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Sustainability of Top Ranked Restaurants in France: Methodological Note and Analysis of Gault-Millau Data from 1974 to 2010

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Abstract
Do well-known restaurants stand the test of time? The objective of this short paper is to review the list of the top ranked restaurants from 1974 to 2010 and examine the sustainability of the grades of these restaurants over time. A new methodology to calculate migration and default rates is presented for selected years over the period under study. It is shown that these rates are relatively stable and low compared to bankruptcy rates. After 24 years, the default rate of top ranked restaurant is only about 32%.
Keywords: Restaurant failure, Default rate, Ranking of restaurants
JEL classification: L25, L832

Sustainability of the top ranked restaurants in France

1. Introduction

Past research on sustainability of restaurants has focused mostly on quantitative factors and bankruptcy rates. Restaurant failures have been attributed to economic and social factors, financial performance, competition and legal restrictions, and even government intervention (Watson and Everett, 1996).[1] Hjalager (2000) shows that the failure rate is high for new business and that the propensity for failure declines rapidly with time. Over a period of 13 years, only about 20 percent of the original restaurants have survived. Self (2004) reports a first-year failure rate of 24.3 percent and a three-year cumulative rate of 50.9% from 1999 to 2002. Parsa et al. (2005) reports the highest failure rate during the first year of activity (26.2%) and a three year cumulative rate of 59.7%. These results are also consistent with several other studies (Muller and Woods, 1991).[2]

However, long term survival is also highly dependent to reputation. According to Frick et al. (2012), no barriers to entry, the existence of a high degree of rivalry, and the absence of any market power, explained the erosion in profits, implying that long-term survival may be difficult. Gergaud et al. (2011) analyze the careers from a sample of more than 1,000 top French *chefs* over more than twenty years and link it to the success or reputation of the restaurants where they have worked. They also consider a transition matrix of the restaurants with stars in the Michelin Guide Rouge books and observe that there is upward mobility in the ranks and also a high level of persistence for the top ranked restaurants.

The objective of this short paper is to analyze the list of the top ranked restaurants in the Gault-Millau Guide books from 1974 to 2010 and examine the sustainability of the grades of these restaurants over time. Do well-known restaurants stand the test of time? A new methodology to calculate migration and default rates is presented for selected years over the period under study.

[1] See Parsa et al. (2005) for a review of the literature

[2] See a restaurant failure rate study at www.restaurantowner.com/public/263.cfm

It is shown that these rates are relatively stable over time and low compared to bankruptcy rates.[3]

2. Data and definitions

Since 1973, the Gault-Millau Guide (GM) is publishing each year a ranking of the best restaurants based on "toques".[4] During more than 25 years, on a scale of 20, the best restaurants were awarded 19 or 20 (4 toques), followed by restaurants graded 17 or 18 (3 toques) and 15 or 16 (2 toques). Grades are reported in GM from 10 to 20. Lower grades do not exist. Out of 1600 restaurants listed in GM in 1974, only 27 (less than 2%) had at least 3 toques. The notation was changed in 2010 to allow 5 and 4 toques to the best restaurants but basically the scale remains equivalent to the previous one. In 2010, out of the 5140 restaurants listed in GM, only 64 were ranked in the top categories (less than 1.3%) (Table 1).

Insert table 1 here

The definition of restaurant failure is not universal. Studies that use a narrow definition of failure, such as bankruptcy, necessarily have the lowest failure rates (Parsa et al., 2005). Bankruptcy rates are narrow by nature since they do not include change-of-ownership or they do not take into account the organizational life cycle of restaurants. Turnover rates are much higher than bankruptcy failure rates, regardless of whether the turnover was due to the owner's retirement or due to a change of ownership.

In this paper we use the concept of "default rate" based on the withdrawal of a restaurant name from the list of restaurants published in GM from one year to the next. This "default" is not necessarily a failure or a bankruptcy. As a consequence of this selection bias (only the best

[3] Migration and default rates are terms used in financial economics to designate the percentage of borrowers of a given universe that may not or will not comply with their credit obligations over a given time period.

[4] Frick et al. (2012) review the literature based on gastronomic guides like the "Guide Michelin", the "Gault Millau", the "Good Food Guide" or "Zagat".

restaurants are listed in the guide even if it is at a low grade) persistence is probably much higher and by consequence, default rates lower than bankruptcy rates.

Table 1: Data

Grade	1974	1986	1992	1998	2004	2010
19 - 20	4 (0.25%)	18 (0.36%)	31 (0.42%)	13 (0.18%)	15 (0.33%)	12 (0.23%)
17 - 18	23 (1.44%)	63 (1.28%)	105 (1.42%)	85 (1.15%)	71 (1.58%)	52 (1.01%)
15 - 16	115 (7.18%)	314 (6.01%)	373 (5.04%)	427 (5.77%)	334 (7.42%)	321 (6.24%)
10 - 14	1458 (91.13%)	4505 (92.35%)	6891 (93.12%)	6875 (92.90%)	4080 (90.67%)	4755 (92.52%)
Total	1600 (100%)	4900 (100%)	7400 (100%)	7400 (100%)	4500 (100%)	5140 (100%)

3. The methodology

The migration matrix

Conditional upon a given grade at time *T*, the migration matrix is a description of the number of restaurants being in any of the various grades at *T+1*. It thus fully describes the distribution of grades at *T+1* given the grade at *T*. However it does not provide information on the grade or class of origin. In that sense is it different to a transition matrix as shown in Gergaud et al. (2011). For example, a restaurant ranked in the top grade at *T* can be downgraded at *T+1* to the next lowest grade as well as the last grade. Inversely, a restaurant in the top grade at *T* could have its origin in the previous period from any of the classes. The matrix provides only the compounded information at a given time *T* but gives the exact number of top rated restaurants that have disappeared from the guide (the default rate).

We refer in this paper to the notion of migration matrices for each year under study from 1986 to 2010. Our results are based on the real number of top rated restaurants in GM in a specific year and how they migrate from one grade to another over time. The selected time period between two analyses is fixed at 6 years. The year 1974 is only the starting point of the analysis (information for the year 1980 was missing). For example, in 1986, 18 restaurants were in the top grade followed by 63 restaurants in the next grade. Table 2a shows the origin of these 81 restaurants in 1974. Only 4 were actually already rated in the highest category and 33 were not listed in the guide. The lines of the matrix show the evolution overtime of the grades, i.e. in 1992 more restaurants were listed in the top grade (possibly the original 18 plus 5 ranked in the second class in 1986). In 1992, 3 of these top rated restaurants were not ranked anymore but no

information is provided on the class of origin. In 1998 only 7 remained in the top grade and 12 were not ranked.

Table 2a: Example of migrations for the year 1986
In numbers

Grade	1974	1986	1992	1998	2004	2010
19 - 20	4	18	23	7	7	3
17 - 18	14	63	42	33	26	18
15 - 16	18		8	24	16	17
10 - 14	12		5	5	8	12
Not ranked	33		3	12	24	31
Total	81	81	81	81	81	81

The table 2b presents the evolution in percentages for each year. Columns add to 100% but not the lines. In 1998 only 8.6% were still in the highest grade and 14.8% out of the original 100 in 1986 were not ranked anymore after 12 years (the default rate). The default rate is 29.6% after 18 years and 38.3% after 24 years.

Table 2b: Migrations for the year 1986 in percent

Grade	1974	1986	1992	1998	2004	2010
19 - 20	4.9	22.2	28.4	8.6	8.6	3.7
17 - 18	17.3	77.8	51.9	40.7	32.1	22.2
15 - 16	22.2		9.9	29.6	19.8	21.0
10 - 14	14.8		6.2	6.2	9.9	14.8
Not ranked	40.7		3.7	14.8	29.6	38.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

A similar analysis is available every six years between 1986 and 2004 (2010 being the last year). For example, information presented for the year 1998 (Table 3) shows that among the top rated restaurants (from 17 to 20, i.e. 3 and 4 toques) the default rates for 2004 and 2010 are respectively 11.2% and 34.7%. It also shows that about 30% of these restaurants were not listed or ranked 12 years before (in 1986). This result confirms the upward mobility observed by Gergaud et al. (2011).

Table 3: Migrations for the year 1998 in percent

Grade	1974	1986	1992	1998	2004	2010
19 - 20	4.1	15.3	23.5	13.3	13.3	7.1
17 - 18	8.2	24.5	41.8	86.7	41.8	25.5
15 - 16	8.2	20.4	19.4		27.6	25.5
10 - 14	16.3	10.2	5.1		6.1	7.1
Not ranked	63.3	29.6	10.2		11.2	34.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

The average default rate

In all matrices we can calculate the probability distribution of the restaurants grades for each year. In general, the further away a cell is from the year t, the smaller is the likelihood of such a restaurant to remain in its original grade. This rule implies monotonicity and stability in the grading system. Table 4 presents the values for all the tables of data from 1986 to 2010 averaged around a base year t. In other words year t is the average equivalent of 1986 in table 2b or 1998 in table 3. The same logic applies to year t-6, t+6, t+12 and so forth.

It is shown that considering only the top rated restaurants in GM, only about 1/3 keep their rating over a long period of time (18 to 24 years horizon) and that the number of defaults (restaurants that are not reported any more in GM) amount to only 25% after 12 years, 28% after 18 years and 32% after 24 years (Table 4). This result is comparable to prior research showing that as each year of survival goes by, the failure rate is likely to go down at a slower pace (Richardson, 1991). However, since our definition of the default rate is not necessarily equivalent to a failure rate, our results are much lower for a long period of time (18 to 24 years) compared to the results reported by Self (2004) and Parsa et al. (2005).

Table 4: Percent of restaurants in each class of grades compared to year t

Grade	t - 6	t	t + 6	t + 12	t + 18	t + 24
19 - 20	13	18	13	8	6	6
17 - 18	45	82	37	33	33	24
15 - 16	20		31	28	24	27
10 - 14	4		6	6	9	11
Not ranked	18		13	25	28	32
Total	100	100	100	100	100	100

4. Conclusion

In this short paper we present a new methodology to estimate the migration of grades of top rates restaurant and the default rate over time. Our results are based on the real number of top rated restaurants in Gault-Millau in a specific year and how they migrate from one grade to another over time. It is shown that only about 1/3 of these restaurants keep their rating over a long period of time (18 to 24 years horizon) and that the number of defaults (restaurants that are not reported any more in GM) amount to only 25% after 12 years and 32% after 24 years.

Further analysis could develop matrices of migration for shorter period of time, i.e. every 3 years instead of 6 years. This would probably improve the quality of information on default rates without changing the final results. This would also allow an examination overtime of the behavior of migrations and default rates compared to the general economic business cycle.

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