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Costs and benefits of touristic events: an application to Venice Carnival

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ABSTRACT

In this paper, we review the costs and benefits for local authorities of holding the Venice Carnival. After reviewing the recent history of this event and the role of local authorities in revitalizing it, we analyze the various costs they incur for its organization. We subsequently compute expenditures of tourists and daily trippers and investigate the distribution of this income into various beneficiaries. The overall benefit-costs balance proves strongly positive.

Keywords: Cost Benefit Analysis, Hallmark Event, Destination Management.

Introduction

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While the economics of festival and hallmark events has received attention from applied economists, some specific events still suffer a limited knowledge. This is the case of carnivals in general, and Venice Carnival in particular.

Venice Carnival represents one of the most popular events of Venice touristic and cultural life. It thus represents the paroxysm of touristic frequentation in a context where touristic flows are already considerable during normal (non-event) time.

Venice Carnival is also interesting from the point of view of destination management due to several reasons:

- the nature of the event that mixes a long lasting tradition with policies, dating from the 70s, aiming at re-launching the event that had, at that time, virtually disappeared;
- the economic impact of the event, that would generally be assessed as major, but on which economic evidences are scarce;
- the tension that exists, in normal time, between residents and tourism is exacerbated during the Carnival due to the heavy flow of tourists.

Thus, providing an economic analysis of Venice Carnival, apart from generally increasing the stock of knowledge on hallmark events, would provide useful information to local policy makers if one is to accept that the economic dimension of the event can be a driver for its management. Moreover, other issues arise, relating to the distribution of costs and benefits among different stakeholders (local administration, tourism industry to name two).

Most of the research made on economics of Carnival consists broadly in two streams: a series of conference papers on Carnivals in the Caribbean and a series of consulting expertise made on large events in the developed countries, for instance: Koln (unpublished study by BCG), Notting Hill (London Research Development Agency 2003). Peer reviewed publications can barely be found, with few exceptions (New Orleans: Mc Lain, 2000), unless one extends the realm of research to other events like festivals. Tull (2005) presents some figures on the capital investment and total generated income of three carnivals.

Table 1: capital investment and total generated income for three carnivals.

	Capital Investment	Total Attendees	Total Income Generated	ROI
Notting Hill Carnival (UK)	£10 million	1,6 million	£93 million	9.3
New York Labour Day (US)	N/A	3,5 million	US$154,8 million	N/A
Toronto Caribana (Canada)	CND$353,000	1,1 million	CND$200 million	566.5

Source: Tull, 2005

As illustrated by this table, there are wide discrepancies in the estimation of the cost benefits ratios of different carnivals and the differences may also be due to methodological uncertainties or to inconsistencies in the evaluation process. This calls for a more rigorous approach to Carnival economics where assumptions are clearly delineated.

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In order to shed light on these issues, the present article proceeds as follows.
In a first section, we present the Venice Carnival and the process by which it was re-launched through the support of the public sector. In a second section, we present the costs and benefits of the Venice Carnival for the local community. In a third section, we present the cost-benefit balance of the event.

1. Venice Carnival: a forgotten tradition relaunched through the support of public sector

Table 2: main event planner, budget and audiences estimate of Venice Carnival in series from 1980 to 2008.

	Main event planner	Budget	Audiences estimate
14-18 Feb. 1980	La Biennale	Lit.(£) 220 million	200,000
21st Feb.-3rd Mar. 1981	La Biennale	Lit.(£) 1,300 million	500,000
13th-23rd Feb. 1982	La Biennale	Lit.(£) 1,800 million	800,000
5th-15th Feb. 1983	Municipality of Venice	Lit.(£) 400 million	600,000
25th Feb.-6th Mar. 1984	Municipality of Venice	Lit.(£) 900 million	420,000
9th-19th Feb. 1985	Municipality of Venice	Lit.(£) 1,450 million	650,000
1st-11th Feb. 1986	Municipality of Venice	Lit.(£) 1,615 million	300,000
22nd Feb.-3rd Mar. 1987	Municipality of Venice	Lit.(£) 1,100 million	500,000
6th-16th Feb. 1988	Local Tourism Organization and La Fenice	Lit.(£) 3,000 million	NA
7th Jan.-7th Feb. 1989	Municipality of Venice	Lit.(£) 1,300 million	500,000
10th-17th Feb. 1990	Municipality of Venice	Lit.(£) 900 million	NA
2nd-12th Feb. 1991	Cancelled for the First Gulf War		
20th Feb.-3rd Mar. 1992	Municipality of Venice and Publitalia	Lit.(£) 3,000 million	1,000,000
12th-23th Feb. 1993	Publitalia	Lit.(£) 3,000 million	1,000,000
4th-15th Feb. 1994	Carnivale di Venezia srl and Publitalia	Lit.(£) 976 million	450,000
17th-28th Feb. 1995	Carnivale di Venezia Committee	Lit.(£) 500 million	800,000
9th-20th Feb. 1996	Consortium Carnivale di Venezia Committee	Lit.(£) 1,200 million	700,000
31st Jan.-11th Feb. 1997	Consortium Carnivale di Venezia Committee	Lit.(£) 900 million	600,000
13th-24th Feb. 1998	Consortium Carnivale di Venezia Committee	Lit.(£) 1,000 million	620,000
5th-16th Feb. 1999	Conortium Carnivale di Venezia Committee	Lit.(£) 800 million	580,000
25th Feb.-7th Mar. 2000	Consortium Carnivale di Venezia Committee	Lit.(£) 800 million	700,000
16th-17th Feb. 2001	Consortium Carnivale di Venezia Committee	Lit.(£) 1,100 million	700,000
1st-12th Feb. 2002	Consortium Promovenezia	Lit.(£) 1,500 million	650,000
22nd Feb.-4th Marc 2003	Consortium Promovenezia and	€ 900 thousand	550,000

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	Local Tourism Organization		
7th-24th Feb. 2004	Consortium Promovenezia and AVA - Venice Hotel Association	€ 1,450 thousand	550,000
28th Jan.-8th Feb. 2005	Municipality of Venice	€ 850 thousand	300,000
18th-28th Feb. 2006	Municipality of Venice	€ 1,100 thousand	600,000
9th-20th Feb. 2007	Municipality of Venice	€ 1,150 thousand	870,000
25th Jan.-5th Feb. 2008	Venezia Marketing & Eventi	€ 1,350 thousand	400,000

According to the detailed information collected by Alessandro Bressanello in his publication of 2010[1], the revival of the events linked to the historic Venice Carnival took place in 1967 in the Island of Burano in the north lagoon of Venice, two centuries after the last Carnival organized by the Republic of Venice before the Napoleon conquest in year 1797.

Started as a popular and spontaneous movement, the Event assumed a more institutional aspect in '79-'80 when the Municipality of Venice, in partnership with the "Scuola Grande San Marco" and "La Biennale" introduced for the first time an official program with focus on theatres and Piazza San Marco and with the aim to involve venetians and tourists.

The organizational "story" of the Venice Carnival appears as a continuous rally between public and private sector/resources with the public body involved in the research of one (or more) private partner(s) able to manage and plan the event with its own investments. The organisational topic, mainly in terms of the subject called to guarantee the budget of the event, does not have a simple solution and implies factor related to the events management: fundraising; allocation of direct and indirect effects (both for costs and benefits) and, consequently, definition of these effects; possibility and opportunity for the public body to over-tax the local tourist operators that received income thanks to the audiencie of the event. The current situation, with the creation of a public corporation (starting from 2008, Venezia Marketing & Eventi Spa and, in 2012, VELA Spa) which has the medium-term commitment to self-finance its activity, appears as one of the few possible compromises.

The data presented in table 2 don't show a relationship between the investments for the organization of the Carnival and the visitor flows, or better, they just show the existence of a threshold: as displayed in the graphic below, in 1992 and 1993 it is possible to appreciate a significant effect in terms of visitor numbers (about 1 million) against important investments (€ 2,500-2,600 thousand at current value). On the other hand, in 1981, a high level of budget (more than € 2,700 thousand) didn't product an equal result in terms of visitor flows and, in 2007, a medium level of budget coincided with a high number of visitors.

These patterns can be explained mainly by two kinds of reason: the nature of the event, which is - in terms of audiences - largely characterized by day-tripping flows and strongly influenced by the weather; the measure of the return that cannot be correctly expressed in terms of number of people attending the Event (according to the different profiles in terms of expenditure beahviour). These two topics run as an input for this paper: if the City as a whole has to pursue a form of costs-benefits balance, it's

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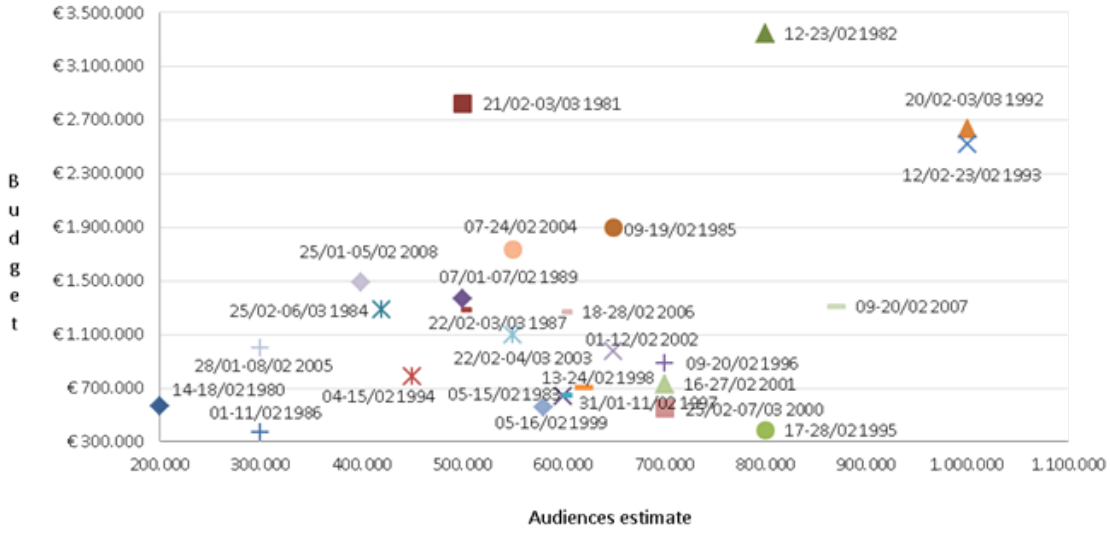
necessary to understand which is the real effectiveness of the investments supported for: the creation of the artistic format and its realization, the promiotion of the event, the surplus of services which the City has to guarantee (transports, garbage, safety) - both in terms of visitors and income.

Figure 1 - budget (2013 value) and visitors estimates of Venice Carnival from 1980 to 2008.



Furthermore, the Venice Carnival generates other effects than the touristic attendance during the festivities, which cannot be strictly measured in terms of direct income: as a support for tourism in the winter season, the event allows many hotels to avoid seasonal closure with benefits on the job market and the social and economic local structure. Other effects should also be recognized. The mask industry and the imaginary association of the mask tradition (mask-makers) with Venice is one of these. The return in terms of image is another: according to a 2010 survey of IPSOS-Stage Up and Federculture, the Venice Carnival is the most popular and re-known event for the Italian audience, reaching an interest equal to 79.5% of the national adult population.

2. The Costs and Benefits of the Carnival for the local community

In this section, we investigate the costs and benefits of the Carnival for the local community. We first concentrate on the monetary impacts of holding the Carnival. This is a restriction considering the popular view that the Carnival also entails important externalities for residents (and possibly for tourists as well) in terms of overcrowding. In a second part of this section, we analyse whether such physical externalities can be taken into account in the evaluation and we provide a negative answer due to the incipient state of knowledge of these overcrowding phenomenon.

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2.1 The costs of organizing the Carnival

The costs of organizing the Carnival consists in the outlay of various local administrations and operators. They are synthetized on Table 3. In this table, direct costs refer to expenditures by city council and the Casino (belonging to the city administration) and VME, an agency controlled by city council and dedicated to promotion events. Indirect costs relate to contribution of local authorities to the railway transportation (special trains), the cost increase of cleaning the streets and the cost for extra security services. Eventually, there is a cost for the local public transportation on boats. While they correspond to various items of expenditures, the totality of these expenses finally rest on the shoulders of the local authority, so that the total represents the contribution of the local authorities to the Carnival.

Table 3: costs of organizing the Carnival

	25th January-5th February 2008	14th-24th February 2009	6th-16th February 2010	9th-20th and 26th February-8th March 2011	4th-5th and 11th-21st February 2012	26th-27th January and 2nd-12th February 2013
Direct	€ 1,350,000	€ 1,856,000	€ 1,389,000	€ 1,137,000	€ 1,291,000	€ 1,259,000
Indirect	€ 431,000	€ 416,000	€ 415,000	€ 420,000	€ 440,000	€ 441,000
Total	€ 1,781,000	€ 2,272,000	€ 1,804,000	€ 1,557,000	€ 1,731,000	€ 1,700,000

2.2 The economic benefits of the Carnival

2.2.1 Computation of arrivals and daily trips

In this section, we present the economic benefits of the Carnival. A first step is to estimate the number of arrivals generated by the event. Rather than accounting for the whole number of visitors during the Carnival period, we base our analysis on an additionality criterion, the number of arrivals assigned to the Carnival is computed as:

$$A_y = \sum_{m=0}^{M} \sum_{t=0}^{Tm} \left(X_{t,m,y} - \overline{X}_{m,y} \right) \quad \text{eq. 1}$$

Where A_y is the number of arrivals attributable to Carnival during year y, X_{tmy} is the number of arrival of t^{th} day of Carnival during month m of year y, $\overline{X}_{my}$ is the average number of daily arrivals during month m of year y excluding carnival days. The number of hotel nights is computed through the same logic of subtraction of the monthly average.

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Table 4 : additional number of arrivals, hotel nights and day-trippers during Carnival

	Arrival	Hotel nights	Day-trippers
25th January-5th February 2008	21,000	57,000	250,000
14th-24th February 2009	33,000	108,000	500,000
6th-16th February 2010	34,000	93,000	430,000
9th-20th and 26th February-8th March 2011	30,000	91,000	500,000
4th-5th and 11th-21st February 2012	30,000	93,000	290,000
26th-27th January and 2nd-12th February 2013	18,000	54,000	310,000

Results suggest that with a maximum of 33,000 arrival, additional to the background frequentation, the Carnival is not as fundamental as it could seem when compared with 4,1 million arrivals per year in Venice[2], but compared with off travel season frequentation pattern, it still constitutes a fundamental touristic event for the City.
As far as day-trippers are concerned, the estimate is based on countings by local police at various gates of the city, and on historical data for railway transportation, with a range running from 250,000 to 500,000, compared with an estimation of 12 million yearly.

2.2.2 Tourists' expenditures

Based on these estimates, it is possible to compute the overall touristic expenditure generated by holding the Carnival. This estimate is based on a survey of touristic expenditures achieved by Ca' Foscari University in 2012[3]. The result is obtained by multiplying the number of additional tourists' nights by the individual expenditures. As far as day-trippers are concerned, the estimate is based on the number of day-trippers present in Venice for the Carnival duration multiplied by the average daily expenditure of 2012 day-trippers.

Table 5: Tourists and day-trippers' expenditures

	Tourists	Day trippers	Total
25th January-5th February 2008	€ 20,157,000	€ 8,327,000	€ 28,484,000
14th-24th February 2009	€ 20,252,000	€ 16,770,000	€ 37,022,000
6th-16th February 2010	€ 22,213,000	€ 14,231,000	€ 36,444,000
9th-20th and 26th February-8th March 2011	€ 18,080,000	€ 16,522,000	€ 34,602,000
4th-5th and 11th-21st February 2012	€ 26,371,000	€ 9,737,000	€ 36,108,000
26th-27th January and 2nd-12th February 2013	€ 18,818,000	€ 10,325,000	€ 29,143,000

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Beside this general estimate of expenditures, it is also possible to provide detailed results for hotel industry, transport operator incomes and local authorities income

2.2.3 Hotel industry income

The number of hotel nights is multiplied by the average daily rate to obtain the income of hotel industry. Subsequently, the added value is computed using an average rate of added value for the hotel industry in Venice area: 49.7 %.

Table 6: arrivals and hotel industry incomes from Carnival

	Arrival	Nights	Income	Value added
25th January-5th February 2008	21,000	57,000	€ 14,905,000	€ 7,412,000
14th-24th February 2009	33,000	108,000	€ 12,729,000	€ 6,330,000
6th-16th February 2010	34,000	93,000	€ 14,806,000	€ 7,363,000
9th-20th and 26th February-8th March 2011	30,000	91,000	€ 11,031,000	€ 5,486,000
4th-5th and 11th-21st February 2012	30,000	93,000	€ 19,702,000	€ 9,798,000
26th-27th January and 2nd-12th February 2013	18,000	54,000	€ 13,970,000	€ 6,947,000

2.2.4 Public transport operator incomes

Based on the same formula as equation 1, one can compute the additional income of public transport operators. The next table refers to the changes in the income of various transport activity provided by the public local transport operators controlled by the city authority. Namely, it contains boat transportation (vaporetti), public parking, people mover, coach fees for access to the restricted area.

Table 7: transport operator's additional income in Carnival period

	Total Public transport operators
25th January-5th February 2008	€ 1,682,000
14th-24th February 2009	€ 1,866,000
6th-16th February 2010	€ 1,582,000
9th-20th and 26th February-8th March 2011	€ 1,994,000
4th-5th and 11th-21st February 2012	€ 1,352,000
26th-27th January and 2nd-12th February 2013	€ 1,762,000

2.2.5 Local authorities incomes.

Local authorities' incomes consist first in a fraction of the transport operators' income that is mechanically redistributed to the local authorities based on the institutional agreements in place. Second, it consists in tourism tax in place from 2012[4].

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Table 8: local authorities income

	tourism tax	transport incomes	Total
25th January-5th February 2008	€ -	€ 494,000	€ 494,000
14th-24th February 2009	€ -	€ 626,000	€ 626,000
6th-16th February 2010	€ -	€ 514,000	€ 514,000
9th-20th and 26th February-8th March 2011	€ -	€ 597,000	€ 597,000
4th-5th and 11th-21st February 2012	€ 190,000	€ 457,000	€ 647,000
26th-27th January and 2nd-12th February 2013	€ 131,000	€ 329,000	€ 460,000
2013 %	28%	72%	

3 The cost benefit balance

3.1 Overall balance

We establish what is the net benefit of holding the Carnival in Venice. The benefits consist in the added value of tourist expenditures and the sponsoring; the costs are the one supported by the local authorities in order to support the Carnival.

Table 9: costs and benefits of organizing the Carnival

Benefits	2008	2009	2010	2011	2012	2013
Tourists	€ 9,133,527	€ 8,796,263	€ 9,791,211	€ 7,796,679	€ 11,983,389	€ 8,536,085
Day trippers	€ 2,731,389	€ 5,500,611	€ 4,667,859	€ 5,419,317	€ 3,193,789	€ 3,386,665
Others (sponsors)	€ 327,782	€ 127,782	€ 392,105	€ 278,257	€ 367,174	€ 367,174
Total	€ 12,192,698	€ 14,424,656	€ 14,851,175	€ 13,494,253	€ 15,544,352	€ 12,289,923
Costs						
Directs	€ 1,350,000	€ 1,856,459	€ 1,388,639	€ 1,136,782	€ 1,290,681	€ 1,259,459
Indirects	€ 430,714	€ 415,988	€ 415,469	€ 419,582	€ 439,787	€ 440,631
Total	€ 1,780,714	€ 2,272,447	€ 1,804,108	€ 1,556,364	€ 1,730,468	€ 1,700,090

Noticeably, the benefits appear one order of magnitude larger than the costs. This suggests a possible conclusion that the support to Carnival by local authorities is highly beneficial to the local community. This conclusion should however be made cautiously taking into account that the causality between public expenditures and revenues has not been established by our analysis.

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3.2 Other potential costs and benefits

One may however wonder whether the cost benefit balance is inclusive of all major effects that are associated with the Carnival. Of particular relevance are the negative feelings that the local population can develop for the overcrowding during the Carnival. Overall, studies suggest that population have dominantly a positive perception of tourists (Andereck and Vogt, 2000) with only a few studies reporting a negative attitude (Cheng 1980, Johnson et al 1994, Pizam 1978, as quoted by Bujosa Bestard and Rosello 2007). Smith and Krannich (1998) examine the effect of growing touristic presence and negative attitudes toward tourists and Madrigal (1985) has underlined how much the perception of tourism depends on the concentration of tourists in specific places.
Without surprise, the literature also emphasize how population that are financially dependent of the industry exhibit more favorable opinions about the tourism (Haralambopoulos and Pizam 1996). Bujosa Bestard and Rosello (2007) have measured the impact of congestion on residents' perception of tourism. This panorama of results, relating to touristic congestion, shows that tourism theory is not helpless in analyzing tourism congestion. It however suggests that most of the results available deal with a strong presence of tourism in an area, while the situation in Venice is different as it corresponds to an acute increase of the number of tourists over the already high level of touristic presence experienced by the city most of the year. It is thus likely that results obtained in other contexts are not transferable to the Venice situation. Thus, the valuation of residents perception of tourist overcrowding during Carnival is still on the agenda of tourism economics.

Conclusion.

In this paper, we have provided an economic analysis of the expenditures and incomes related to Venice Carnival. The expenditures consist in the outlays of local authorities to support the Carnival, this includes direct organization costs and indirect costs (extra provision of public transport, extra cleaning of the street and extra police patrolling). The benefits consist in the extra value added generated by tourists and day-trippers expenditures. Different to an approach often used in tourism economics, we take into account only additional tourists and day-trippers, meaning the one exceeding the monthly average. This recognizes the fact that even without Carnival there would still be tourists and day-trippers in Venice.

Our results indicate that benefits of the Carnival exceed by one order of magnitude the costs. This result suffers two limitations. First, no link of causality has been established between public expenditures and Carnival flow of tourist; after all, it could be that at least part of these touristic flows would materialize even without public investment. Second, tourist expenditures only represent part of the costs and benefits of the Carnival, as local chronicle has it, congestion as well is an important effect of the Carnival. On this point, our research concludes that it is not feasible given the state of

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the art to monetize these congestion effects. Although this is a limitation, our results still support the view that supporting the Carnival is highly beneficial for the local community.

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