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Can the high speed rail reinforce tourism attractiveness? The case of the high speed rail between Perpignan (France) and Barcelona (Spain)

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ABSTRACT

The transport system plays an important role in tourism destination development. A high speed railway authorizes a reduction in transportation costs and can be a tool for tourism destination development by allowing accessibility improvement. Nevertheless, this improvement is often synonymous with reinforcement of spatial competition between tourism destinations. New economic geography (NEG) models show that agglomeration and dispersion forces determine the spatial structure of economy. These two opposing forces are influenced by transportation costs. A decrease in transport costs can reinforce the concentration of economic activities. A prospective analysis investigating the case of the forthcoming South European HSR lines between Perpignan and Barcelona shows that the resulting increased spatial competition may reinforce the phenomenon of the tourism activities agglomeration around Barcelona to the detriment of Perpignan. Tourism product differentiation is one solution for Perpignan to confront agglomeration forces.

1. Introduction

This article is concerned with the way in which transport infrastructure, high speed rail (HSR) specifically, affects both tourism activity growth and economic development. In particular, the aim of this paper is to establish a prospective analysis of the potential effects of the European Southern HSR on tourism attractions in the area of Perpignan (France) faced to the tourism supply of the City of Barcelona (Spain) and its region. Theoretically, the article rests on a model of the new economic geography (NEG). Empirically, it relies on the analysis of selected past experiences.

The application of the spatial competition analysis to the tourism sector was not approached until this article. Nevertheless, in front of European integration and globalization, cities and regions increasingly enter in competition, in particular as regards tourism development, accessibility, and visitation. Consequently, tourism attractiveness becomes an important stake in regional competition.

Section 2 provides a theoretical framework of the way in which transport facilities, particularly transport cost, effect regional development. Then the lessons of the new economic geography will be presented. These models highlight that, although a reduction in transaction costs is often regarded as an essential component of any regional strategy, it is also synonymous with reinforcement of spatial competition between areas. The third section addresses the effects of transport facilities on tourism activity. The fourth section presents the impacts of HSR on tourism activities. In particular, it presents the lessons that can be learnt from the cities that have experienced a HSR implementation. Finally, the fifth section discusses some prospective elements of the effects of the forthcoming HSR between Perpignan and Barcelona.

2. Transport infrastructure and regional development: the lessons of the new economic geography

Transport infrastructure has come to have a rather confused role related to economic development, particularly regional development. There is a popular view that the provision of more and better infrastructure is not only a desirable instrument of regional development but is a sufficient instrument. This belief that transportation development projects have significant impacts on the development of regional economies has often been used to justify the allocation of resources to transport infrastructure investment. The general approach used by planners in the evaluation of transport investment is the cost–benefit analysis (CBA). This analytical framework aims to assess the costs and benefits of a given project in monetary terms and ascertains that limited resources are being allocated with the aim of maximizing

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the welfare of society. The main criterion which determines the valuation of a project is its present benefit. It represents the economic surplus of all the actors concerned directly with the project (the State, the owner, competing operators of the owner, users). User benefits include travel time, vehicle operating costs and safety. These gains could lead to an overall change in accessibility and ease of access between spatial opportunities. The main limit of the analysis is to assume that the distribution of the economic activities is fixed. But in reality, modifications in transport costs could induce changes in location of economic agents.

The models of the new economic geography integrate the question of the location of economic activities taking into account the costs of transport and the role of spatial competition. The issue of the neg is to explain precisely how transport costs affect the decision-making of the economic agents and determine the emerging geographical patterns as a result. The core-periphery model introduced in Krugman (1991) is a framework that illustrates how the interactions among increasing returns at the level of the firm, transport costs and factor mobility can cause spatial economic structure to emerge and change (Fujita and Thisse, 1997). Krugman (1991) showed that a change in transport cost induces a change in the intensity of spatial competition, which in turn influences the location of firms. For a lower transport cost, agglomeration forces tend to dominate the dispersion forces and firms agglomerate at a larger scale into a smaller number of locations serving an extensive hinterland.

In his seminal paper, Krugman (1991) assumed an economy with two regions, two production sectors (agriculture and manufacturing) and two types of labour (farmers and workers). The agriculture sector produces a homogeneous good under constant returns, using farmers as the only input. The manufacturing sector produces under increasing returns to scale where labour is the only input. Each firm produces a different variety, by using a common technology, and competes with the others in a monopolistic competitive framework (monopolistically competitive markets have the following characteristics: There are many producers and many consumers in a given market, consumers have clearly defined preferences and sellers attempt to differentiate their products from those of their competitors; the goods and services are heterogeneous, there are few barriers to entry and exit). Workers are move freely between regions, whereas farmers are immobile, equally distributed between the two regions. Finally, the agricultural good is less costly traded between regions, whereas the interregional trade of manufactures involves a positive transport cost (in an iceberg form, i.e. a part of the good 'melts away' in transit). That is, transport costs are incurred in the good being shipped.

In this model, the immobility of farmers is a centrifugal force because they consume both types of goods. The centripetal force is more complex, involving a circular causation. First, if a large number of firms locate in a region, a greater number of varieties are produced there. Then, workers in that region have a better access to a greater number of varieties in comparison with workers in the other region. Thus (other things being equal) workers in that region get a higher real income, inducing more workers to migrate towards this region. Secondly, the resulting increase in the number of workers creates a larger market than the other region, which in turn yields the home market effect. Because of economies of scale, there is an incentive to concentrate the production of each variety in only one region; because of the transport cost, (other things being equal) it is more profitable to produce in the region offering a larger market and ship to the other. This implies the availability of even more varieties of differentiated goods in the region in question. In short, the centripetal force is generated through a circular causation of forward linkages (the incentives of workers to be close to the producers of consumer goods) and backward linkages (the incentives for producers to concentrate where the market is larger) (Charlot and Lafourcade, 2000).

If forward and backward linkages are strong enough to overcome the centrifugal force generated by immobile farmers, the economy will end up with a core-periphery pattern in which all manufacturing is concentrated in one region. The core-periphery pattern is likely to occur when the transport cost of manufactures is: (1) low enough; (2) when varieties are sufficiently differentiated; or (3) when expenditures on manufactures are large enough.

Traditionally, the core-periphery model focuses on the primary and secondary industries of these regions but the interest in the potential of service industries as tourism grows as the tertiary sector rises.

3. The effects of transportation infrastructure on tourism activities

The main difficulty in the analysis of transportation effects on tourism is related to the apprehension of the structures of the tourism market and industry. Indeed, tourism supply is a complex phenomenon as regards both the nature of the product and the process of delivery (Sinclair and Stabler, 1997). It concerns:

- the need for consumers to move towards the product;
- the impossibility for the consumers to experience the tourism product before purchase;
- the strong dependence on natural resources or historical/cultural sites;
- the immobility of the resources for each tourism destination;
- the existence of many elements which constitute the tourism supply;
- the (often) seasonal character of the tourism activity;
- the large variety and the great number of sub-sectors and suppliers involved in this same sector.

The tourism product is a compound product (Caccomo and Solonandrasana, 2001). Tourism is a form of complementary demand for which the main components are transport, food, and accommodations (Morley, 1992).

When we examine the links between tourism and transportation facilities, we have to analyse the effects of transport cost changes on both tourist behaviour (Section 3.1) and tourism suppliers (Section 3.2).

3.1. Theoretical framework of analysis of the tourism behaviour and the effects of reduction of transport cost

Rugg's model (1973) is one of the first rigorous theoretical frameworks of consumer choice of a travel destination. This approach is based upon Lancaster's (1966) 'new approach to consumer theory': "*A traveler derives utility from being in the particular destination for some period of time. Dwelling in the destination allows the traveler to consume destinational attributes or characteristics, such as a pleasant climate or beautiful scenery, from which the traveler may then derives utility*" (Rugg, 1973, p. 65). The tourist is assumed to maximize utility. This maximization takes place by taking into account budget constraints and a temporal constraint, as well as temporal and monetary costs of transportation towards a principal destination (and between destinations). Rugg (1973) assumed that the tourist has a fixed time available for his journey. A short stay in a destination cannot give the same