good vs. bad wines over a five year period starting in year t

t	β_{0t}	$t(\beta_{0t})$	β_{1t}	$t(\beta_{1t})$
1985	0.273	7.612	0.215	2.407
1986	0.253	9.213	0.141	2.215
1987	0.228	9.388	0.167	3.030
1988	0.148	6.564	0.171	3.357
1989	0.162	7.023	0.223	4.149
1990	0.197	9.510	0.245	4.980
1991	0.347	12.299	0.540	7.959
1992	0.477	13.252	0.739	8.512
1993	0.639	18.165	0.499	5.772
1994	0.641	15.685	0.280	2.740
1995	0.550	15.985	0.117	1.350
1996	0.466	17.084	-0.115	-1.568

The β_{1t} measure the additional five year price change of the good wines compared to the bad wines. I.e. the first entry of 0.215 means that from 1985 to 1990 the prices of wines in the 90-100 point range increased by 21.5% more than the prices of the other wines. It is noteworthy that this effect of an additional price increase starts to vanish at the end of the observation period. This is also in line with our arguments outlined above. One has to keep in mind that all effects presented in Table 2 refer to a grouping of wines based on Parkers 1985 rating. If wine prices are really going to reflect their quality over time, then it is reasonable to expect this to happen within ten or so years at most. So the rating of 1985 should not be expected to have any more bearing on the price changes in the mid nineties. Table 3 presents the replicated estimation results for a 10 year period. Additionally, the last column documents the models' statistical properties.

Tab. 3:Price changes of good vs. bad wines over a five year period starting in year t

t	β_{0t}	$t(\beta_{0t})$	β_{1t}	$t(\beta_{1t})$	$(n;\ F;\ p(F))$
1985	0.385	9.858	0.389	4.002	(435; 16.02; 0.0001)
1986	0.546	11.064	0.957	8.388	(501; 70.37; 0.0000)
1987	0.641	11.983	1.368	11.264	(557;126.88; 0.0000)
1988	0.690	15.195	1.151	11.205	(604;125.56; 0.0000)
1989	0.716	15.636	0.968	9.087	(649; 82.58; 0.0000)
1990	0.743	18.349	0.650	6.750	(485; 45.57; 0.0000)
1991	0.793	18.810	0.692	6.820	(700; 46.52; 0.0000)

The 10-year regressions obviously support the 5-year results. We replicated this type of analysis for Parker's 1991 ratings and got almost identical results.

These results are reconcilable with the predictions of the consumer guiding model. When Parker said that a wine was good enough for say 90 points or more, then this wine indeed has increased in price more than the other wines. If it is assumed –as we had done- that prices at some point in time start to reflect quality quite accurately, then it can be concluded that Parker forecasts quality correctly. Of course, these findings could even be interpreted in investment terms as well. Just exchange "percentage price change" for "return" and it is obvious that Parker's ratings would have been valuable for a wine investor as well. By this, we don't imply that wine is a good investment at all. But if wines are bought for investment reasons, then an investor following Parker's ratings would have outperformed the overall market as represented by our total sample.

The idea of consumer guidance is based on the assumption that what Parker does has no effect on the prices. In contrast, the models of consumer education (trendsetting and imitation) will change the structure of demand and are therefore likely to have a bearing on prices. Indeed, it is reasonable to assume the additional consumers to drive prices up because supply can't be expanded fast enough to match higher demand. And of course, the empirical findings presented above are reconcilable with these business models as well. Here, the ratings themselves lead to higher demand for highly rated wines, driving prices up.

Obviously, Parker has done a good job. He was either successful at predicting quality reflected in future prices or at winning consumers for his taste and code and thus induced them to drive up prices of the respective wines.

However, the above analysis is only part of the story. This is true because we didn't discuss the cost/benefit ratios of the wines explicitly. For a consumer it may very well be better to buy a wine with say 95 point for 50 Pounds a bottle than to buy a 97 point wine for 200 Pounds. So the question becomes what the value of the marginal unit of quality is. To compute the cost/benefit ratio of a wine, we employed the following procedure. We started by estimating the relation between ratings and absolute prices. As already mentioned, the scatter plots indicated a nonlinear relation, so we estimated

$$\mathrm{Rating}_{\mathrm{i}} = \beta_{0t} + \beta_{1t} \times \ln(\mathrm{Price}_{\mathrm{it}}) + \mathrm{V}_{\mathrm{it}}$$

V_{it} are the residuals to be analysed in more detail below. Employing the prices and ratings of 1985 we obtained $\beta_0 = 54.39$ (t=19.2) und $\beta_1 = 5.3$ (10.1). The positive sign of β_1 indicates that on the average one buys a higher rating for more money. However, R^2 is only 22.5% for the 1985 regression. So there is considerable variation in the ratings not accounted for by the prices. This in turn implies that there must be wines that have relatively high ratings given their prices and wines that have relatively low ratings given their prices. From a consumer's perspective the former should be especially interesting because these wines provide more than average additional quality per unit of money. We refer to these wines as the bargain wines. We employ the residuals V_{it} to indicate the relative cost/benefit ratio of the wine i at time t. By definition we obtain:

$$\mathrm{V}_{\mathrm{it}} = \mathrm{Rating}_{\mathrm{i}} - \beta_{0t} - \beta_{1t} \times \ln(\mathrm{Price}_{\mathrm{it}})$$

Negative values of *V* indicate a wine that is too expensive given its rating while positive values indicate a bargain. If now it is assumed that Parker's ratings are correct, then consumers should be eager to buy wines with positive V's. If in turn that is true, then one should expect the positive V wines to increase in price more than the other wines. To check this expectation, we employed the following procedure. For the 1985 regression we defined a cut point of $V = 4.0$ dividing the sample at the 75% percentile. So 25% of all wines in 1985 had a V equal to 4 or more. These are the bargains from the consumers' point of view. We then repeated the 1985 regression for every other year in the sample. Checking the distribution of the residuals revealed that we could keep the cut point at $V = 4.0$ since enough observations remained in both groups in all the years. We then checked the price changes of the respective groups over a one year period. The bargains had higher price increases in 14 out of 15 years. In the one year where they did not, they lagged behind only 0.2%. On the other hand, in those years where they had higher price increases these were up to a marked 16.3%. Looking at longer time intervals we estimated the five year regressions from t to t+5: $R_{it} = \beta_{0t} + \beta_{1t} \times D_{it}$ The dummy variable D_i is defined as $D_i = 1$ if $V_{it} \geq 4$ and zero else. Results are given in Table 4.

Tab. 4: Percentage price changes of bargains over 5 years

t	β_{0t}	$t(\beta_{0t})$	β_{1t}	$t(\beta_{1t})$
1986	0.224	7.708	0.194	3.568
1987	0.198	7.827	0.227	4.690
1988	0.131	5.653	0.205	4.400
1989	0.134	5.642	0.283	5.916
1990	0.152	7.298	0.369	8.675
1991	0.303	10.435	0.560	9.569
1992	0.431	11.614	0.725	9.554
1993	0.595	16.387	0.544	7.262
1994	0.603	14.104	0.348	3.990
1995	0.527	14.668	0.183	2.437
1996	0.441	15.672	0.049	0.757

The following table 5 displays the results for the respective 10-year interval.

Tab. 5: Percentage price changes of bargains over 10 years

t	β_{0t}	$t(\beta_{0t})$	β_{1t}	$t(\beta_{1t})$	$(n; \quad F; \quad p(F))$
1986	0.477	9.130	0.873	8.921	(501; 79.59; 0.000)
1987	0.593	10.374	1.143	10.491	(557; 110.06; 0.000)
1988	0.642	13.805	1.110	11.865	(604; 140.77; 0.000)
1989	0.639	13.787	1.040	11.136	(649; 124.01; 0.000)
1990	0.645	16.040	0.891	10.842	(685; 117.55; 0.000)
1991	0.707	16.503	0.841	9.741	(700; 94.89; 0.000)

For example, the first β_{1t} figure for 1986 of 0.873 implies that wines that were a bargain in 1986 saw their prices increase by 87.3% more over a time span of 10 years than their counterparts.

What does this result mean in terms of our business models? Coming to consumer guidance, the result is quite supportive for Parkers correctness. If his assessments of the wines' qualities had been wrong, then there should have been no additional increase in the prices of the bargains. But the effect was there. And of course, the price changes could have been the effect of trendsetting or additional demand by imitators as well.

4. Conclusion

In this paper we sought to identify possible what we called ‚business models' of what famous wine critic Robert Parker is actually doing. We described six different types of valuable information a rating may provide: It may guide consumers interested in immediate consumption, it may serve as a forecast of future quality, it may enhance matching of different tastes to different styles of wine, it may serve as a teaching device helping to educate taste, it may serve as an easily to learn code of social interaction, and it may be some kind of self- sufficient information that derives value from just being fun to read.

These business models fall into the broader categories of consumer guidance, consumer education and consumer entertainment. The guidance and education models both implied a positive correlation between ratings and subsequent price changes, although for different reasons. The empirical investigation presented in section 3 showed that the positive correlation indeed exists. In this sense, our data suggests that Parker either does a good job as a guide and/or as an educator. All of our results are consistent with the predictions made by both of the models.

On theoretical grounds one can doubt whether pure consumer education would work as a stand alone service. Both, the trendsetting and the imitation explanations are based on the concept of network externalities. The “parkerization” of taste as well as the imitation of “parkerized” taste only become profitable if a certain “installed base” of adherents has been surpassed. We think that it was successful consumer guidance in the first place that could have helped Parker to build up the required critical mass of consumers that ultimately kicked off the network externalities needed for consumer education.

Consumer entertainment should not affect the relationship between ratings and the development of wine prices. Since consumers of self-sufficient information do not exert demand, they will not drive up wine prices. However, it seems unlikely that Parker could survive as a mere consumer entertainer. If most of the high rated wines turned out to be undrinkable and difficult to sell this failure would certainly become known even in the market for self-sufficient information and nobody would want to read the books and ratings anymore. Since Parker does a good job as a guide and/or educator, consumers of self-sufficient wine information have no reason to look for other entertainers.

While we think that our multi-model approach suggested above gives a richer and more accurate description of the business of wine critics than any single model would give, some interesting issues still remain to be addressed. Our impression is that Robert Parker is the only superstar among critics regardless of the object of critique. No art critic, theatre critic, sports critic, film critic, or restaurant critic has attained Parkers world-wide popularity in his field. Why is this so? What specific conditions enable the emergence of a superstar like Parker in the market for wine critiques as compared to other markets for critiques where no superstar has been able to establish? We feel that this would be an interesting field of future research.

The other question we have avoided so far is how Parker manages to get paid. After all, a critique once published is almost a public good and it is not clear at all why anyone should want to pay for it. For example, wine dealers often use Parker points in their advertisements. Of course, transaction costs can offer a reason for the different consumers solely interested in buying advices to subscribe to *The Wine Advocate* and purchase Parker's books instead of relying on other information sources for retrieving the Parker points for certain wines. For people who can afford to buy this category of wines regularly the opportunity costs of time may be substantial. Instead of investing their scarce time in search activities for finding out point values, they might prefer to pay for the magazine.[13] But we are still not sure whether transaction costs alone turn this market for public goods into a market for private goods.

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[13] Just as an example, we have tried to retrieve the ratings of Cheval Blanc for the vintages 1988-1997 from the Internet by using *Google*. We managed to find 5 of the 10 ratings in 30 minutes. However, it was impossible to find out in which year the Parker values had been awarded to the wines in question, so were not sure whether we identified the most recent ratings.

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