

The Economic Impact of friendly matches between national teams : the Case of the Handball Match France vs Slovakia

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ABSTRACT

Friendly sporting events involving national teams have been completely ignored by the scientific literature with regard to their contribution to the economy of the host territories. Nevertheless, this is a central issue for public management, since these events are part of an annual calendar of sporting events established by the local community, in partnership with sporting federations, in order to generate economic benefits at a local level. To appreciate the efficiency of their sporting events hosting policy, decision makers need valuations that do not only deal with mega-sporting events, but also with intermediate sized events, such as friendly matches involving national teams. The analysis conducted on an international handball match between France and Slovakia provides a first series of lessons about the economic effects of such events, which appear relatively modest. However, by comparing that economic benefit to the limited cost bared by local taxpayers, the return for local authorities is far better than for mega-sporting events, which implies huge amounts of public expenditure.

Keywords : Public management ; Economic Impact ; Friendly sporting event ; Expenditure structure ; Socio-economic profile

JEL Classification: R11, R34, R58, L83

Introduction

Economic evaluation of sporting events, until the late 90s, was equated with economic impact study. Sport economists, then, showed the need to go beyond this simplistic approach (Barget & Gouguet, 2010; Késenne, 2005; Baade, 1996), and complete it with a cost-benefit analysis, to identify all dimensions of event¹. The case studies that were chosen in this preliminary work were especially the Summer Olympic Games (Preuss, 2004), the America's Cup (Center for Economic Research, 1985) and Formula 1 Grand Prix (Burns et al., 1986). Large multi-site events such as FIFA World Cup (football) or the IRB World Cup (rugby), have for a while been excluded from the analysis, because of specific methodological difficulties². Today, all of the hallmark sporting events, that is to say events with a particularly strong attraction potential of fans (Ritchie and Yangzhou, 1987; Preuss, 2006) had been the object of an assessment economic, moreover always reduced to a more or less

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¹ The economic effects has to be considered, but also impact on the notoriety of the territory abroad, the social utility, the sporting impact.

² One of the main and specific difficulties was the choice of the appropriate region for the analysis.

restrictive impact study. These reports are generally written during the bidding period to host the event and are dedicated to influence national and international sports bodies in the decision process. Despite this enthusiasm for economic impact studies, sporting events of intermediate size were however largely ignored in the economic literature, even if some researchers showed that they can contribute substantially to the development of host territories (Gratton et al., 2001). If few events of national importance have still been analyzed by sport economists and managers, including the *Moselle tennis Open* (Barget & Ferrand, 2011), friendly matches between national have, to our knowledge, not been submitted to any serious economic investigation.

International friendly matches are special sporting events, so that it is necessary to look at their particularities before to process to the economic valuation. The task is not easy as the categories of sporting events that had been established till now are to be improved. From heterogeneous criteria, classifications have been established by both management specialists (Desbordes and Falgoux, 2007; Bessy and Gresser, 1999), by sport economists (Downward, Dawson & Dejonghe, 2009), or again by practitioners (Augier, 2009). For our purposes here, we used a typology crossing frequency of the event and the type of sport (Chart 1). If this characterization was initially established for hallmark events, it is well suited for smaller scale events such as friendly matches. These matches fall into the second category gathering unique events, occurring only once in a given territory, and involving collective sports. There is a difference of scale between these notorious friendly matches, whose international character is linked to the participation of national teams rather than to the area of fans attraction, and major events such as planetary events like football or rugby world Cups. That is the whole point of this article to develop a methodology for economic impact calculation for smaller size events. Beyond the impact calculation itself, this will involve a reflection on indicators that could legitimately been used to compare the effects on economic regional development of these events, to the ones of the largest mega-sporting events.

Chart 1 : Friendly matches and the categorization of international sporting events

	CATEGORIES	FEATURES	EXAMPLES OF EVENTS
OLYMPISM	Multisports games 1	<ul style="list-style-type: none"> . Several sports . Property of Olympic institutions . Occuring over a short period . Each time in different locations 	<ul style="list-style-type: none"> . Summer Olympic Games . Winter Olympic Games . Other multisports games <i>Commonwealth Games, Pan American Games...</i>
	Unique events Team sports 2	<ul style="list-style-type: none"> . A team sport . National teams . Unique events, taking place over a few days . Bidding process for each edition 	<ul style="list-style-type: none"> . FIFA World Cup football . Rugby world Cup . World Championship in basket . Euro of football, European championship in basketball... . Friendly matches between national teams (<i>France vs Slovakia</i>)
TEAM SPORTS	Regular events Team sports 3	<ul style="list-style-type: none"> . A team sport . Club teams . Regular event in the city . Several matches each month 	<ul style="list-style-type: none"> . National Professional Championships in football (Premier League, Bundesliga, L1,...) . National Professional Championships in other team sports (in Rugby, in basketball...) . Champions League, H-Cup rugby...
	Unique events Individualistic sports 4	<ul style="list-style-type: none"> . An individualistic sport . Unique event taking place over a few days . Bidding process for each edition 	<ul style="list-style-type: none"> . World Championships: track and field, gymnastics... . America's Cup . Davis Cup matches
INDIVIDUALISTICS SPORTS	Recurring events Individualistic sports 5	<ul style="list-style-type: none"> . An individualistic sport . Taking place in general each year . Generally included in a professional tour or championship 	<ul style="list-style-type: none"> . Dakar rallye . Golf opens: British open... . Gran Slam Tennis tournaments: Wimbledon, Roland Garros... . Marathons : Paris, Londres, New-York... . Cycling tours: Tour de France...

Source : adapted from E.Barget, 2008

This article is organized into three parts. First, the methodological framework is presented in relation with specificities of the event that is analyzed. We then present the way Data were

computed and the main results. Finally, we try to find the reasons that explain why the amount of economic impact is quite weak, and put this situation into perspective considering the level of involvement of the municipality.

Methodological framework

Characteristics of friendly sporting matches involving national teams and delimitation of the analysis

The France handball team is the only team in the history of handball to win five major tournaments in a row³. Because of these overwhelming results, and of this team reputation, each match played by this team is an opportunity for local handball institutions to develop practice of this sport in the host city and region. Public authorities, whose funds are involved, are eager to help the handball federation in its development strategy, but they basically hope to provide economic benefits to various sectors of the local community (transport, accommodation, tourism). As part of the preparation for the Euro⁴, a training period was scheduled in Boulazac between October 31 and November 6, 2011, with two friendly matches against the national team of Slovakia, one in *Limoges* (in the *Beaublanc Arena*) November 3, 2011, the second Boulazac (in the arena *Le Palio*) November 5, 2011. This is the first of these two matches, played in *Limoges*, that we chose as case study. We had the opportunity to work with the sports department of the municipality and the regional league of handball which was in charge of the organization (in relation with the French Federation of Handball).

Friendly matches are characterized by two main features, one, the territorial dimension, the second, the temporal dimension. First, unlike the mega-sporting events, they do not have great potential of attraction international visitors, even fans from the rest of the country. Therefore, they have a strong local dimension, and from this point of view are closer to local public goods than global public goods (Bourg and Gougnet, 2007; Loret, 2008). The location is chosen by the sports federation they belong to in order to develop enthusiasm for this sport at the local or regional level, both for spectators and potential participants. They are comparable, in this respect, to official competitions such as Fed Cup or Davis Cup (for tennis), because the primary purpose is not to generate monetary benefits and economic impact. This is reflected in the choice of the relevant area of analysis which will be the city and not the county, the region or the nation. Given the attraction area of these events, the economic impact would become very quickly zero if we increase the size of the territory; indeed there would remain only few external spectators likely to make a monetary injection. For the match France-Slovakia, the number of tickets available was limited since the event was lasting only one evening, and the attraction area small (spectators traveling only few kilometers), so that the city of *Limoges* was considered as the relevant territory for the analysis. This is a medium sized town (140 138 inhabitants), ranked at the 24th place of French city. It is located in the heart of an urban area of 266,887 inhabitants. The city has a diversified economic structure, characterized by small and medium sized companies, but also by some famous names of the industrial sector⁵.

³ Olympic Champion in 2008 and 2012, World Champion in 2009 and 2011, Europe Champion in 2010.

⁴ The Euro was held from the 15th to the 29th of January 2012 in Serbia.

⁵ *Legrand*, *Bernardeaud* et *Haviland* (porcelains), *Allia* ceramics, *Weston* shoes maker, *Renault trucks*...

The second characteristic of the friendly matches between national teams is their brevity, even if one makes a comparison with the mega-sporting events that take place over several weeks. Friendly matches are part of a tour of the national team, and the stay in each of the host cities is very short. The preparation phase for the municipality is also very short, because there is no major construction: rather they seek to use existing facilities⁶, with some minor works when necessary. Therefore, neither the issue of injection through investment expenditures, which may take place on several years, nor the discounted inflation rate, arise. The rehabilitation phase is also short, not more than a couple of days. Thus, the period of analysis can be focused on four weeks including the preparation phase (2 weeks), maintenance and post-event period (2 weeks). This is the choice we made for the analysis of the handball match held in *Limoges*, for which most of the costs were supported by organizers and spectators on a short period of time. The teams and officials stay was also short-lived. *Limoges* and *Boulazac* being close⁷, players came by bus and were not accommodated in the city. The methodology is simpler than for large sophisticated events, not having a unity of place and time. This does not mean that there are no territorial opportunities, including economic ones, but this match has to be considered as part of a more comprehensive sporting events hosting policy of the city. It is included in an annual calendar including events of varying size, ranging from national championships in sports that are not publicized to big events such as the Tour de France⁸, or friendly matches such as the one studied. This strategy, sometime described as systematic (Chappelet, 2006) is only possible because *Limoges* is a town really involved in sport, with a lot of sports fans and some high standard sporting facilities including the *Beaublanc arena*, which hosts the prestigious basketball club *CSP Limoges*.

Principles of economic impact calculation: the case of small territories

The economic impact study is an implementation of regional economic development theories, more precisely of models that consider growth can only come from an exogenous pick of demand (the origin is located outside of the territory of reference). The researcher seeks to assess to what extent a sporting event affects economic activity of the host territory. The impact calculation is based fundamentally on a spatial relationship between space chosen for the analysis and outside, so that the origin and destination of financial flows are essential. It is considered that there is a monetary injection only if coming from outside and has a local destination, so that the level of economic activity is affected. Purchases of goods and services on the one hand, the remuneration paid, on the other hand, must be distinguished. 1) For purchases of goods and services, leakages have to be deduced in a way to establish the "net" injection of money. Indeed, this consumption contains some imported goods: goods that were purchased during the event may have been manufactured outside of the town, in which case there is only the margin of local dealers that remains locally. It is generally taken into account by multiplying the growth injection by the rate of local value added (60% for *Limoges*), which reflects the share of expenditure that remains locally; it gives the net injection. 2) In the case of remuneration paid to employees living in the city, the global amount is considered as a net injection.

It is this approach that will be applied stage by stage thereafter. We will deal first on the operating expenditures from the handball Regional League, and secondly on expenses of spectators coming from outside of the city (visitors) to attend the game. We shall not

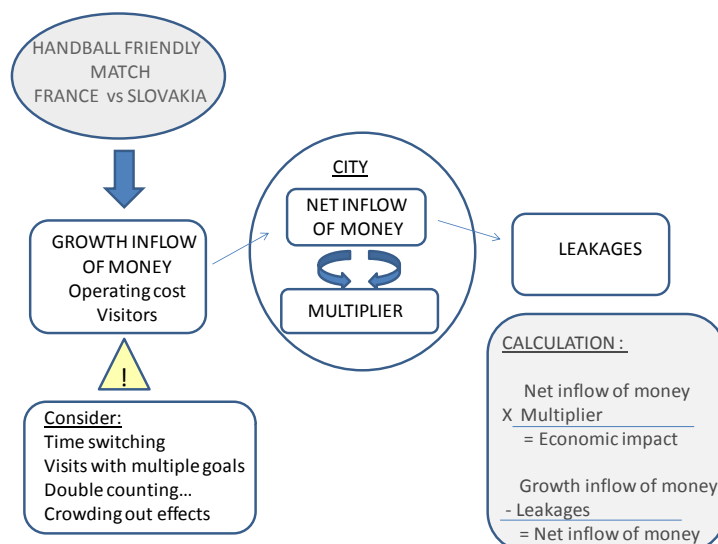
⁶ The *Beaublanc arena*, where the match was played, was built in 1981.

⁷ About 154 km and 1 hour and a half driving.

⁸ A stage of the Tour de France is hosted in *Limoges*.

distinguish, as is usually the case, the investment in the construction of sports facilities. Indeed, work required to host sporting friendly matches are limited, and the expenditure is included in the budget of the organizing committee. From this point of view, friendly matches appear more as an opportunity to maximize occupancy of existing sporting facilities, and to contribute to the financing of their operating costs, rather than justifying the construction of new ones. The calculation method of the net injection resulting from operating expenses, and from fans consumption, is relatively simple in its principle, but more complex in the implementation. It is so because of potential time-switching of expenditures⁹ and because of travels with multiple goals (Kurscheidt, 2009; Fourie et al., 2009). There is also a risk of double counting, in particular for entrance fees that can be counted as an injection once through spectator's expenditure, and a second time through operating expenditure of the organizing committee that is largely funded by ticket sales (Burgan and Mules, 1992; Barget and Gouguet, 2011). The methodology that is implemented avoids the pitfalls that have been mentioned here for the measurement of the injection, and relies on a calculation of the multiplier that is rooted in economic theory. This multiplier reflects how the money coming into the city generates additional economic activity through successive rounds of spending and revenues¹⁰. The overall process of income generation associated with the hosting of a sporting event is presented in Chart 2.

Chart 2: Economic impact calculation: a global view



Source: Author

There are different methods of calculating the multiplier, some are disaggregated as Leontief (or input-output) multiplier, others are global, as the Keynesian or the economic base multiplier. It is this latter model that has been used here. This choice is legitimate because we are working on a small size territory (the city of Limoges), and because the information required to establish the Leontief multiplier¹¹ or to compute sophisticated macroeconomic models of Keynesian type¹², is generally not available at this spatial level. The data required for such models must then be taken from national accounts and adapted to the region at stake, which seems irrelevant to reflect the specificities of the local area. It seems preferable to

⁹ Spectators that simply switched their visit, and their associated expenditures, over time.

¹⁰ Expenditures of inhabitants that benefited from the injection are in part converted into revenues for other people living in the area.

¹¹ In particular data on inter-industries relationship and on inter-regional trade are required.

¹² Propensity to consume, save, and import are necessary.

select the economic base theory to analyze the impact that monetary injections associated with a friendly international match can have on the overall economy of the host city. The economic base multiplier is aggregated, but it makes possible to take into account local economy characteristics.

This former theoretical model (Hoyt, 1957) has been rehabilitated (Gouguet, 1981) and more recently developed through the concept of presential economy (Davezies, 2008). The base theory relies on the distinction between basic activities, source of exogenous inflow of money into the region¹³, and induced activities that satisfy the needs of the local population. The base multiplier reflects the successive rounds of income and expenditure benefiting the induced sector, for each monetary unit attracted in the region by the basic sector (eg a sporting event). The formula for the multiplier (K) results from a meta-analysis published in a scientific review (Vollet-Bousset, 2002). The estimate is as follows:

$$K = -0,53 + 0,17 \ln \text{POP} - 0,025 \ln \text{PRI} + 0,083 \ln \text{TER}$$

The positive relationship between the size of the population (POP) and the multiplier value can be explained by the influence of the degree of diversification of the regional structure. We can make the assumption that the larger the area (and its economy diversified), the lower the propensity to import and the higher the propensity to spend locally, so that the value of the multiplier is high. The influence of the workforce structure on the value of the multiplier confirms the results of previous analysis: all things being equal, the multiplier will be much higher when the proportion of tertiary employment (TER) is strong and the proportion of primary employment (PRI) is weak. In the city of *Limoges*, there are 140,138 inhabitants, the percentage of employment in the primary sector is 0.4%, and 82.9% in the tertiary sector, so that the value of the multiplier is 1.61.

Modality of implementation of the economic impact calculation

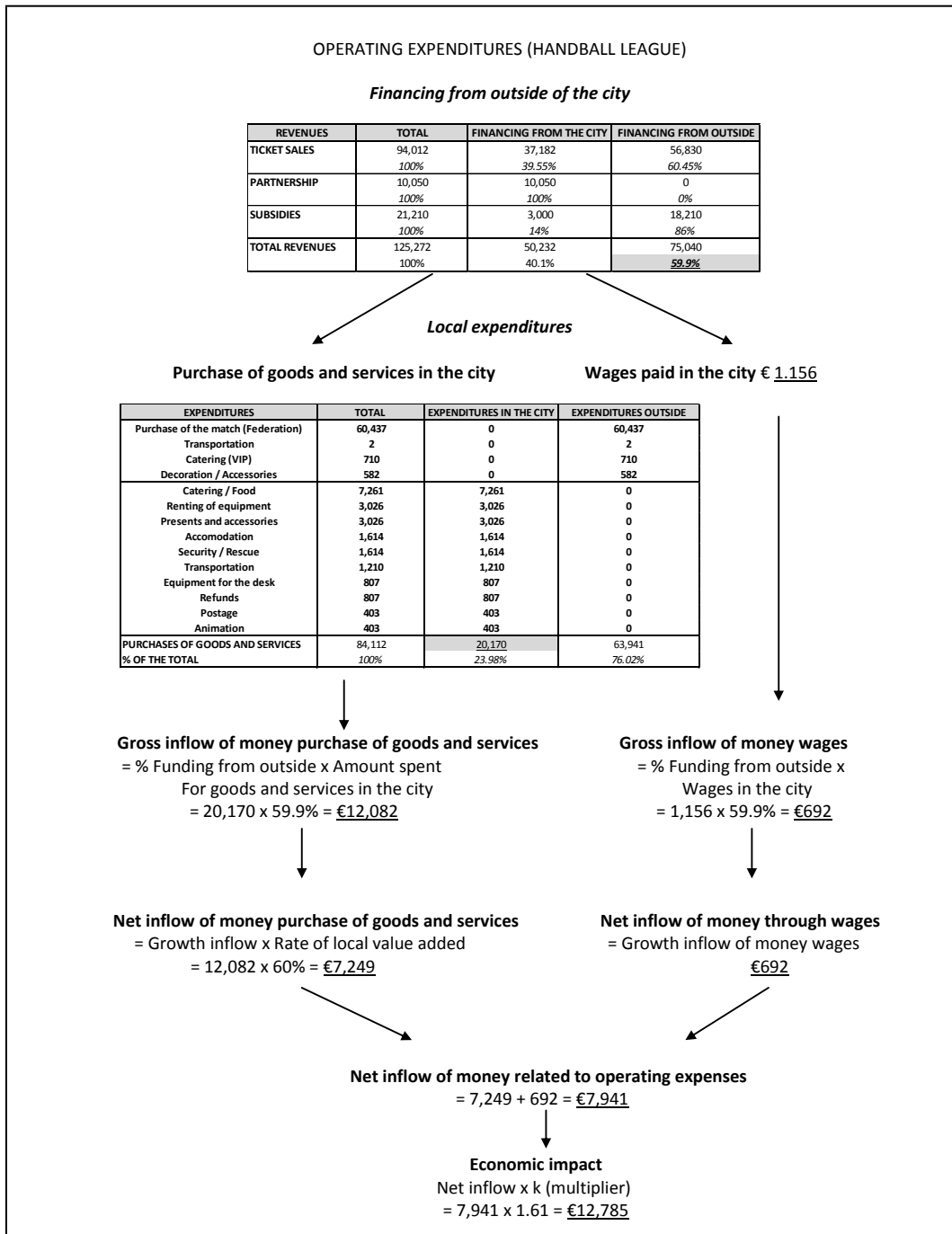
The impact comes from two sources: the first is closely linked to the organization of the event, the second is the result of tourism spending. We will specify the method of calculation used in both cases, the logic being the same.

Calculation of the impact resulting from operating expenses

The data needed to calculate the injection coming from operating expenses are centralized by nature; as there was no organizing committee established, the data are directly available from the handball league of *Limousin* that incurred these types of expenses. Obtaining the budget from the league is a first step. However, insofar as the budget had been established according to an accounting and not a spatial logic, interviews administered to the League leaders are critical to know the territorial breakdown of revenues (spatial origin of funds) and of expenses (spatial destination of expenses). From these quantitative data, the impact coming from operating expenses was calculated as mentioned in Chart 3.

¹³ Exports of products manufactured locally, interests on financial assets abroad...

Chart 3: Calculation of the injection coming from operating expenses



Source: Author

The percentage of external financing is relatively high (59.9% of revenues) because we are working on a small territory. Thus, more than 60% of tickets were sold to fans not leaving in the town, and 86% of grants are from outside (Chart 4)¹⁴. Even if 100% of funds are from local companies, the partnership¹⁵ fails to reverse the trend of a strong external funding,

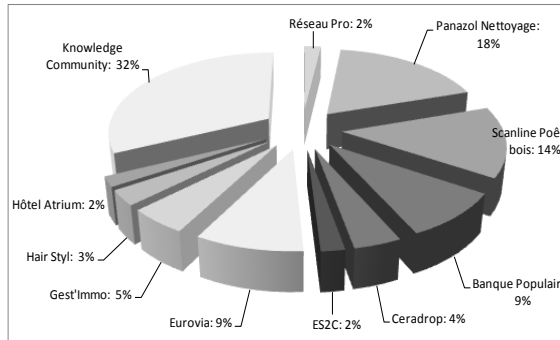
¹⁴ 12,000€ from the Regional Council of *Limousin*, €5,000 from the County Council of *Haute-Vienne*, €1,210 from the French Handball Federation, €3,000 from the Municipality of *Limoges*.

¹⁵ The main partners of the event are mentioned on Chart 4.

because the amount of money is limited (€10,050). From the point of view of the territorial origin of funds, we could expect that the economic impact would be significant.

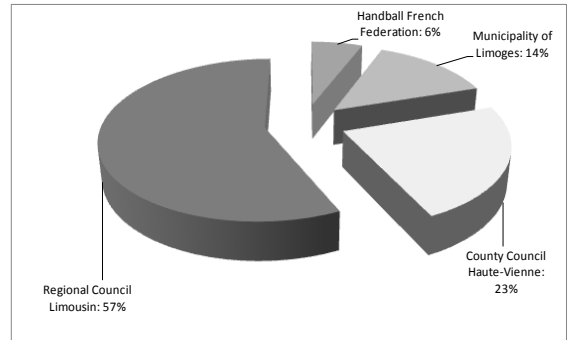
Chart 4 : Main revenues of the handball league

Structure of partnership



Source: Author

Structure of subsidies



Source: Author

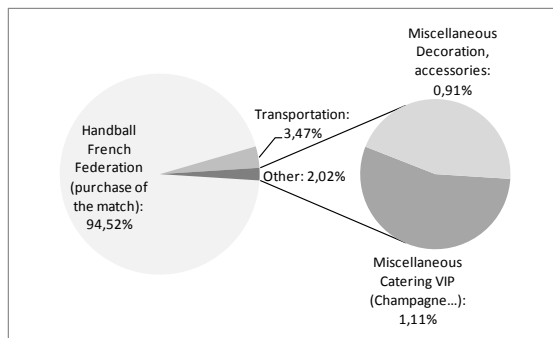
Concerning the territorial breakdown of operating expenses¹⁶, there is a large proportion of spending on goods and services represented by the purchase of the game to the national federation (€60,437 or 71.8%). These organizational characteristics contradict the favorable trend observed from the point of view of territorial breakdown of financing. The economic impact may ultimately be limited because of the massive spending (through the purchase of the match in particular) outside the city of *Limoges* (left side of Chart 5). Moreover, taxes amounted to € 13,707, the global amount being collected by other public authorities rather than by the municipality. This money leaks outside of the local economy and is not mentioned on chart 5 which focuses on purchase of goods and services. The right side of Chart 5, shows the breakdown of € 20,170 of expenditure in *Limoges*. The first cost for the league is catering, followed by the renting of the equipment, then gifts and accessories, and lastly accommodation¹⁷. Salaries are all paid to employees living in the area, but they remain relatively modest (€ 1,156), and thus they can't significantly contribute to increase the size of the impact (Chart 3).

¹⁶ Operating expenses amount to €84,112.

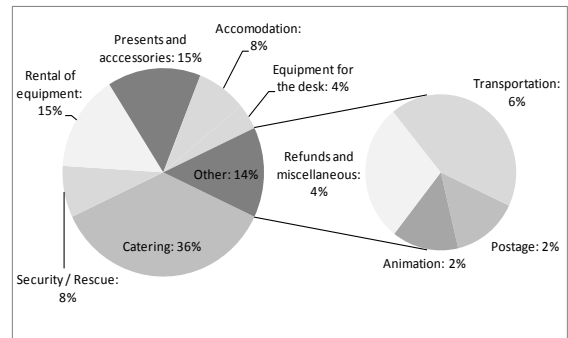
¹⁷ We have to recall here that the teams were not accommodated in the city.

Chart 5: Breakdown of the main operating expenditures

Purchase of goods and services outside



Source: Author



Source: Author

Purchase of goods and services in the city

The way the net inflow of money and then the economic impact were calculated is summarized on Chart 3 that had been previously presented. As mentioned in the methodological part, we distinguished purchases of goods and services, on one hand, and salaries paid to employees on the other hand. The economic impact resulting from operating expenditures amounts at €12,785.

Calculation of the tourism impact

The impact resulting from visitor spending is more difficult to address because it requires data that are not centralized in a unique institution, and have to be gathered: each viewer holds a piece of information (the amount of his/her expenditure). It is essential in these conditions to conduct an investigation inside the arena to measure the tourism impact. From the point of view data collection, as we did not have precise information about spectators attending the event, a questionnaire was administered to fans older than 18. They were randomly selected and interviewed face to face. Two hundred and twenty questionnaires were completed¹⁸. The representativeness of the sample can be accepted because investigators were distributed among the access points to the *Beaublanc Arena*. Thus, for data collection, we took into account the features of the sports facility in which the match was played. Wearing badges and accreditation granted by the handball league of *Limousin* was decisive: in general, respondents were cooperative.

¹⁸ Data collection had been completed by 16 graduate students in sport management from Limoges University.

Chart 6: The spectator's questionnaire

The questionnaire consists of 22 questions, distributed into the following parts:

- *Place of residence of the respondent, who also indicates its mode of transportation;*
- *Reason for his coming (only for those not living in Limoges);*
 - *Composition of the group (number and type of accompanying persons, family members being distinguished);*
- *Stay (indicating the nights away from home);*
 - *Breakdown of expenditure in the city and of overall expenditures for several consumption items (food, accommodation, spending in the stadium, outings);*
 - *Socio-economic profile of the respondent (age, sex, marital status, degree and qualification);*
- *Category of seat;*
- *Remarks about the interview and behavior of the respondent.*

Source: Author

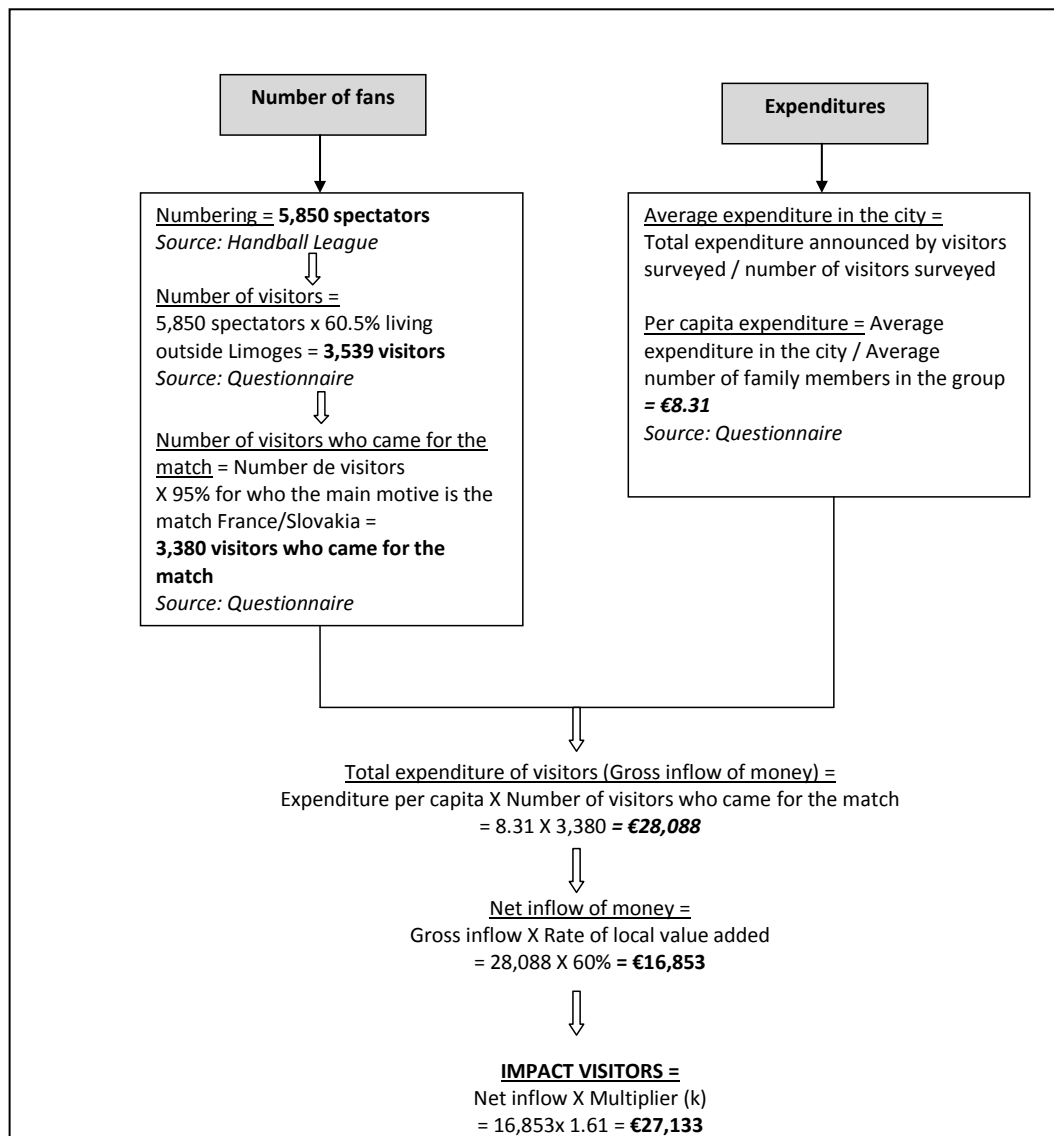
Calculation steps for the economic impact of visitor spending are summarized in Chart 7. The number of spectators from outside the city has to be estimated, as well as average expenditures. From data on global attendance (5,850 spectators) provided by the handball league, we distinguished spectators from outside of the city¹⁹ on the basis of the home postal code. Only visitors who came specifically for the game are to consider, but not casuals who took advantage of their presence to attend the game. According to answers to a question on the spectator's motives of the travel, these people who were in the city for another purpose represented about 5% of visitors. For them, the match can't be considered as the main reason of their stay in the city, and therefore not the determinant of their local expenditures.

The average expenditure made by each visitor (spectator not living *Limoges*) was determined. This amount incorporates all items of purchases in the city, but tickets have to be excluded to avoid double counting as previously explained. Insofar as it was asked in the questionnaire to provide an amount of expenditure for the whole family it was necessary to calculate the expenditure per capita by dividing the number of persons in the household who came to *Limoges*. Expenditure per capita is low and unlikely to generate a huge economic impact, since it amounts to € 8.31. By multiplying the expenditure per capita by the number of visitors we get injection gross (€ 28,088).

It remains, in a conventional manner, applying the rate of local value added (since it is the purchase of goods and services) to get the net injection (€ 16,853), and then the multiplier, to determine the amount of economic benefits (an economic impact of € 27,133).

¹⁹ Local fans were supposed to simply switch their expenditures for the match from other type of expenditures for leisure and recreation, so there is a substitution effect.

Chart 7: The calculation of the inflow of money from visitors



Source: Author

If we aggregate the impacts related to the organization (operating expenditures), and the one resulting from spectators spending (tourists expenditures), we obtain a total of € 39,918. The first type of impact represents 32% of the overall impact, and the second 68%.

The main reasons of the low economic impact

Main results: an economic impact of a limited amount

Economic benefits (€ 39,918) are small compared to the budget of league for the event organization (€ 125,272), each euro spent to host the meeting generating € 0.32 of economic impact. By dividing the economic impact by the number of viewers, it appears that € 6.8 economic benefits are distributed in the city for each visitor. However, insofar as the support of the municipality is limited²⁰ the ratio between the economic benefits and the expenditure of the municipality for the event is very high (€13.4). More generally, a public subsidy of € 1

²⁰ The financing can be estimated at €2,970, excluding the operating costs of the arena that was at the disposal of handball league for free.

(from the city, County Council, and Regional Council) provides benefits of € 1.98. This is related to the fact that public spending for hosting the event are moderate, the bulk of funding being provided by tickets sale (€ 94,012). Thus, even if the impact is small in absolute terms, it corresponds to the creation of economic activity at a lower cost for taxpayers.

Comparisons can be made with the results obtained for other types of sporting events, of heterogeneous sizes, that had been organized in France in the past and analyzed using a similar methodology (Chart 8). The World Cup Rugby 2007 generated a cumulative impact on the eight host regions of €589.9 M (Barget & Gouguet, 2010), which corresponds to € 2.3 of benefits for € 1 of spending from the organizing committee²¹. The impact of the World Cup amounts at 308 € per viewer. Over expenditures of public local authorities (cities, counties, regions), 1 € from taxpayer has resulted in € 6 of economic impact. Beyond the difference in the size of the event between a friendly match of handball and the Rugby World Cup, it is clear that the magnitude of the economic impact of each of these two events may be interpreted in different ways depending on the indicator that is selected. The ratio between the economic impact and the public expenditure shows that a friendly match may be, in relative terms, a good deal for the host territory, including by comparison with a global event like the Rugby World Cup.

When it comes to the *Tennis Open of Moselle* (Barget & Ferrand, 2011), the economic impact for the county amounted to € 581,274, or € 0.34 for € 1 spent for the organization²², and € 40.5 for each spectator in average (much higher than for the handball match that can be explained by the importance of the tennis tournament as a platform for public relations, what is offsetting the weakness of spending by spectators who were not very numerous and spent a small amount of money), and € 0.36 per euro spent by the municipality of Metz and the County Council of *Moselle*. The latter figure emphasizes again the fact that if the economic impact of the match between France and Slovakia is limited in its amount, when the ratio is established with the public expenditure, the event then presents an attractive return; this is even more clear when the comparison is made with a sporting event very costly for the taxpayer as the *Tennis Open of Moselle*.

Chart 8: Comparisons between the handball match France vs Slovakia and other sporting events

SPORTING EVENTS	AMOUNT OF ECONOMIC IMPACT	IMPACT FOR € 1 FROM THE ORGANIZING COMMITTEE	IMPACT FOR 1 SPECTATOR	IMPACT FOR € 1 FROM PUBLIC AUTHORITIES
Handball Friendly Match France-Slovakia	39,918	0.32	6.8	1.98
Rugby World Cup 2007 in France	589,900,000	2.3	308	6
Tennis Open of Moselle	581,274	0.34	40.5	0.36

Source: Author

Comments on Chart 8:

Impact for 1€ from the organizing committee: economic impact divided by the global expenditure from the organizing committee

Impact for 1 spectator: economic impact divided by the number of spectators attending the event

²¹ The budget of the Rugby World Cup organizing committee was of € 255 M.

²² This figure is the same for the friendly match analyzed in this paper.

Impact for 1€ from public authorities: economic impact divided by the amount of money allocated to the event by public authorities

The reasons for the small amount of the economic impact of the match between France and Slovakia are listed in Chart 9. They are related to the nature of the expenses incurred for the organization: a large part of the budget dedicated to purchase the match from the handball federation, and the event is very limited from the temporal point of view. They also focus on the characteristics of the attendance (spectators mainly from the region) and their consumption patterns (only few euros of expenditures, that is not surprising as they do not come from far).

Chart 9: Explanations of the limited impact of a friendly match

OPERATING EXPENDITURE:

- *The small amount of organization expenses as a whole (€ 125,272);*
 - *Low investment (only a few works);*
 - *The weakness of the expenditure made by the municipality (€ 20,170), mainly to purchase the match to the federation, so that it leaks out of the city borders;*
 - *The small amount of wages paid to local employees (€ 1,156);*
- This is despite a significant external funding (59.9% of the global financing of the event).*

SPECTATORS EXPENDITURE:

- *Spectators are coming from the city (41.6%) and add nothing to the local expenditure (substitution effect).*
- *Spectators living outside of the city are massively living in the county of Haute-Vienne (37.6%), yet we know that the most the fan is coming from far, the most he/she will spend (Barget & Gouguet, 2011).*
- *Only 20.8% of spectators from outside the county left, they spend more, and contribute to a large part of the economic impact.*

Source: Author

The basket of expenditures from spectators is low, i.e. € 15.6 per capita spent in the city by those living in the rest of the *Haute-Vienne*, and € 23 for those residing outside the county. This is the last point we will analyze more precisely, to the extent that spectators are at the origin of most of the economic impact; we will study their profiles and their specific behaviors.

Mainly local fans that did not spent a lot

The expense of fans is on average low, in total € 23.4 and € 15.4 in the city (see Chart 7). Purchases in the arena represent half of the average consumption basket of the spectators, that's drinks, food, and souvenirs sold at the sports venue. Then come the expenses for food outside of the stadium (27.9% of total), followed by miscellaneous expenditures in the city (services, tourism) that account for 14.3% of the total. We note that transportation and accommodation expenditure are very modest, which is consistent with the short distance travelled in general.

We know that the spatial dimension is crucial for the calculation of the economic impact, this is why the consumer baskets were distinguished for people living in the city, in the county

of *Haute-Vienne* (excepted *Limoges*), and spectators from outside of the county. Actually people living outside the *Haute-Vienne* have a consumption basket in the city of € 23 while this basket is only of € 15.6 for those residing in the *Haute-Vienne*. Accommodation and purchases outside of the sport venue are two expenditure items relatively more important for fans not living in the county.

Several categories of spectators had been distinguished on the basis of information contained in the questionnaire in a way to clarify behavior of spectators (Chart 10). It should be noted here that men spend more than women, which confirms the results obtained in both the Davis Cup study (Barget, 2002) and the Rugby World Cup case. There is, from this point of view, no significant difference between mega sports events and events of medium size as a friendly match involving national teams. People with the a-level, or graduated from the university, consume less than the others; there is an overrepresentation of expenditure at the sport venue for people who did not get the a-level. Adults 25-54 years old spend more (€ 17.9) than young people 15-24 years old (€ 12.6), or seniors more than 55 years old (€ 10.9). Here again, expenditures in the arena are the main explanation of these discrepancies.

Chart 10: Consumption basket of various categories of spectators

CATEGORIES OF SPECTATORS	% OF THE TOTAL	TOTAL EXPENDITURE	EXPENDITURE IN THE CITY	EXPENDITURE TRANSPORT	%	EXPENDITURE ACCOMODATION	%	EXPENDITURE IN THE ARENA	%	EXPENDITURE OUTSIDE ARENA	%	EXPENDITURE CATERING / FOOD	%
ALL OF THEM	100.0%	23.4	15.4	1	6.5%	0.2	1.3%	7.7	50.0%	2.2	14.3%	4.3	27.9%
LIVING IN THE CITY	41.6%	16.6	12	0.9	7.5%	0	0.0%	5.3	44.2%	2	16.7%	3.8	31.7%
OTHER PARTS OF THE COUNTY	37.6%	20.6	15.6	1.5	9.6%	0	0.0%	7.8	50.0%	2	12.8%	4.3	27.6%
OUTSIDE THE COUNTY	20.4%	44	23	0.5	2.2%	2.9	12.6%	9.6	41.7%	5.4	23.5%	4.6	20.0%
CATEGORY OF SEATS 1	40.4%	27.2	17.3	0.8	4.6%	0.4	2.3%	7	40.4%	3.9	22.5%	5.2	30.1%
CATEGORY OF SEATS 2	35.0%	19.7	12	1.6	13.3%	0	0.0%	7.5	62.5%	0.1	0.8%	2.8	23.3%
CATEGORY OF SEATS 3	24.5%	26.2	12.7	0.3	2.4%	1.9	14.9%	4.2	33.1%	3.8	29.9%	2.5	19.7%
FEMALES	45.9%	20.6	15	0.4	2.7%	0	0.0%	8.2	54.7%	1.4	9.3%	5	33.3%
MALES	54.1%	25.4	15.4	1.4	9.1%	1.1	7.1%	6	38.9%	3.6	23.4%	3.3	21.4%
WITH HIGH SCHOOL DIPLOMA	73.2%	22.8	14.2	0.7	4.9%	0.8	5.6%	5.9	41.5%	2.7	19.0%	4.1	28.9%
WITHOUT HIGH SCHOOL DIPLOMA	26.8%	26.5	14.6	1.7	11.6%	0	0.0%	7.7	52.7%	2	13.7%	3.2	21.9%
PLAYING HANDBALL	32.3%	23.5	12.9	0.7	5.4%	0.7	5.4%	5.7	44.2%	3	23.3%	2.8	21.7%
NOT PLAYING HANDBALL	67.7%	22.9	14.3	1.1	7.7%	0.7	4.9%	6.2	43.4%	3.3	23.1%	3	20.0%
ATTENDED AT LEAST 1 HANDBALL MATCH	43.6%	24.7	16.6	1.5	9.0%	1.4	8.4%	7.2	43.4%	3.2	19.3%	3.3	19.9%
NOT ATTENDED HANDBALL MATCH	56.4%	22.7	14.0	0.6	4.3%	0	0.0%	6.7	47.9%	2.2	15.7%	4.5	32.1%
AGED 15-24	30.5%	21	12.6	0.3	2.6%	0	0.0%	5.2	41.2%	2.4	19.0%	4.7	37.2%
AGED 25-54	55.0%	25.9	17.9	1.5	8.4%	1.2	6.7%	8.6	48.0%	2.4	13.4%	4.2	23.4%
AGED MORE THAN 54	14.5%	21	10.9	0.7	6.5%	0	0.0%	4.5	41.9%	3.9	35.9%	1.7	15.7%

Source: Author

It is possible, in addition, to analyze the socio-economic profile of the attendance (Chart 11), to see if general characteristics of fans, especially their living area, can explain the differences in consumption baskets.

Chart 11: Socioeconomic profile of spectators according to their living area

	CATEGORIES OF SPECTATORS	ALL OF THE SPECTATORS	LIVING IN THE CITY	LIVING IN OTHER PARTS OF THE COUNTY	LIVING OUTSIDE OF THE COUNTY
GENERAL FEATURES	AGED 15-24	32.7%	42.5%	21.4%	37.8%
	FEMALES	45.9%	44.8%	48.3%	44.4%
	SINGLE	34.1%	42.5%	24.7%	37.8%
	HIGH SCHOOL DIPLOMA	72.3%	81.6%	61.8%	75.6%
	GRADUATE FROM THE UNIVERSITY	34.1%	44.8%	22.5%	35.6%
	MONTHLY INCOME UNDER €500	20.9%	27.6%	13.5%	24.4%
	MONTHLY INCOME UNDER €2,000	49.6%	60.9%	40.5%	46.7%
	NB OF SPORTING EVENTS PER YEAR	3.7	3.6	4.0	3.1
	NB OF HANDBALL MATCHES PER YEAR	1.9	1.2	2.8	1.4
BEHAVIOR	FROM CORREZE COUNTY	8.7%	X	X	42.2%
	TRAVELED BY CAR	91.8%	88.5%	95.5%	91.1%
	CAME FOR THE MATCH	95.1%	94.8%	98.8%	87.8%
	% PLAYING HANDBALL	32.3%	32.2%	27.0%	42.2%
	AVERAGE TICKET PRICE	22.7	22.1	23.1	22.8
	PURCHASE OF THE TICKET TO THE CLUB	47.4%	38.1%	59.7%	39.3%
	% SLEPT OUT OF HOME	2.3%	0.0%	1.1%	6.7%
GROUP	WITH FAMILY MEMBERS IN THE GROUP	53.2%	49.4%	59.5%	46.7%
	WITH FRIENDS IN THE GROUP	38.2%	42.5%	26.9%	51.1%
	AVERAGE NB OF PERSONS	5.0	2.9	5.4	8.0
	% ATTENDING THE MATCH IN THE GROUP	98.5%	96.0%	99.4%	98.9%
	% PLAYING HANDBALL IN THE GROUP	34.5%	46.0%	24.3%	40.0%

Source: Author

Spectators who determine the magnitude of the economic impact are those who live outside the city.

- Fans living in other parts of the county are characterized by the fact that they are older (61% are 25 to 64 years old) and married (56%). They are accompanied by 5 persons in average, in general by family members (for 59.5% of them), what explains why the percentage of females in the group is higher than for other types of spectators (48.3% of women). The education level is generally lower than for other spectators (only 22.5% of them have completed a higher education), but their income is higher (only 40.5% have a monthly income of less than € 2,000). Even if they are “wealthier”, their expenditures are only a bit higher than those of inhabitants of *Limoges* because they travel by car (for 95.5% of them) and are going back without sleeping in the city (only 1.1% spent a night away from home).

- Spectators residing outside the county are rather young (37.8% aged 15-24), single (37.8%), and educated (35.6% have completed higher education). Monthly income is high in comparison to the one of town inhabitants (only 46.7% have less than € 2,000, against 60.9% for the inhabitants of *Limoges*). A high proportion plays handball (42.2%), they are part of a group of 8 persons, are accompanied by friends rather than family, a large proportion of these accompanying persons play handball (40%). Even if they often do not come from far away (42% live in *Corrèze*, neighboring county), nevertheless a significant proportion of them (6.7%) slept away from home. This results in significantly higher expenditures than for other types of spectators as we have already indicated. They spend more for accommodation, but also on sport venue and outside the arena because of the greater distance from their home, which induces some additional expenses, including catering.

Conclusion

Results of the analysis should be tested by further investigations. Nevertheless, it seems that, if friendly matches involving national teams are probably an opportunity to develop sports practice, and generate social well being, the reality is more contrasted for what is of the economic impact. The amount of economic benefits is relatively low, nevertheless, the ratio between the economic impact and the grant allocated by the city shows that each euro spent by taxpayers generates a significant amount of economic benefits. This argument can possibly explain why cities are still bidding, even if the real motivations are probably to be found elsewhere rather than in monetary benefits. Indeed, sporting institutions should emphasize social benefits of international friendly matches for the host city. Only a cost-benefit analysis could allow the valuation of social, sporting, political, and environmental effects. The excitement surrounding international matches shows the satisfaction that is generated by these events for the whole population and not only for sports fans. This is incontestable if we consider the huge demand for tickets, largely exceeding supply in the case of the friendly match between France and Slovakia, as well as for the quarter-final Davis Cup hosted by the city in 1996 (Barget, 2002). Thus, the contribution of friendly matches to the strengthening of social ties, and potentially to the development of sport practice, which is a crucial point, should be analyzed deeply in future researches.

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