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► **To cite this version:**

Daniel Urrutiaguer. QUALITY JUDGMENTS AND DEMAND FOR FRENCH PUBLIC THEATRE.
Journal of Cultural Economics, 2002. hal-03913964

HAL Id: hal-03913964

<https://hal.science/hal-03913964v1>

Submitted on 27 Dec 2022

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QUALITY JUDGMENTS AND DEMAND FOR FRENCH PUBLIC THEATRE

Daniel URRUTIAGUER

Abstract : Detailed data on demand for French « theatrical institutions » in 1995 and 1996 reveal that price elasticity is low but has opposed sign from year to year while there are heavy habits of consumption and a risk aversion at the cost of certain contemporary authors. Dummy variables related to mediators' judgments allow to measure how they influence subjective perceptions of theatre visitors in their appraisal of production quality. Data support the hypothesis that media-renown of drama critics and institutional assurance of theatre programmers have an opposed significant influence upon audience.

Key words: quality judgments, mediator, theatre

1. Introduction

The quality of a product is defined by its features. If this concept is useless for certain standardised goods or services, it cannot be ignored for single products like works of art. Each theatrical show is a singular combination of artistic and technical teams' work led by the director who interprets the play. Each performance is unique because spectators' reactions affect its quality.

Models of horizontal differentiation propose to conceptualise consumer's tastes by positioning them in the space of parameters describing the nature of products. The hedonic model of Rosen (1974) is better fitted than Lancaster's (1966) one to the nature of the theatrical activity by its definition of the products as indivisible packages of characteristics. They are localised on space with n dimensions by the vector $z = (z_1, z_2, \dots, z_n)$ where z_i is the amount of the i^{th} characteristic embodied in the good. The markets of the products reveal a function of hedonic price $p(z) = p(z_1, z_2, \dots, z_n)$ relating prices of brands and characteristics of the product. Nevertheless the components are objectively measured. Therefore consumers are assumed to have the same perception of the amount of characteristic. Tastes differ only in the valuation of alternative packages (*ibid.*, p.36).

As Throsby (1990, p.70) noticed it, if binary criteria can classify the repertoire, the perceptions of benefits of a show are subjective. So the objective approach based on the truthfulness of senses has to be weakened on the basis of a majority view. The components of a performance are also perceived together as a Gestalt in which interact all stimuli (Holbrook, 1987, p.152). So the capacity to separate them for judgment needs expertise as David Hume's « delicacy of taste » that a repeated aesthetic experiment thanks to the artistic practice and the comparison of the types of beauty can develop (1974, p.91). On a rather similar way, Knight (1935, p.259) shows that decision under uncertainty requires intuition and an individual can decide in reference to the

judgment of a specialist whose abilities are sensed better.

The purpose of this paper is to propose a method for subjective quality measurement. The assumption is that the mediators between producers and consumers participate to the product valuation by their judgments. Beyond the past experiences, spectators listen to four types of speakers whose capacity of artistic expertise is coloured by cultural conventions, which can diverge. Drama critics and theatre programmers make an aesthetic assessment while public authorities can support their political evaluation on their experts' reports. Initiated spectators can transmit their judgement by word of mouth.

Because of uncertainty on quality, we can suppose often disagreements on shows appraisal and spectators are led to grant their confidence to some mediators. So the theatrical quality valuation depends on the weighting granted by the potential spectators to the judgements stated by these four groups of mediators.

An empirical study based on a personal bank of data tests the relevance of this assumption. The study was centred in 1995 and 1996 on the French theatrical organisations instituted by a national mission of public utility financed by subsidies which account for about 70% of their resources. Indeed, unlike the private theatres, the centralisation of their accounts in the Culture Ministry's files allowed to have a detailed analysis of the attendance and movement of the shows. The administrative term «theatrical institutions» will name them thereafter. Those that are located in the overseas French regions were excluded because of their isolation.

In 1996 the main institutions are the 5 national theatres (TN) and 27 national dramatic centres (CDN) with the respective average budget of 87 and 22 million F (MF) whereas it is about 10 MF for the 6 CDNEJ specialised in children's theatre and the 9 regional dramatic centers (CDR). These four types of establishments have a manager who directs shows and buys outside programming. The 59 regional theatres (*scènes nationales* : SN) stand out thanks by its multi-field programming, though it is mainly composed of theatrical shows, and a manager who is the

programmer but not a director in general. Their average budget is about 14 MF.

The model will be presented in two steps from a demand function (§2) and then decomposing quality in variables of judgment expressed by the drama critics, programmers, public authorities and preceding spectators (§3). Econometric results will then be discussed by drawing two orders of quality from the types of quality function that will have been built (§4).

2. The modelling of demand

The model derived from a demand function will be presented before specifying its parameters. Those for the quality judgments will be the subject of a further development.

2.1 THE MODEL

Throsby and Withers (1979, p.12) estimated that theatrical output should be measured by paying attendance. In this way, Throsby (1990, p.71) defines the demand function for one season by

$$Y_d = f(p, S, C, q) \quad (1)$$

where Y_d is the number of paying attendants on the season, p the real average price of sold tickets, S the number of performances, C the venue capacity of the auditorium and q the vector of the quality characteristics.

As the attendance is linked with the number of performances, the dependant variable to explain should be Y_{dt} / S_t in year t to avoid the heterogeneity of theatrical institutions in their size. We can suppose that variables of price and volume are continuous while judgments on quality have non linear effects on demand since bad and good advises weight more than medium ones on potential spectators. Dummy variables seem appropriated for this purpose.

Habits of consumption reflect the visitors' memories of the quality of previous shows they

perceived in the theatre auditorium. It determines the degree of confidence granted to the institution's programme. The ideal indicator would undoubtedly be the rate of attendance, i.e. the ratio between the paying attendance Y_d and auditorium's venue capacity C . But the lack of precision of the data for the theatrical capacity of regional theatres led to choose as variable $Y_{d,t-1}/S_{t-1}$, the number of paying spectators per performance in the previous year.

The demand for each theatrical institution in year t is assumed to satisfy the following cross-section multiple Least Squares regression

$$Y_{d,t}/S_t = \alpha p_t + \beta S_t + \chi C_t + \delta_0 Y_{d,t-1}/S_{t-1} + \sum_{i=1}^n \delta_i q_i + e_t \quad (2)$$

where e_t designates the error term. The dependant variable and all explanatory variables apart from the n dummy variables q_i related to quality judgments are measured as natural logarithms.

2.2 PARAMETERS OF VOLUME, DEMAND AND PRICE

The balance sheets of the activities of theatrical institutions detail for each programmed show the name of the director, author's play, the number of performances S and paying spectators.

The auditorium capacity is clearly indicated for national theatres (TN) and dramatic centres (CDN, CDNEJ, and CDR) but some estimation was necessary for the regional theatres (SN).

The attendance has to be corrected about tours. Their paying spectators are counted by both the producer and the establishments who bought the performances. The rule applied was the counting of audiences in the theatre in which the show was performed. Statements on producers' tours were therefore corrected by cancelling performances and their audiences in other theatrical institutions.

11 086 performances attracted 2 825 119 paying visitors in the theatrical institutions in 1995 compared to 10 759 and 2 570 092 in 1996¹.

Calculation of the real price of tickets requires us to focus on the number of visits to the

institution's home theatre, for the price of performances on tour is substantially higher than audience spending. Its evaluation can only be approximate, for occasional subsidies granted to shows are integrated into own income in the accounts without always being distinguished from takings.

3. Dummy variables related to quality judgments

This section will specify the measurement of the three dummy variables of quality which are associated each to a group of mediators whose judgment influences the paying attendance of the theatrical institutions and the one for repertoire classification.

3.1 THE VARIABLE OF DRAMA CRITICS (q_1)

In his study on the audience of three theatre companies in Sydney, Throsby (1990, p.73) is undoubtedly the first economist to use a condensation of press reviews to mark the aesthetic quality of source material, production, acting and design. This method assumes that drama critics objectively reveal aesthetic quality as in the model of Mac Donald (1988, p.156) where artists' talent is known that way. It does not take care the individuals' subjective perception.

Abbé-Decarroux (1994, p.102) proposed to measure the weight of newspapers reviews on shows' attendance in his empirical analysis on a Geneva theatre production company from 1982-1983 to 1988-1989. Similarly my goal was to measure the representative critics' average appreciation of each show to confront it with the other sources of judgment that can influence the visitors.

Exploratory interviews with professionals and the only detailed survey on French theatre audiences in 1987² revealed consensus on the fact that the newspapers *Le Monde* and *Libération* and the magazine *Télérama* could be considered as opinion leaders among drama critics.

The method therefore consisted first of recording all reviews of shows scheduled in theatres, published in 1995 and 1996 in *Le Monde*, *Libération* and *Télérama*. The critics' comments were converted into a score between 1 and 10, depending on how the critic rated the show³.

Calculation of the average score of reviews attributed to a show makes it necessary to distinguish the simplest case of coverage by three newspapers and the more frequent case of an absence of one or two reviews.

The absence of a precise survey on the number of readers of each section of a newspaper forces us to assume that all readers are interested in drama reviews. If the show is reviewed in all three newspapers the global score will correspond to the average of the scores weighted by the weight a_{ij} of each newspaper j in the potential readership of drama reviews for the year t . It corresponds to the average number of readers per issue multiplied by the number of issues in which drama reviews appeared during year t . Table I summarises the data necessary to the weighting coefficients' calculation.

If m_{ij} is the score corresponding to the review for the show in the newspaper j during year t , the average score m_t of reviews for the show for year t will be given by

$$m_t = \sum_{j=1}^3 a_{ij} \cdot m_{ij} \quad (3)$$

The score associated with a partial absence of reviews is the average of the minimal score 1, in the case of a show of no interest at all for the critic, and the maximum score (*crit*) if the critic who was too busy to see the show shared the same judgement as her/his colleagues, weighted according to the share s_{ij}^R of shows reviewed in the newspaper(s) j in question. The suggestion is to attribute the score $s_{ij}^R \cdot 1 + (1 - s_{ij}^R) \cdot \text{crit}$ to the missing review of newspaper j for year t . The absence of a review is thus considered more penalizing in a newspaper with a better coverage of shows. The total absence of reviews is given the score 1.

Calculation of the value attributed by critics to the theatrical production of an institution poses a problem of aggregation that is similar for performances of shows ignored by *Le Monde*, *Libération* and *Télérama*. The solution would be similar if we used as a weighting coefficient the share M_t of theatrical performances in year t in all the institutions that were reviewed (45.32% in 1995, 44.86% in 1996).

Assuming that a theatrical institution put on p shows, of which k were reviewed and were given the score m_{th} for show b (represented y_h times), the value q_{1t} attributed by critics to theatrical production of the institution for year t would be estimated by

$$q_{1t} = \left(\frac{\sum_{h=1}^k m_{th} y_h}{\sum_{h=1}^k y_h} \right) \cdot M_t + (1 - M_t) \left(\frac{\sum_{h=1}^k m_{th} y_h + \sum_{h=k+1}^p y_h}{\sum_{h=1}^p y_h} \right) \quad (4)$$

Since clear-cut advices attract more attention than nuanced judgments, the impact of drama critics on attendance is better specified with dummy variables q_{1wt} and q_{1ht} which are respectively equivalent to bad (or absent) and good critics.

The thresholds⁴ which specify the best model are

$$q_{1wt} = 1 \text{ if } q_1 < 3.1 \text{ in 1995 or } q_1 < 3.2 \text{ in 1996 and 0 otherwise}$$

$$q_{1ht} = 1 \text{ if } q_1 > 4.9 \text{ in 1995 or } q_1 > 5.2 \text{ in 1996 and 0 otherwise.}$$

3.2 THE VARIABLE OF THEATRE PROGRAMMERS (q_2)

Through their choice of programme, the directors of theatrical institutions participate actively in judgments on the quality of production. They discriminate between directors by controlling access to artistic legitimacy in the theatrical world.

Annual reports on the activities of theatres and national drama centres, and analytical budgets of regional theatres' shows, enable us to construct a matrix of performances of shows produced by

each theatrical institution and presented by others⁵.

Inter-organizational relations also concern co-productions. They were included only if the share contributed by each institution was detailed in the budget allocated to preparation of the show. In general, this information is provided only in the annual reports of CDNs, CDRs, and CDNEJs. In these cases, the number of performances on tour in the institutional network was distributed as far as possible between the different co-producers, in proportion to their participation in the budget allocated to preparation of the show. This taking into account of co-productions has made it possible to increase the density⁶ of the matrix of inter-organizational exchange from 0,1 to 0,23, but it remains low. Theatrical institutions are therefore not structured in segmented inter-organizational networks.

The network centrality in terms of degree indexes the number of adjacencies for each point with other points (Freeman, 1979, p.221). These may be internal (coming from others) or external (towards others). The chosen variable q_{2t} is the normalized internal degree centrality, that is, the number of performances of shows produced by other theatrical institutions, scheduled by the theatre, divided by the maximum centrality of the network. It is used to measure the public's sensitivity to institutional quality assurance.

As drama critics, weak and strong centralities have deeper impact on attendance than medium ones. The best thresholds found for dummy variables⁷ are

$$q_{2wt} = 1 \text{ if } q_2 < 15 \text{ in } 1995 \text{ or } q_2 < 16 \text{ in } 1996 \text{ and } 0 \text{ otherwise}$$

$$q_{2ht} = 1 \text{ if } q_2 > 46 \text{ in } 1995 \text{ or } q_2 > 47 \text{ in } 1996 \text{ and } 0 \text{ otherwise.}$$

3.3 THE VARIABLE OF PUBLIC AUTHORITIES (q_3)

In spite of their weak flexibility, theatrical institutions' subsidies are distributed according to a political assessment of their artistic interest and the civic role they play in city's life. For instance

the Culture Ministry's experts evaluate the mission of a CDN director through the artistic characteristics of his creations (interpretation, direction, choice of repertory) and the life of the institution (potential of resources, coherence of artistic programming, connections with the audience, area of influence). This aesthetic valuation of the production, which considers its degree of recognition by local population and peers, can also be modified by local political considerations.

Consequently the variable q_{3t} can be defined by the rate of growth of the subsidies in constant francs from last year in order to represent the judgement of public authorities on the quality of institutions' theatrical production. The public financing of the theatrical institutions is dominated by the State subsidies except for the regional theatres whose share of subsidies by local communities (city, department, and region) amounts to 64%. q_{3t} was thus divided in two variables: q_{3st} for the amount of the State subsidies in 1995 francs and q_{3lt} the one for local communities which can be more sensitive to the median voter's demand (Jenkins, Austen-Smith, 1987, p.155). Only significant variations have been retained and dummy variables are defined by

$q_{3st} = 1$ if the yearly growth rate of state subsidies is more than 8% and 0 otherwise

$q_{3lt} = 1$ if the yearly growth rate of local subsidies is more than 8% and 0 otherwise.

3.4 THE VARIABLE OF REPERTOIRE (q_4)

The repertoire was classified using the four following categories:

- A for the «classical» authors who died before the twentieth century;
- B for the authors died in the 20th century and whose play was written before 1980;
- C for authors who write in French, still alive or dead if their work was published after 1980
- D for authors in the contemporary category but whose work was written in a foreign language (usually translated)

The vector of dummy variables corresponding to the repertoire was therefore specified as

$q_{4A} = 1$ if the part of performances programmed and belonging to A is superior to the overall average more 10%, 0 otherwise ;

$q_{4B} = 1$ if the part of performances programmed and belonging to B is superior to the overall average more 10%, 0 otherwise ;

$q_{4C} = 1$ if the part of performances programmed and belonging to C is superior to the overall average more 10%, 0 otherwise and

$q_{4D} = 1$ if the part of performances programmed and belonging to D is superior to the overall average more 10%, 0 otherwise.

4. Econometric results

Overall results about the impact of price, volume, previous consumption and effects of repertoire will be presented. A partition of theatrical institutions according to the sensitivity of visitors to the different types of mediators will be then proposed in order to show the interest of an hypothesis about possible conflicts of appraisal and confidence.

4.1 OVERALL RESULTS

The specification of dummy variables in section 3 allows to complete equation (2). The weight of the parameters has been evaluated by the LS regression equation:

$$Y_{dt} / S_t = \alpha p_t + \beta S_t + \chi C_t + \delta_0 Y_{d,t-1} / S_{t-1} + \delta_{1w} q_{1wt} + \delta_{1h} q_{1ht} + \delta_{2w} q_{2wt} + \delta_{2h} q_{2ht} + \delta_{3s} q_{3st} + \delta_{3l} q_{3lt} + \delta_{4A} q_{4At} + \delta_{4B} q_{4Bt} + \delta_{4C} q_{4Ct} + \delta_{4D} q_{4Dt} + e_t \quad (5)$$

where the explanatory variables are center-reduced for an easier yearly comparison of the estimated coefficients. The LS estimates of the coefficients are given in table II for all the 87 theatrical institutions selected in 1995 and 1996⁸.

The matrices of variance show that dependencies between regressors are very low. The only exceptions concern coefficients of correlation between $Y_{d,t-1}/S_{t-1}$ and C_t ($\cong 0.5$), q_{2wt} and S_t ($\cong -0.5$). It is another advantage of the specification of quality judgements with dummy variables. Continuous variables should have given higher coefficients between state subsidies, programmers' centrality and the number of performances.

A main result is the strength of habits of consumption. δ_0 is the highest coefficient and is stable from 1995 to 1996. Theatrical institutions seem to have maintained a regular audience whose perception of the quality of their programming is rather stabilized. Stigler and Becker (1977) interpret these habits on the basis of the capital of consumption accumulated. An increase of its standard permits the household to reduce the cost of production of their individual satisfaction on the specialised product. So past investments determine the trajectory of addicted consumption. Another way is to preserve the intertemporal separability of the utility function conditional on past consumption as Lévy-Garboua and Montmarquette (1996, p.29) did. They formalise previous experiences like an accumulation of good or bad surprises by which one individual discovers one's tastes. They influence consumers' anticipation of the subjective quality of goods.

The coefficient α of the variable of price is positive and significantly different of zero at the 95% threshold in 1995 in the reduced model with step to step regression. But in 1996 it is slightly negative and not enough significant while average price and standard deviation are similar.

The latter result on price-inelastic demand is unsurprising. In their inventory, Heilbrun and Gray (1993, pp.90-91) have shown that economists' estimates got similar conclusions for demand of performing arts with a price index based on ticket receipts per attendant⁹. The former is more disturbing. We have to suppose income elasticity has been higher than price elasticity in 1995 or

the levels of price and perceived good quality have been associated.

Logically the capacity of venue C_t is positively correlated with the number of paying visitors per performance. The coefficient β of S_t is negative but not enough significant. It indicates that the attendance per performance is slightly decreasing when a production is more frequently performed.

The most significant variable of repertoire classification indicates risk aversion in 1995 to shows written by contemporary foreigner authors and in 1996 for French ones. The confidence in classical authors and those of the 20th century is regular but much slighter. The perception of contemporary French authors has changed from a positive view in 1995 to a negative one in 1996.

Local subsidies had a significant positive impact on attendance in 1996. Perceptions of quality by local collectivities were closer to those of paying visitors. The variable of state subsidies is rather insignificant because budgetary austerity limited means to rise public grants.

Drama critics' marks have apparently insignificant impact on visitors. We can notice an aversion to weak centrality in 1995 and a support to strong centrality in 1996 while these effects were respectively insignificant at another year.

4.2 CONTRASTED JUDGMENTS ON QUALITY

The apparent insignificant impact of drama critics on visitors hides two opposite influences whether the spectators of an establishment grant their confidence to drama criticisms or not, for instance when they attend shows that Parisian critics ignored.

To draw the attention, the Parisian drama critic must defend a theatrical taste. So she alternates enthusiastic adhesions and vengeful rejections whether the show illustrates or deforms her aesthetic principles. In the same way, new talents' discovery increases her standing. So she

focuses on certain institutions meant to propose innovative programming. Lastly, as she is very solicited, she privileges the Parisian establishments or of the immediate suburbs even if efforts were tried recently for a better coverage of provincial theatrical topicality. So drama critics' scale of values causes a contrasted theatrical production valuation, which clearly differentiates the institutions whether the local paying audience's tastes correspond or not to the critics' choices.

The dummy variables of q_{1t} proved to have an influence opposed in part to that q_{2t} upon the paying attendance. Two groups were made up each year from this differentiated impact. The obtained classification must nevertheless be relativized by the existence of some borderline cases that were in the right place in the two groups or on the contrary in none.

Table III gives the LS coefficient estimator of the center-reduced explanatory variables statistically significant at the level of 95% obtained by a step by step regression for each group in 1995 and 1996. As for the remaining variables, only the sign of their coefficient is indicated.

This specification improves the model since adjusted R^2 rises from 0,76 in 1995 and 0,67 in 1996 to 0,85 for all the four groups. The graphs of the residuals indicate that the linear correlation coefficient between the errors and the estimates of the dependent variable Y_d / S is very weak (from 0.112 to 0.128).

In group 1, paying visitors shared aversion to bad criticisms and adherence to good ones, which has been greater in 1996. They remained less distant to quality institutional assurance in 1995 where there have been indifferent to strong in-degree centrality while support to weak centrality was not enough significant. In 1996, they shared high aversion to strong centrality and were indifferent to the weak one. The habits of consumption were the highest in 1995. These regular spectators had a constant preference for classical shows but the interest for french contemporaries in 1995 moved to authors of the twentieth century in 1996. Local subsidies have

always a significant impact on attendance but valuation has been opposed in 1995 and followed the same way in 1996.

In group 2, visitors reacted on an opposed way to critics and programmers' advices. They were rather indifferent to bad criticisms but shared hostility to the good ones for the two years. Positive sensitivity to the in-degree centrality was visible with support to its strong level in 1995 and aversion to its weak level in 1996 but spectators were indifferent to the opposed category at each year. Since there were more occasional visitors in 1995, they shared aversion to foreign contemporary authors. In 1996, perceptions of repertory are more homogenous and risk aversion is centered on french contemporary authors as in group 1. They got a certain preference for authors of the twentieth century in 1995 but the one for classical shows was weaker in 1996.

If we assume that n_{it} is the share of the residual ascribable to the variables of quality for group i in year t , we deduce from (5) and table 3 the following expression of the variable of aggregated quality for each group:

for group 1 in 1995

for group 2 in 1995

for group 1 in 1996

for group 2 in 1996

In 1995 and 1996 theatrical institutions preserved the features of their group except two cases which passed from group 1 to group 2 and another one which followed the opposite way. The group to which establishments belong is indicated according to their legal status in the appendix.

4.2 THE LINK BETWEEN FUNCTIONS OF QUALITY AND ORDERS OF QUALITY

The expression of the functions of quality shows different combinations of modes of judgement which influence the quality perceived by the audience. It synthesises an order of quality that treats on a hierarchical basis the various groups of mediators' valuations.

The paying attendance with adjusted effect of repertory per performance Y_{dc}/S is more sensitive to quality than to volume in group 1 since in 1996 $\hat{\beta}$ is equal to 0.57 in group 1 and 0.8 in group 2. These gaps were similar in 1995.

In group 1, the drama critics' value allotted to production constitutes a reference mark which arouses the spectators' confidence. On the contrary, the importance of the inter-organisational relations in the theatrical institutions programme stirs up the audience's distrust. The mode of valuation of the State in subsidy distribution exerts a positive influence on the attendance per performance while the level of the local subsidies causes an opposite effect. So the State subsidies reflect a civic recognition of the artistic production and social utility of the establishment to which the spectators, influenced by drama critics, are sensitive. The habits of consumption measured by q_4 are a dominant behaviour.

In group 2, the confidence based on interpersonal ties dominates the perception of the audience with the certification of the peers of the instituted theatrical network (q_2) and the judgements of the spectators from the previous year (q_4). The selection in the programming of the shows produced by peers' theatrical institutions rests on a direct or indirect manager's personal knowledge of their work. However the need to be distinguished as a talents' discoverer can lead to a speculation on young directors according to a mimetic process of commercial nature. This decision-making process is yet rather connected to the programming of young fashionable

theatrical companies. The attendance per performance goes against the drama critics and is not very sensitive to the civic valuation of theatrical production. The estimated coefficients of the variables of State and local subsidies are negative.

So the perception of the spectators is influenced in the theatrical world by an opposition between two rival orders of quality. One favours the media fame and the national civic recognition while the other puts the institutional certification of the theatre programmers forward. The importance of the habits of consumption is a common feature.

4.3 IMPACT OF A FALL IN ATTENDANCE

The 81 theatrical institutions of the two groups experienced a fall of the paying attendance with adjusted effect of repertory per performance of 7,1% between 1995 and 1996.⁹ Logically this theatrical production depression is reflected in a decrease of the coefficient of q_4 in the function of quality and of the correlation of this variable with Y_{dc}/S . It is interesting to analyse the effect of the weakening of the consumption habits according to the types of function of quality.

The most influential sources of judgement on spectators' perceptions have been reinforced in each kind of quality functions. In group 1, the estimated coefficients of the variables of drama critics (q_1) and State subsidies (q_{3g}) appreciably progressed while the one of the normalised in-degree centrality index (q_2) became a little more negative. Conversely in group 2, the impact of q_2 was reinforced while the minus coefficient of q_1 was stabilised according to the comparison of the estimates where volume is measured by S . The sensitivity to the civic evaluation (q_{3g} and q_{3l}) is even more negligible.

The decrease of the attendance has been more sensitive in the group of the establishments

influenced by the media fame. With a comparable structure of repertory, the number of paying spectators per performance dropped by 9,5% in the first group against 5% in the second.¹⁰ Therefore the sensitivity to the programmers and the preceding spectators' personal judgements limited the audience's loss of interest.

The scatter coefficient, which is the ratio between the standard deviation of a distribution and its mean, is higher in group 1 especially for the attendance, the number of performances, the State subsidies and institution's artistic expenditures. This coefficient however did not increase between 1995 and 1996.

The institutions of group 1 differed from others by a strong rise from the number of shows they programmed (+11% against +1,2%) and a less expensive production, the artistic expenditure having dropped of 1,2% whereas they increased by 18,8% in group 2. The structure of their repertory has been more directed towards 20th century plays whose share in the performances increased by 9,3% while it dropped by 10,7% in group 2.

However the establishments reacted to the increased uncertainty by diversifying their strategic advantages. The mark of drama critics increased by 24,5% in the second group against 11,5% in the first. The institutions of group 2 thus shifted their programming towards the renowned shows used as reference products. The normalised in-degree centrality index increased by 37,5% in the first group and moved back of 4,6% in the second. Consequently the strategy of group 1 establishments has been to increase their inter-organisational links within the public theatrical network. So the managers of theatrical institutions rather sought to reduce their differentiation instead of reinforcing their specialisation on the characteristics to which their spectators are sensitive.

5. Conclusion

The perception of the quality of the theatrical production is thus subjective and is influenced

by the mediators' judgements. There are appointed experts or initiated spectators. The economic analysis must consequently be interested in the formation of balances in the combination of different sources to value the artistic production and the social utility of theatrical organisation. My study proposed an operational method to draw orders of quality from the weight of various sources of influence on the paying visitors' shows. Whereas the habits of consumption are a dominating behaviour's feature, the national theatres and drama centres, the national stages are differentiated by an opposition between the media fame from critics and the civic recognition from the State on the one hand and institutional certification from theatre programmers on the other hand. The fall of the attendance by performance between 1995 and 1996 led to a stronger divergence of the two orders of quality while the establishments rather sought to reduce their strategic differentiation. The audience more sensitive to drama criticisms appeared more volatile than the one who grants a confidence to the institutional label.

This work should be extended on two ways. A deeper view of theatrical institutions' strategies can result from the confrontation of elasticities of attendance and variable cost to volume and quality. A further longitudinal analysis would be desirable to check the structural nature of the features of the two types of function of quality.

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NOTES

¹ Because of missing data on attendance, 17 regional theatres have been excluded from the study. The amount indicated thus represents 89 theatrical institutions.

² Apart from the weekly magazines, Guy, Mironer (1987, p.44) show that theatre visitors' national dailies the most read are *Le Monde* and *Libération*. Their reading frequency is connected to regular attendance. On the last 12 months before the survey in 1987, on average 73% of the spectators were readers' daily in 1987 against 75% of the spectators who have seen at least five theatre shows. Among yearly attendants, 21% read *Le Monde*, 18% *Libération*, 9% *Le Figaro*, 2% *France-Soir*. For attendants' five shows, this frequency has been the same for *Le Figaro* and *France-Soir* but rose to 26% for *Le Monde* and *Libération*.

³ With this operation there is of course a questionable reduction. Someone else may have allocated different scores in the interpretation of the same comments, and slight differences are levelled out by a cardinal evaluation.

⁴ The average mark for all institutions was 4 in 1995 and 4.67 in 1996 and standard deviation respectively 1.39 and 1.3. Compared to the average, in 1996 the audience has been sensitive only to worse levels of weak critics' mark but to less high levels of good critics than in 1995.

⁵ The institutional network was extended to include organizations that actively participated in the circulation of shows. These include Swiss and Belgian theatrical institutions, Parisian municipal theatres, whether subsidized

or private, several municipal theatres (i.e. *théâtres missionnés* which received an additional subsidy, with a mission of increasing audiences) and the Avignon festival.

⁶ The density of the matrix of relations between actors is given by the relationship between the number of observed relations and the total number of possible relations.

⁷ The average of the normalized in degree centrality is 23.8 in 1995 and 24.9 in 1996 and standard deviation is respectively 25.65 and 24.6. So visitors' two years have been sensitive to the same deviations to average. The lower threshold is about $\bar{q}_{2t} - 0.35\sigma$ and the upper one is close to $\bar{q}_{2t} + 0.88\sigma$.

⁸ Two establishments have been excluded because their LS residuals were too much high. They experienced marked changes of scale in their theatrical production from 1995 to 1996.

⁹ However Abbé-Decarroux (1994, p.105) has found that demand for reduced price seats was price-elastic while demand for full-price seats was inelastic.