



Landscapes and territory-specific economic bases

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ABSTRACT

The objective of this paper is to assess the potential of the landscape as a factor for regional development. Using the economic base theoretical framework, economic sectors are differentiated according to their alleged sensitivity to amenities. The empirical analysis clusters French counties on the basis of landscape physical attributes and economic sectors, then estimates the amenity-related basic employment multiplier in three study areas located in the Auvergne and Rhône-Alpes regions. Results tend to show that spending behavior is related to landscape type.

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Introduction

The landscape is acknowledged as a local development factor in the preamble of the European Landscape Convention: “landscape has an important public interest role in the cultural, ecological, environmental and social fields, and constitutes a resource favorable to economic activity and whose protection, management and planning can contribute to job creation” (CE, 2000).

However, the estimation of the contribution of landscapes to local economies is fraught with many difficulties related to the geographic scale of analysis, the temporal horizon or the identification of economic sectors whose activity depends upon the landscape. The relation between landscapes and local development is multifaceted and its empirical estimation is complex (Dissart, 2007). Some authors have used an environmental economics perspective to estimate landscape effects on recreational housing rental prices (see Rambonilaza [2006] for an application in France), others have tried to assess landscape impacts on product differentiation and their value (Colletis-Wahl and Pecqueur, 2001) or tourism attractiveness (Bessière, 1998). The objective of this paper is to evaluate the role of landscapes on regional development.

This article first suggests a framework of analysis of the contribution of landscapes to local economies using economic base theory. It thereby defines a framework where several categories of economic activity are identified depending upon their relation with

the landscape. Then, the paper analyzes the empirical relationship between landscape and employment using a two-step process: on the one hand, a cluster analysis of French counties based on variables that reflect landscape physical attributes and job categories as identified in the landscape-regional economics framework; and on the other hand, a finer estimation of the contribution of the landscape to local employment in three study areas located in the Auvergne and Rhône-Alpes regions.

A framework of analysis for landscape-regional economics relations

In its classic version, economic base theory is little-adapted to analyze landscape issues. However, once revisited, this theory offers relevant perspectives on estimating the contribution of landscapes to regional development.

“Classic” economic base theory is inadequate for landscape economic analysis

In its most standard version (as applied by North [1955] and his/her followers), economic base theory rests on a simple, dichotomous vision of the regional economy: export or basic activities, which satisfy external demand, vs. non-basic activities, which match local demand (Vollet and Bousset, 2002). This theory rests on the assumption that the injection of external income acts as a driving force for the regional economy. Whereas growth modeling at the national level must take account of several factors (e.g. investment, savings), regional or local modeling considers that exporting

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(external demand, actually) is the main variable that drives growth; other variables are considered non significant at this geographic scale. At a given point in time t , total regional revenue (TR_t) may be broken down into basic income revenue of external source (BR_t) and non-basic revenue (NBR_t) (McCann, 2001):

$$TR_t = BR_t + NBR_t \quad (1)$$

The driving impact of basic revenue onto non-basic revenue is estimated by the multiplier mechanism. Indeed, basic revenue circulates through the economy via successive rounds of spending between various economic agents. These rounds produce a multiplier effect which, at a given point in time, is the ratio between total revenue and basic revenue:

$$M_t = \frac{TR_t}{BR_t} = \frac{1}{1 - m_t} \quad (2)$$

where

$$m_t = \frac{NBR_t}{TR_t} \quad (3)$$

and M_t is the economic base multiplier, TR_t is total revenue in the region, BR_t is basic revenue, m_t is the average propensity to spend the revenue locally, and NBR_t is non-basic revenue.

Economic base models are particularly adapted to measure multiplier effects in weakly integrated economies (Vollet and Dion, 2001). However, using economic base theory requires knowledge of the local economic structure (i.e. the distribution of revenues or jobs between economic sectors) in order to measure the multiplier accurately. The choice of the study area (from a county to a *département*¹) is critical because it directly impacts the basic or non-basic character of an activity. An activity is considered basic when it satisfies external demand or when the revenue that pays for the satisfaction of that demand comes from outside the region. Therefore, basic activities include not only good-exporting activities but also local services that are used by permanent (retirees) or temporary (tourists, day travelers) residents whose revenues are external (Davezies, 2008; Farness, 1989; Talandier, 2007).

The landscape presents a unique situation for several reasons. First, though often considered an externality produced by other production processes (particularly farming and forestry), it is de facto a major source of attractiveness for tourists or day travelers. In the absence of attractive landscape features, some activities that benefit directly from the spending of households with external revenues (e.g. hotels) would experience less tourist attendance. A second reason relates to economic base theory in the sense that in addition to attracting households with external income, the landscape may affect what and where local and external households shop.

Analyses that assess the impact of tourists or newcomers (working population or retirees) on regional economies follow two major strategies. Either they consider those revenues external to the region as completely basic with no concern for the actual source of regional growth (West and Gamage, 1997). Or this source is broken down into components to better understand the mechanisms of regional growth, especially in small economies (Mulligan, 1994). In this case, reasons for migration or visits may vary, including the quality of cultural or health services, social capital, or landscape features. Of course there are visits or migration that may be largely indifferent to local characteristics or even completely footloose.

Revisiting economic base theory for landscape-based development strategies

Whereas the “classic” version of economic base theory considers basic only those revenues that come from the physical export of goods, a revised perspective differentiates several types of basic activities or revenues (Fig. 1).

First, there are basic activities (e.g. agriculture, industry) that sell some or all of their (physical) production to the rest of the world (i.e. outside the study region in Fig. 1). Following Farness (1989), we call them “traditional basic activities”.

Second, there are activities whose basic character is related to the “presence” of households with external income (tourists, commuters, retirees) in the study area (Terrier, 2009). Such basic activities may be called “non traditional basic activities” (Farness, 1989) because they correspond to the physical “import” of people with external income (rather than the physical export of goods in the previous situation) or “presential basic activities” because they are related to the “presence” of those households in the study area. Some activities may be little or not sensitive to amenities (e.g. hydrotherapy), others are more strongly dependent upon them (e.g. tourism lodging).

Third, in comparison to previous studies on the role of landscapes in regional development (e.g. Vollet and Guérin, 2005), Fig. 1 features a specific contribution: the distinction between presential and consumption bases, which shows the external and internal sources of regional development even in economic base models that classically focus on the role of external demand. Indeed, as argued by Vias and Mulligan (1997, p. 510): “*Virtually all new growth is due to growth in the non-basic activities of the economy, especially in those cases where the size of the basic sector has declined or remained stagnant*”. This is what Markusen (2007) calls the “consumption base”: activities that may act as local alternatives to the consumption of external goods or services and that depend upon household preferences. In previous economic base models, such activities were considered purely induced. However, they may be sensitive (or not) to landscape amenities: for example, whereas selecting a construction company depends upon various factors like social networks or firm competition, shopping habits (e.g. retailing) may be very sensitive to the shopping environment including, among other factors, the landscape.

Markusen (2007) applied the consumption base concept to cultural activities and thereby resumed the insights and debates of the founding fathers North (1955) and Tiebout (1956). Tiebout disputed the unique role of exports emphasized by North, and argued that the level of regional development depends upon three factors: (1) the level of “exports” or revenue generated by external demand; (2) the proportion of that revenue which is spent on goods and services; (3) the proportion of that spending which remains in the local economy. Most applications of economic base theory have historically focused on the identification of basic or export sectors. During the Long Boom (*Les Trente Glorieuses*), the objective was to identify physically exported goods. Then, as migration related to leisure and residential choice increased in the 1980s to 2000s, “importing” people with external income became the basis for reconsidering economic base theory (Bourg and Gouguet, 2001; Gouguet, 1979; Vollet, 1998, 2007). Today, there is an ever-increasing role of the environment in both consumption-related mobility (particularly for leisure) and purchases (either in situ or via images conveyed by product brands). Consequently it is interesting to look again at economic base models using Tiebout’s insights (as Kay et al. [2007] or Rutland and O’Hagan [2007] recently did) and applying them to the landscape.

As identified by Tiebout, differences in spending behavior across regions make the classic economic base model more difficult to

¹ Metropolitan France is divided into 96 *départements*, an intermediate administrative level between an administrative region and a county.

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