

Short communication

Laurey-Anne KRAMMER* and Wim HEIJMAN*

Events as boosters of the regional economy

Events are increasingly being used as a means to boost regional economic development through tourism, but are they truly effective to this end? In this article we attempted to answer this question by measuring the impact of the Christmas Festival 'Magisch Maastricht' on the economy of the municipality of Maastricht in the Netherlands. We used input-output analysis by which we calculated the number of additional jobs per sector created by the spending of visitors during the event. The results show that the impact on the urban economy is significant.

Keywords: regional development, jobs, input-output analysis, location quotient

* Wageningen University, Postbus 8130, 6700EW Wageningen, the Netherlands. Corresponding author: wim.heijman@wur.nl

Introduction

Events and tourism based upon them may be powerful boosters for regional economic development. This is not surprising when considering the success of the tourism sector in recent decades (Williams, 2009). The roles and possible impacts of events have been researched for quite some time; they are of increasing importance for destination competitiveness (Getz, 2008). This paper aims at evaluating the impact of an event as measured by the number of additional jobs it creates in the case of the Christmas festival 'Magisch Maastricht' (Magical Maastricht).

Magisch Maastricht is an annual event held in Maastricht, which is the capital of the province of Limburg, Netherlands. The municipality of Maastricht supports Magisch Maastricht because of the economic value that it adds to the municipality (Maas and Claessens, 2011). However, the municipality has not yet researched the impact of the event on employment. This article aims to report on the first attempt to do so and to show that the method used is effective in measuring the economic impacts of events.

Methodology

Input-output analysis is a method that represents the interdependencies between different sectors of an economy. The input-output table shows the flow of goods and services between the sectors of an economy over a certain period of time, normally a year (Leontief, 1986). Because there are no standard input-output tables available at regional level we used the Dutch input-output table of 2011 to calculate the regional technical coefficients of the municipality of Maastricht for 2011. This was done by way of the Simple Location Quotient (SLQ) method proposed by Jensen *et al.* (1979) and Heijman and Schipper (2010).

Next to the secondary data that we extracted from the national input-output table and various other sources, we collected primary data with the help of a questionnaire administered in person and carried out on random days throughout the Magisch Maastricht event. Visitors were asked the following question: "Can you indicate your average spending per sector during Magisch Maastricht?" A list with the fol-

lowing five sectors followed this question, with the request to indicate their spending per sector in EUR: (a) wholesale and retail; (b) transportation and storage; (c) lodging, meals and drinks; (d) information and communication; and (e) culture, sports and recreation. The data were collected using the convenience sampling method.

After analysing the completed questionnaires, we computed the change in the final demand per sector generated by Magisch Maastricht, which equals the average spending per sector for the sample multiplied by the number of visitors. In this case the number used (600,000) was that published for 2011, but visitor numbers in 2012 were similar (ZKA, 2013).

With this information the change in output can be calculated with the help of the Leontief Equation. By multiplying the inverse of the difference between the identity matrix I minus the matrix of regional technical coefficients A with the change in final demand ΔF , we can calculate the change in output ΔX :

$$\Delta X = (I - A)^{-1} \Delta F$$

We then divided ΔX by the annual output per employee per sector, which tells us the number of jobs (in years of work) that are added per sector by the extra spending caused by Magisch Maastricht. The annual output per employee was found with the following formula:

$$\text{Output per year per employee per sector} = \frac{\text{National output per sector}}{\text{Numbers of employees on national level per sector}}$$

Results

We collected 80 questionnaires during the four weeks of Magisch Maastricht 2012. The data collection took place on 7, 12, 20 and 28 December 2012 at the *Vrijthof* (central square) in Maastricht. In total, the 80 respondents spent EUR 5618 at Magisch Maastricht, giving an average expenditure of EUR 64.60 per person. Most of the money was spent in the wholesale and retail sector (Table 1). From these data the total additional visitor expenditure during the event was estimated and, in accordance with the described methodology, the numbers of additional jobs by sector was calculated.

Table 1: Visitor expenditure and number of additional jobs estimated to have been created as a consequence by sector at Magisch Maastricht 2012.

Sector	Expenditure (EUR)		Number of additional jobs
	Average per person	Estimated total*	
Wholesale and retail	50.69	30,412,500	185.7
Transportation and storage	3.94	2,362,500	36.3
Lodging, drinks and meals	5.69	3,412,500	132.8
Information and communication	0.60	360,000	10.3
Culture, sports and recreation	3.68	2,212,500	38.3

*Based on 2011 visitor number of 600,000

The five sectors together created roughly 403 additional jobs (Table 1). Most (186) jobs were created in sector (a), wholesale and retail, which is not surprising since the majority of the spending during Magisch Maastricht occurred in this sector. Sector (c), lodging, meals and drinks, added roughly 133 jobs. The number of additional jobs created by Magisch Maastricht in this sector is substantial: the questionnaire results showed that only 9 per cent of the visitor spending goes to this sector, yet it created 33 per cent of the additional jobs. Apparently the multiplier effect of extra spending in this sector is relatively high if compared to the other sectors.

Discussion

The purpose of this research was to find out if Magisch Maastricht had an impact on the economy of Maastricht. We used input-output analysis and location quotients to measure this and, based on the results, we concluded that there is indeed an impact. In total, in 2012, around 5,900 jobs were created in Maastricht (ZKA, 2013), meaning that in that year Magisch Maastricht created around 6.8 per cent of the additional jobs in the city. Considering the fact that the event is only temporary and that the number of tourists during the event rose after the introduction of the event from low season to high season numbers (ZKA, 2013), we regard these numbers as significant and conclude that Magisch Maastricht does have a relatively high impact on the regional economy.

Naturally, there are some contestable points in this research. Firstly there is the issue of the SLQ. The SLQ is a convenient and simple way to calculate regional input-output coefficients, but the simplicity of this method comes with certain limitations. Tohmo (2004) for example says that the SLQ method “understates regional propensities to import, with the error increasing inversely with the size of the region” (p.46) and leads to overestimations of the multipliers.

Another limitation of this research is the collection of data through questionnaires. Firstly, the chosen sample method, namely convenience sampling, comes with a few biases. Examples of these biases are that the subjects are selected based on convenient accessibility and proximity to the researcher, giving a distorted image of the population which cannot be generalised beyond the sample. Furthermore, the fact that we only questioned Dutch visitors to the event means that spending from foreign tourists is not included in the research even though they constituted 18 per cent of the visitors in 2011 (Gemeente Maastricht, 2012). Our figure of 403 additional jobs is therefore only an indicative total for the five sectors.

Nonetheless, the method used proved to be effective and may be developed further in order to provide regional governments with a powerful tool to evaluate the economic impact of events. In the process of political decision making this may be crucial for the decision on whether to support an event or not.

References

- Gemeente Maastricht (2012): 2011 Magisch Maastricht Evaluatie [2011 Magical Maastricht Evaluation]. Maastricht: Gemeente Maastricht.
- Getz, D. (2008): Event tourism: Definition, evolution, and research. *Tourism Management* 29 (403-428). <http://dx.doi.org/10.1016/j.tourman.2007.07.017>
- Heijman, W.J.M. and Schipper, R.A. (2010): *Space and economics: An introduction to regional economics*. Wageningen: Wageningen Academic Publishers.
- Jensen, R., Mandeville, T. and Karunarante, N. (1979): *Regional Economic Planning: Generation of Regional Input-Output Analysis*. Beckenham, Kent: Croom Helm.
- Leontief, W. (1986): *Input-Output Economics* (2nd edition). New York: OUP.
- Maas, T. and Claessens, S. (2011): *Rapportage Magisch Maastricht 2010, met aanbevelingen voor volgende edities* [Reporting Magical Maastricht 2010, with recommendations for future events]. Maastricht: Gemeente Maastricht.
- Tohmo, T. (2004): New Developments in the Use of Location Quotients to Estimate Regional Input-Output Coefficients and Multipliers. *Regional Studies* 38 (1), 43-54. <http://dx.doi.org/10.1080/00343400310001632262>
- Williams, S. (2009): *Geography of Tourism. A New Synthesis* (3rd edition). London: Routledge.
- ZKA (2013): *Hoe ziet de toerist Maastricht? Analyse toeristische kerncijfers Maastricht 2008-2012 en imago-onderzoek* [What does tourist Maastricht look like? Analysis of major touristic figures in Maastricht in 2008-2012 and image research]. Report commissioned by the City of Maastricht. Waalwijk, Netherlands: ZKA.