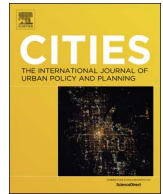




Contents lists available at ScienceDirect

Cities

journal homepage: www.elsevier.com/locate/cities

Labour mobility between cities and metropolitan integration: The role of high speed rail commuting in Spain

Begoña Guirao*, Juan Luis Campa, Natalia Casado-Sanz

Departamento de Ingeniería Civil: Transportes, ETSI Caminos, Canales y Puertos, Universidad Politécnica de Madrid, Avda. Profesor Aranguren, s/n., 28040 Madrid, Spain

ABSTRACT

Although the link between transport accessibility and the regional and local scope of labour markets has been widely studied in the literature, high speed rail (HSR) commuting is a relatively new user behaviour and little research has been done to date on labour migration derived from inter-regional HSR commuting. This paper contributes to the limited existing literature by analysing the evolution of the impact of HSR on labour markets in commuting relations. The added value of this research is that it is the first assessment of a panel data regression analysis taking account of HSR as a variable and using labour inter-regional mobility data (2002–2014). The model has been validated using the HSR commuting areas that converge in the metropolitan areas of Madrid, Barcelona, Seville and Malaga.

Results have highlighted the complexity of the variables involved in the decision to commute by HSR. This complexity is linked to the causal relations between the most representative variables, namely unemployment rates and housing prices, which are more difficult to study during periods of economic crisis. The location of the HSR station has been revealed as a key indicator, and is even more significant (in the case of the Madrid functional area) than the actual availability of the HSR commuting services.

1. Introduction

Labour migration as a response to regional disparities, mainly in unemployment rates, has been widely studied in the literature, in conjunction with the important role of transport accessibility in defining the regional scope of labour markets. One of the most salient features of the recent worldwide financial crisis is the increase in unemployment rates, and any effect on labour markets generated by migration should be studied in great detail. Labour migration is assumed to decrease regional disparities in the long term, although this effect – while widely discussed – is more difficult to validate.

Commuting can be seen as a type of “temporary” migration, in which transport infrastructure has been shown to play a key role; there is extensive literature (see [Section 2](#)) on the interactions between migrations (including commuting migration) on labour markets and unemployment indicators. However, commuting is a special type of mobility, and high speed rail (HSR) is a relatively recent mode of transportation used for commuting, so little research has been done to date on labour migration derived from inter-regional HSR commuting. HSR commuting distances are in the range of 100–200 km, involving travel times of less of 60 min, and real changes in administrative regions between the origin and destination. Differences in housing prices

usually play a key role in the decision whether to commute. Even in European countries with long experience of HSR commuting (like Germany, Spain and France), its effect on labour markets has barely been studied. Building and operating any HSR line involves huge costs, and, especially during this economic recession, any issue concerning HSR profitability is widely discussed by the scientific community. Some spillover impacts such as the effect of HSR on metropolitanisation processes, labour market size and tourism indicators are still new topics in the literature, and the vast majority of the published studies examine isolated HSR cases without developing systematic methodologies or reaching conclusions that can be extrapolated to other scenarios.

This paper contributes a new approach to the limited existing literature by studying the empirical impact of HSR commuting on regional labour markets. Spain has one of the highest unemployment rates in the European Union and also the second longest HSR network in the world, thus offering an interesting scenario for testing new methodologies. The added value of this study lies in the fact that it is the first empirical analysis of Spanish HSR commuting impacts on regional labour markets in the most populated cities: Madrid and Barcelona. Multivariate panel data models have been developed and applied to a database covering the period 2002–2014, thus capturing the effect of the financial crisis. The paper is divided into the following

* Corresponding author.

E-mail addresses: bguirao@caminos.upm.es (B. Guirao), j.l.delacampa@alumnos.upm.es (J.L. Campa), natalia.casado.sanz@alumnos.upm.es (N. Casado-Sanz).

<https://doi.org/10.1016/j.cities.2018.02.008>

Received 29 October 2017; Received in revised form 28 January 2018; Accepted 20 February 2018
0264-2751/ © 2018 Elsevier Ltd. All rights reserved.

sections: [Section 2](#) contains the state of the art on labour mobility, migration and commuting; [Section 3](#) gives a detailed description of the three functional areas with HSR commuting in Spain and shows the main results derived from preliminary studies. [Section 4](#) explains the model structure and discusses the most important variables affecting the process. [Section 5](#) shows the main results and conclusions of the model's application to the Spanish case study. Finally, [Section 6](#) presents the lessons and policy arguments drawn from this research.

2. Labour mobility, migration and the role of inter-regional commuting

There is a consensus in the literature regarding migration as a response to regional disparities in the labour markets. The accessibility between the workplace and the worker's residence, determined by transport infrastructure and operation, conditions travel times and the spatial limits of local labour markets ([Fujita & Thisse, 2002](#); [Johansson & Klaesson, 2007](#); [Johansson, Klaesson, & Olsson, 2002, 2003](#)). An increase in accessibility usually means a decrease in travel times and a larger labour market due to the integration of previously existing markets. Improving accessibility in transport markets encourages labour mobility when there are evident regional disparities in unemployment rates, and some authors ([Kanbur & Rapoport, 2005](#)) also point to a subsequent decrease in regional disparities as a result of this phenomenon. A third variable that is always linked to the study of mobility (migration or commuting) and labour markets is housing. For commuters, the location of their workplace and residence condition the length of their commute, so the study of changes in the housing market should be included in any methodology that seeks to determine the effects of commuting on the labour market. Likewise, migrants need to rent or buy a house to live in, and salaries must at least offset food and housing expenses.

Recently, [Haas and Osland \(2014\)](#) pointed to the complex relations between migration, labour markets and housing prices and to how the financial crisis begun in 2007 has highlighted the important role of housing prices in the economy of many countries. The type of mobility adopted – commuting rather than migration – depends mainly on the wages obtained and on the affordability of the housing. There is also a cumulative cause-effect process: migration may also affect housing by increasing house prices ([Hunt, 1993](#)) and, in the long term, the labour market itself. The complexity of the study of labour mobility (commuting or migration) in conjunction with labour markets and housing has meant that most of the published studies have focused on these three variables independently, generally in isolation ([Haas & Osland, 2014](#)). Modelling the complex interactions between these three processes using traditional approaches has proved problematic ([Hincks & Wong, 2010](#)), and also involves a fourth variable: the transport market. The decision of which type of labour mobility to choose (commuting or migrating) also depends on non-rational constraints (family situations or other social ties) which are difficult to introduce in a model, and may also be linked to cultural constraints. For example, unlike the US, migration seems to be unresponsive to rising unemployment rates in Europe and less influenced by wage differentials ([Bentivogli & Pagano, 1999](#); [McArthur, Thorsen, & Ubøe, 2010](#)).

Commuting can be considered a specific type of migration, and yet the vast majority of the research into regional disparities overlooks the impact of commuting flows and focuses on migration ([Elhorst, 2003](#); [Patacchini & Zenou, 2007](#)). Both commuting and migration are different forms of overcoming spatial separation between home and work, and the traditional approach to analysing this process ([Alonso, 1964](#)) has been based on the access-space models of urban spatial structure, assuming a single employment destination located in the Central Business District (CBD) of a metropolitan area. The implementation of revolutionary modes of transportation (like HSR) together with the spread of new types of re-urbanization trends (such as polycentric, shrinking or booming cities) and political phenomena (such as German

reunification or the recent mass refugee movements) are a further consideration for traditional modelling.

For example, German reunification introduced the possible inter-regional aspect of commuting, an approach that has been supported by some studies on East and West German workers ([Burda & Hunt, 2001](#); [Niebuhr, Granato, Haas, & Hamann, 2012](#)). Labour mobility between East and West Germany, especially for workers living in regions close to former borders, has featured commuting as a way to avoid the mobility cost inherent in traditional migration (renting or buying a new house), while benefiting from higher wages. Higher wages and lower housing prices can offset longer and costlier daily trips and, in this case, migration can be substituted by inter-regional commuting. We refer here to “inter-regional commuting” rather than traditional commuting, which focused exclusively on “urban” commuting.

A similar process of inter-regional commuting has been observed in countries with a HSR network, particularly associated to a new type of HSR mobility using high-frequency shuttles. The proliferation of HSR lines in European countries has led to a new urbanization trend: some medium-sized cities within 1 h by HSR (less than 200 km) of big cities in other regions have gone from being spatially isolated to becoming integrated into large metropolitan areas ([Garmendía, Ureña, Ribalaygua, Leal, & Coronado, 2008](#)). This has implications for the development of labour markets. HSR transport, which is promoted in various countries around the world, represents a technological revolution even when compared to conventional rail. Little research has been done so far even in Europe on the relation between HSR commuting and labour markets, and many of the HSR impacts on mobility and regional and economic development are new topics in the scientific literature ([Guirao & Campa, 2016](#); [Mohino, Ureña, & Solís, 2016](#); [Moyano, Coronado, & Garmendía, 2016](#); [Ureña, 2012](#)). Extensive research has focused on one issue linked to labour markets, namely the urban residential processes generated in cities isolated by HSR commuting (see [Garmendía et al., 2008](#); [Mohino et al., 2016](#)). Whether HSR commuting is facilitating decentralisation or concentration from/to metropolises is key to understanding the long-term benefits of building new HSR; however, the labour market must also be specifically addressed, and this approach has not yet been studied in detail. These studies (at least in Spain) date from before the onset of the financial crisis in 2005/2006 and do not reflect the effects of higher unemployment rates. Despite the lack of specific literature on the topic, with the exception of initial research in the Spanish cities of Ciudad Real and Toledo and the research works of [Moyano \(2016\)](#), presented in [Section 3](#), some general lessons can be learnt from recent publications that relate commuting with migration, and their empirical link to different aspects of the labour market (wages, spatial distribution of labour markets, regional disparities, etc.). For example, [Hunt \(2006\)](#) and [Elhorst \(2003\)](#) point to commuting and migration as two forms of mobility that are closely linked in the analysis of regional disparities between labour markets, and suggest that commuting behaviour should not be overlooked if the study of the size of a labour market is not merely functional and based on administratively defined regions.

However, there is a consensus on the complexity of the study of commuting as a type of migration because commuters do not change their place of residence. This has implications on the statistical data for regional unemployment rates and on the estimation of the regional benefits of labour mobility (economic balance). As an example, when commuters come from another region (as usually happens when HSR shuttles are used), the statistical effect will be to decrease unemployment in the region of origin and yet not to decrease it in destination unemployment. If we look at where the workers spend most of their income, while migrants tend to concentrate their consumption in the destination region, commuters presumably concentrate their consumption in their city of residence which, in the case of HSR commuting, does not match the city (even the region) of their workplace.

One of the peculiarities of HSR is that the cost of the tickets is high and, as a consequence, the commuter profile comprises mainly highly-

Download English Version:

<https://daneshyari.com/en/article/7417237>

Download Persian Version:

<https://daneshyari.com/article/7417237>

[Daneshyari.com](https://daneshyari.com)