REGIONAL INEQUALITIES AND BALANCED DEVELOPMENT IN SOUTH-EASTERN EUROPE

DIMITRIOS GIANNIAS
Department of Economics, niversity of Thessaly

PANAGIOTIS LIARGOVAS
Department of Economics, niversity of Thessaly

Introduction

The issue of regional inequalities and their evolution over time is one of the most controversial topics in the economics literature. The traditional neo-classical analysis supports that regional inequalities are due to consumer income differentials. With identical regions, perfect competition, full employment, constant returns to scale and perfect mobility of factors of production, output (and income) of different regions should tend to converge over time towards a steady state (Solow 1956). This theory has been challenged by a large number of analysts.

First, by a number of growth models (Romer 1986; Uzawa 1965; Conslik 1969). These growth models concentrate on various forms of market failure which constitute a radical departure form the strong assumptions of neo-classical models. Imperfect mobility of labour, for example, can have perverse effects in terms of regional disparities to the extend that migration to fast-developing areas is usually led by the most dynamic and highly skilled members of the labour force in the lagging regions.(Myrdal 1957; Robson 1987; Prud'homme 1993). Furthermore, the existence of economies of scale and learning economies arising from the accumulation of human capital might lead to divergence in regional outputs per head (Van der Ploeg and Tang 1992).

In addition, the regional economics literature points to external economies such as location advantages associated with easy access to large markets, centres of administration and finance, and sources of skilled labour and technological knowledge (Krugman (1991); Krugman and Venables 1990).

Industrial organization theorists have also challenged the neo-clasical analysis. Most of the research on household mobility focuses on the importance of sociological and economic determinants of intra-regional or intra-urban mobility. Weinberg (1977, 1979) discusses in detail the influence of work-place and residence-related determinants of household mobility. Rossi (1995) focuses on the effect of mobility on housing needs that are generated by the shifts in family composition. Abu-Lughod and Foley (1996) stress the role of household size and income. Maisel (1968) found that the probability of moving varies inversely with income, whereas Brown (1975) found that both increases and decreases in income increase the probability of a move. Others, such as Goldstein and Mayer (1963) concentrated on the role of education. Sabagh et al (1969) found that housing market tightness also affects the mobility of households. In all cases household mobility was described as a major labour market equilibrating force, acting to equalize income differentials and overall economic conditions within a country or internationally.

Research on firm mobility can be found either in the lines of game theory or in the lines of local public goods and international trade or, finally, in the lines of entry and exit of firms. A game theoretic setting of firm mobility and location equilibrium was used by Tirole (1988) and Anderson de Palma and Gap (1992). Simultaneous price-and-location game involves Nash equilibrium in prices and locations. Researchers usually determine a set of prices and locations such that no firm wishes to change its price and/or location given the prices and locations of all other firms. Hotteling (1929) provided a two stage location and price game. According to this, the location stage takes place before

the pricing stage, so that firms' location decisions internalize the effects of locations on the subsequent pricing equilibrium.

According to Tiebout (1956) the locational choices of firms are affected by the allocation of local public goods. If the allocation of local public goods is efficient, no central planning authority is required. In this case, mobile households make choices over the differentiated offers of local authorities. Through their choices households reveal the information needed by the suppliers so as to induce local authorities to minimize costs and to design offers that meet demand. Richter (1994) extended Tiebout's hypothesis to the sphere of production by shifting the focus from locally public goods to locally public factors. The suggestion was that Tiebout hypothesis was better founded in the latter case.

International trade issues and spatial modeling were examined by several studies, including Benson and Hartigan (1983, 1984, 1987), Stegman (1983), Porter (1984) Hatzipanayotu and Heffley (1991), and Herander (1997) who employ Hotelling-type spatial models. Spatial models recognize that distance separates households and firms and incorporate a cost in economic transactions among them. These models add a geographical dimension to economic activity both within and across national borders in order to provide a convenient mean to examine the issue at hand.

Finally, according to an Industrial Organization approach the issue of intra-industry mobility is examined in an analogous way as the issue of entry of firms. Caves and Porter (1977) argue that group specific entry barriers not only give differential protection against new firms coming into the industry but they also protect the members of one group against the entry by a member of another group. Therefore mobility barriers are analogous to entry barriers. Acs and Audretsch (1988) empirically tested this hypothesis.

In this paper we try to combine all the above criticisms of the neo-classical theory by supporting the view that consumer income differentials can persist because some factors are inherently immobile, e.g., the environmental and climatic characteristics that are unique to a region. It is possible that several regions share the same site-specific characteristics, but it is unlikely that their distribution will be exactly the same. We can then examine the behavior of households and firms in the presence of regional inequalities and then discuss the implications for a balanced development. More specifically, we try to determine equilibrium conditions for households and firms in the presence of interregional characteristics. These equilibrium conditions provide us with firm and household locations that can be explained either by the dominance of firms or by the dominance of households.

Economic agents put their own value on a region, based on its quality of life advantage. A firm, for example may find that its quality of life in a region with easy access to large markets, centres of administration and finance, and sources of skilled labour and technological knowledge and a good transportation and telecommunication system saves time and reduces its production costs. This implies that this particular firm can offer relatively higher incomes to its employees and still remain competitive with other manufacturing companies located in lower-income regions since the quality of life advantage of the region are offering it a cost advantage. Since office space and other facilities in the area are limited, the companies attracted by the quality of life advantage of the region will increase the demand for both labor and office space. These increases in the prices of labor and office space will continue until in equilibrium they have completely offset the cost advantage of the region. Incomes and rents will vary across regions according to the value companies place on the quality of life-specific attributes in each region and their ability to substitute between factors of production.

Consumers, on the other hand, consider the overall quality of life advantage when they make decisions concerning the place they will live in. These characteristics refer to all aspects of the natural (e.g. parks, recreation, climate, air-quality) and non-natural (e.g. cultural, transport, public services, access to large markets, centres of administration and finance) environment of the consumer. The region, for example, with easy access to large markets, centres of administration and finance, and sources of skilled labour and technological knowledge and a good transportation and telecommunication system

that offered a cost advantage to some firms may be attractive to consumers because of reduced travel time to work and/or reduced cost of shopping. Consequently, as more consumers move into the area, the supply of labor increases as well as the demand for housing. Thus rents increase and wages fall until individuals in equilibrium are no longer willing to accept moving to a region with a quality of life advantage as a compensation for lower wages and higher rents.

The final income differentials between a geographical area with a quality of life advantage and one without depends upon the relative size of the demand and supply responses to site characteristics. If incomes are observed to be higher in the area with a quality of life advantage than in the other, then the firm's response dominates the rent determination process. If incomes are relatively lower in the area with a quality of life advantage, then the consumer's response dominates the process. In both cases rents will be higher because both households and firms value a good transport system. Rents would be lower than in otherwise comparable geographical areas if the regional transport system was not important to both parties. Consequently, by observing relative consumer incomes and rents, or by observing other variables having a monotonic relationship with them, it is possible to identify whether a region's bundle of environmental and quality of life advantage has a greater net effect on company quality of life decisions or consumer quality of life decisions.

We can then use this framework to identify South-East European countries according to the extend they are dominated by supply and demand responses to their net bundle of country-specific attributes. The countries are then classified into four groups based on the relative values of a country's per capita income and quality of life advantage. These groups include firm dominated rich countries (high consumer income, high quality of life advantage), firm dominated poor countries (low consumer income, low quality of life advantage), consumer dominated rich countries (low income, high quality of life advantage) and consumer dominated poor countries (high income, low quality of life advantage). This identification is useful because it provides information about the relative attractiveness to consumers and companies of the total bundle of quality of life and other attributes indigenous to each country. It also assists policy makers to formulate the best suited regional and urban policies for a balanced development.

Section 2 of the paper presents a theoretical model of the effects of quality of life and income differentials on interregional differences. Section 3 uses this model in order to determine the relative importance of quality of life advantage and income differences as sources of regional disparities across countries in the South-East Europe. Finally, section 4 offers some conclusions.

The Theoretical Model

In modeling the relationship among interregional differences, it is assumed that consumers have identical tastes and skills and are completely mobile, migration is costless, capital is completely mobile, production technologies are identical across companies and exhibit constant returns to scale, and, finally, companies and consumers have chosen locations such that they could not be made better off by relocating.

In our analysis, regions (or different countries consisting of regions with very similar characteristics) are fully described by a bundle of variables. These specify the regional index of a region, RI, which includes all relevant aspects of quality of life in a region, such as economic welfare, economic structure, infrastructure, knowledge infrastructure, health conditions end environmental conditions. Therefore the regional index RI reflects not only the average level of economic welfare, but also its composition and in addition distributional issues. Regions are identified as areas (or countries) for which the regional index (RI) is relevant. This might mean that the RI value is approximately homogenous across the various parts of the region (or country). RI affects the utility of consumers, U(.), and the cost of production of firms, C(.), directly. Individuals in these regions are assumed to consume and produce the numeraire good, X, which is a composite good with a price that is equal to one. Each consumer supplies one unit of labor and receives his income, I, in return. His income is

assumed to be a function of the regional index characterizing a region, that is, $I = I(RI)$, and is spent on housing and the numeraire good. The rental price of a house is a function of the vector of housing characteristics, h, and the regional index, RI, that is, the rental price of a house is specified by the function $P = P(h,RI)$. It is assumed that $P(h,RI) = R(RI)\ h'$, where h' is the transpose of h, and R(RI) is the vector of implicit prices for each housing characteristic. An equilibrium must be characterized by equal utility for identical consumers and equal unit costs for firms across all regions.

A utility maximizing consumer solves the following optimization problem:
max $U(h,X,RI)$
with respect to h,X,RI
subject to $I(RI) = R(RI)\ h' + X$
where I(.) and P(.) are the equilibrium income and rental hedonic equations, respectively.

Let RI^*, h^*, and X^* be the solutions to the above utility maximization problem specifying, respectively, the region, RI^*, the housing characteristics, h^*, and the numeraire good, X^*. As a result, the consumer's income will be $I^* = I(RI^*)$, and his rent $P^* = P(h^*,RI^*) = R^*\ h^{*\prime}$, where $R^* = R(RI^*)$. Equivalently, the problem can be stated in terms of an indirect utility function V(.) where,
$V(I^*,RI^*,R^*) = \max U(h,X,RI^*)$
with respect to h,X
subject to $I^* = R^*\ h' + X$

Equilibrium for consumers requires that the utility is the same in all regions, that is, $V(I,RI,R) = v$, where v is a constant. The equilibrium condition implies that individuals in regions with a higher regional index value (relatively more developed regions) will face reductions in income in the form of higher rents and lower wages.

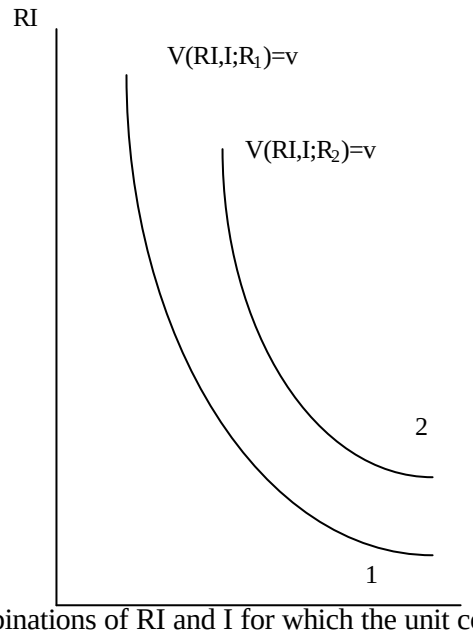
A cost minimizing firm solves the following problem:
min $I(RI)\ L + r\ K + R(RI)\ h'$
with respect to L, K, h, RI
subject to $X = f(K,L,h,RI)$
where K is capital, L is labor, I(.), and R(.) are the equilibrium income and rental hedonic equations, respectively, r is the unit price of capital, and f(.) is a constant returns to scale production in K and L.

Let RI^*, h^*, K^* and L^* be the solutions to the above cost minimization problem specifying, respectively, the region, RI^*, the kind of building or office to be used by the firm, h^*, and the amount of capital and labour employed, (K^*,L^*). As a result, the firm will pay income $I^* = I(RI^*)$ and rent $P^* = P(h^*,RI^*) = R^*\ h^{*\prime}$, where $R^* = R(RI^*)$. Equivalently, the problem can be stated in terms of a unit cost function C(.) where,
$C(I^*,RI^*,R^*) = \min I^*\ L + r\ K + R^*\ h'$
with respect to L, K, h
subject to $X = f(K,L,h,RI^*)$

Equilibrium for producers requires that the unit cost is the same in all regions, that is, $C(I,RI,R) = c$. The equilibrium condition implies that firms in regions with a higher regional index value (relatively more developed regions), will have to pay higher incomes and rents. Wages and rents in each region are finally determined by the interaction of the location decisions of households and firms.

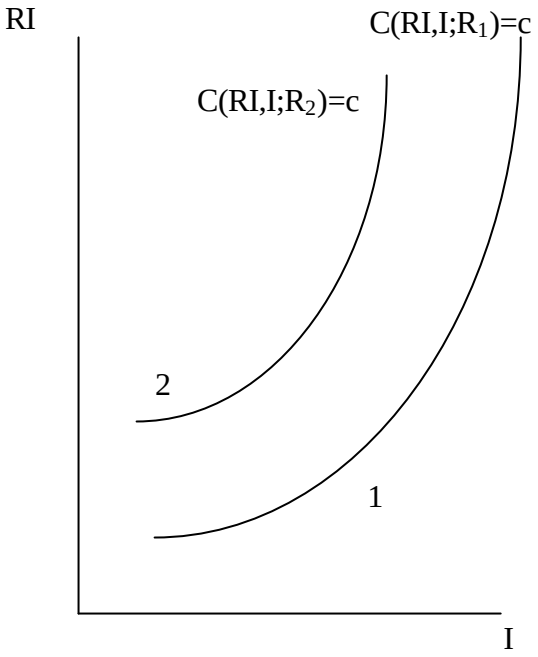
The model described above is illustrated in Figure 1. The downward sloping curve in Figure 1, labeled V(I,RI;R), shows combinations of I and RI for which utility is equal to v given implicit prices for housing characteristics, R. The slope of these curves is the trade-off that households are willing to make between wage income and regional development (as it is measured by RI) for any given level of implicit prices for housing characteristics (R) and the given utility level v. Along each curve, the implicit prices of housing characteristics is fixed and the curves shift up (down) as the implicit prices of the housing characteristics increase (decrease). Therefore, the implicit price of housing characteristics in region 2 (relatively more developed region) is higher than the one in region 1.

Figure 1



Combinations of RI and I for which the unit costs of firms are equal are depicted in Figure 2. The vector of implicit prices R is fixed along each iso-cost curve, and the curves shift up (down) as the characteristics of a region increase (decrease) the productivity of firms and the implicit prices, R, of the real estate market. According to Figure 2, the implicit prices in region 2 (relatively more developed region) are greater than those of region 1.

Figure 2

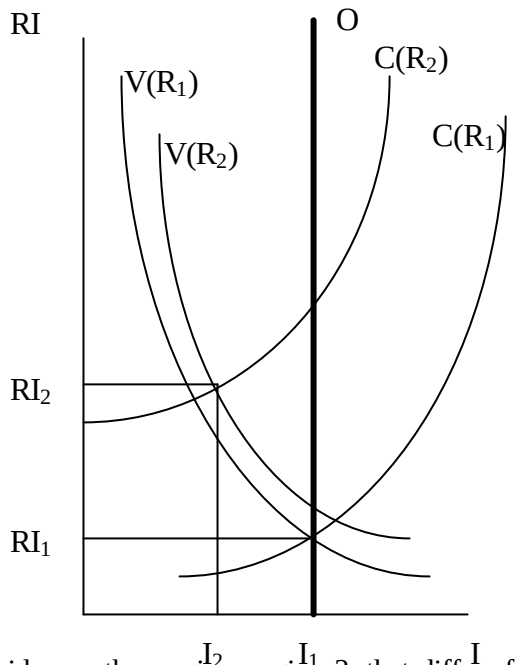


Each region is characterized by a regional index value and a vector of implicit rental prices that are associated with a specific pair of iso-cost and iso-utility curves as in Figures 1 and 2. Equilibrium occurs at the intersection of the two curves. It determines the relative income and the implicit prices of the real estate market. In Figure 3, region 1, where the regional index value equals RI_1, the equilibrium income

will be I_1 and the equilibrium implicit rental prices R_1. Using region 1 as a reference point, which could be thought as the average region, we can see in the following how interregional differences will be reflected in differences in incomes and implicit rental prices. The disequilibrating influences on households and firms are presented in the Appendix.

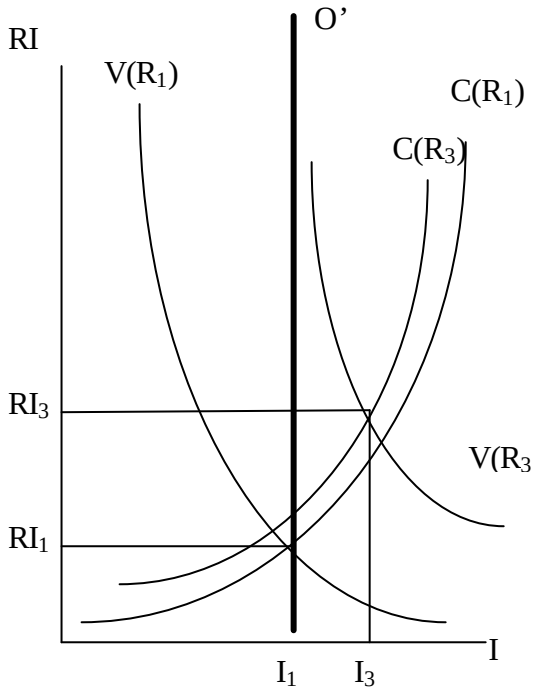
Consider a region 2 that differs from 1 only in that the characteristics of region 2 are valued more by consumers compared to those of region 1. This implies that, ceteris paribus, rents in region 2 will be relatively higher than rents in region 1. In Figure 3, this is illustrated by $V(R_2)$ lying above $V(R_1)$. Assuming there is no difference between the two regions from the firms' point of view, we have that in equilibrium incomes in region 2 must be lower relative to region 1. The latter implies (i) that $C(R_2)$ lies above $C(R_1)$ as shown in Figure 3, and (ii) that $C(R_2)$ has moved up relatively more than $V(R_2)$. As a matter of fact, the greater the decrease in income, the greater the shift of the $C(R_2)$ curve relative to that of the $V(R_2)$ curve. The higher rents and lower incomes reflect the amount consumers are willing to pay to locate in region 2 rather than 1 and, therefore, the value to them of RI_2 relative to the average region. Moreover, since from the firm's point of view there is no difference between the two regions, the effects of higher rents and lower incomes on costs offset each other so that unit costs remain in equilibrium equal to c.

Figure 3



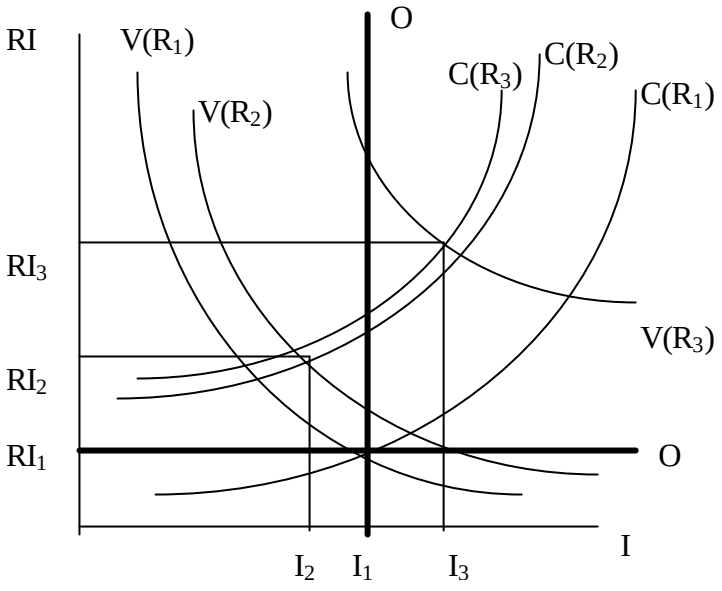
Consider another region, region 3, that differs from 1 only in that its characteristics provide a greater productivity advantage to firms. This implies that, ceteris paribus, rents in region 3 will be relatively higher than rents in region 1. This relationship is illustrated in Figure 4, where region 3 is represented by $C(R_3)$ which is to the left of $C(R_1)$. If no differences exist from a consumer's point of view, we have that in equilibrium incomes in region 3 must be higher relative to region 1. The latter implies that $V(R_3)$ lies above $V(R_1)$ as shown in Figure 4, and (ii) that $V(R_3)$ has moved up relatively more than $C(R_3)$. As a matter of fact, the greater the increase in income, the greater the shift of the $V(R_3)$ curve relative to that of the $C(R_3)$ curve. The higher rents and incomes reflect the amount firms are willing to pay to locate in region 3 rather than 1, and, therefore, the productivity value of RI_3 relative to the average region. Moreover, since from the consumer's point of view there is no difference between regions 1 and 3, the effects of higher rents and incomes on the maximum utility of a consumer offset each other so that the maximum utility that a consumer enjoys in equilibrium remains equal to v.

Figure 4



Putting the above cases of Figures 3 and 4 on the same graph, (Figure 5), it is seen that (i) when the characteristics of a region are valued more by consumers, ceteris paribus, $C(R_2)$ and $V(R_2)$ have both been moved up and $C(R_2)$ has moved up relatively more, and (ii) when the characteristics of a region are valued more by firms, ceteris paribus, $C(R_3)$ and $V(R_3)$ have both moved up and $V(R_3)$ has moved up relatively more.

Figure 5



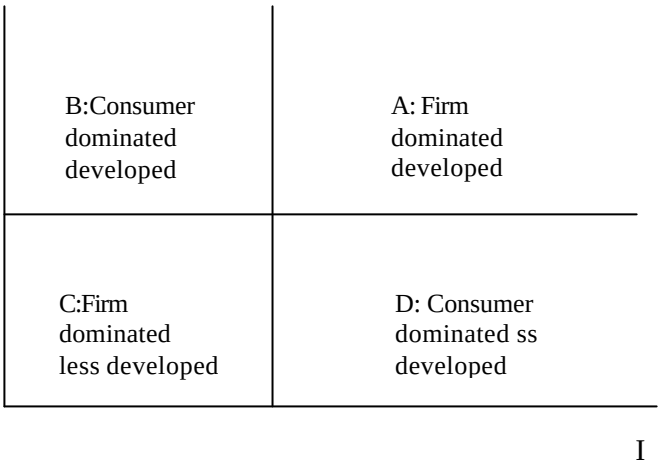
By examining the patterns of the regional index values and incomes across regions, we can determine whether the regional index and income differences reflect firm dominated or consumer dominated interregional differences. If interregional and income differences primarily reflect consumer dominated

differences across regions, we would see a negative relationship between the regional index values and incomes. If they reflect firm dominated differences, the relationship would be positive.

Each region is characterized by a regional index, RI, the effect of which on household utility and production costs varies from one region to another. The problem of classifying regions by the relative magnitude of these two effects becomes one of identifying the regional index and income differences in equilibrium relative to the shifts in each curve. This can be done by identifying the combinations of RI and I in equilibrium that are associated with equal shifts of both curves and determining how the incomes and the regional index values change relative to these shifts. The (RI,I) equilibrium combinations associated with equal shifts of both curves would coincide with the RI_1O and I_1O' lines in Figure 5 where RI_1 is the mean regional index and I_1 is the mean income.

For any region with income and regional index greater than RI_1 and I_1 respectively, the shift of the C(R) curve must be less than the shift of the V(R). The less the direct effect of the regional index on utility, the greater the increase in consumer income needed to offset the increase in rents and, consequently, the greater the shift of the V(R) curve needed to keep the maximum utility level unchanged and equal to v in equilibrium. Therefore, any region with a regional index value and income combinations in quadrant A in Figure 6 is classified as "firm dominated, developed" region, because the primary reason that this region's incomes, index value, and rents differ from those of the average region is the above-average productivity effects of its characteristics. This above-average productivity effect is reflected in the ability of producers in these regions to pay above average incomes and rents for being in a position to operate in a region with an index value greater than the average.

Figure 6



Similarly regions with income and regional index lower than RI_1 and I_1 respectively (quadrant C in Figure 6) are classified as "firm dominated, less-developed" regions, since firms in these regions are compensated for the below-average index value effect on productivity with below-average rental prices and income.

Consumer dominated regions with a regional index greater than RI_1 are associated with increases in rents and decreases in incomes reflecting consumers' willingness to pay relatively more for the effects of the regional characteristics embodied in the region's index value. Quadrant B then identifies regions where the regional index, RI, is greater than the average and the dominant factor determining relative incomes and rents is the high regional development. For regions in quadrant D, the dominant factor is their below-average regional development value.

Implications and Illustration

In this section we proceed with an illustration of the previous theoretical framework. To this end we compute the regional index RI, of five South-East European countries, namely, Albania, Bulgaria, Romania, Turkey and Slovenia. We specify the following Regional Index of a region:

$$RI = \sum_{i=1}^{N} (w_i a_{ij}) \Big/ \sum_{i=1}^{N} w_i$$

For j = 1, 2, 3, m

where a_{ij} is the ith regional characteristic of region j, w_i is the weight for the characteristic i, N is the number of characteristics considered, and m is the number of regions being examined. The weights w_i can be all equal to 1/N or be assigned a-theoretically using principal component or survey results. However, in all cases the weights should be the same across regions, that is, they should not be indexed by j.

We compute the regional index RI for 5 South-East European countries, by including all relevant aspects of life in a region (or country). As discussed in the theoretical part these aspects can be grouped into 6 categories, as following:

(1) Economic welfare: Y_{1j} = Real GNP per capita
(2) Economic structure: Y_{2j} = FDI (% of GDP), Y_{3j} = Televisions (per 1000 people), Y_{4j} = mobile phones (per 1000 people), Y_{5j} =Crude birth rate per 1000 people.
(3) Infrastructure for interaction: Y_{6j} = Paved roads (as % of total roads), Y_{7j} = Telephones (per 1000 people),
(4) Knowledge infrastructure: Y_{8j} = Primary school pupils per teacher, Y_{9j} = Gross enrollment ratio (tertiary % of relevant age group), Y_{10j} = Daily Newspapers per 1000 people.
(5) Health conditions: Y_{11j} = Infant mortality rate per 1000 live births, Y_{12j} = Crude death rate per 1000 people, Y_{13j} = Health expenditures (public as % of GDP), Y_{14j} = People per doctor, Y_{15j} = People per hospital bed
(6) Environmental conditions: Y_{16j} = Freshwater resources cubic meters per capita, Y_{17j} = Access to safe water (% of rural population).

All variables considered give an indication about relevant aspects of the external environment of a region (or of a country consisting of regions with very similar characteristics). The contention is that, if the value of the index is relatively high, then the condition of the external environment of the region is relatively high and life in it is relatively better. The above variables have been chosen because they also affect directly or indirectly the cost of the production activities under consideration. They cover almost all relevant elements which affect the level of regional development in any country. The first variable represents economic welfare and has a positive influence on regional development. The next four variables reflect the region's economic structure. They also have a positive influence on regional development. Variables 6-7 represent infrastructure for interaction. They are supposed to have a positive influence on regional development. The same assertion holds for the next three variables, which reveal information about knowledge infrastructure. Variables 11-15 reveal information about health conditions. With the exemption of "health expenditure as % of GDP" they are negatively related with regional development. Finally, the last two variables can be classified as environmental variables. A better environmental quality is supposed to be positively related with the level of regional development in a country.

After scaling the above variables on a 0 to 100 scale, we compute the regional index. We then map regional index and per capita income combinations, for the 5 South-Eastern countries for two periods: 1993 and 1995. The results appear in Figures Each point on Figures 7 and 8. Each point in Figure 7 or 8 represents an equilibrium point as explained in the theoretical part. We identify four groups of countries.

Group A (quadrant A) includes countries, which are characterized by both high income and high regional development index (firm dominated): Slovenia. Group B (quadrant B) includes countries with low income and high regional development (consumer dominated): Bulgaria and Turkey. Group C (quadrant C) includes countries with low incomes and low regional development index (firm dominated): Albania and Romania. We also draw the 45 degree łne AA. Any point on this line represents balanced development, where the regional index is equal to income index. It is obvious that Slovenia, Bulgaria and Turkey (in 1993) are far from a balanced development.

Figure 7. Regional and Income Inequalities in SE European Countries (1993)

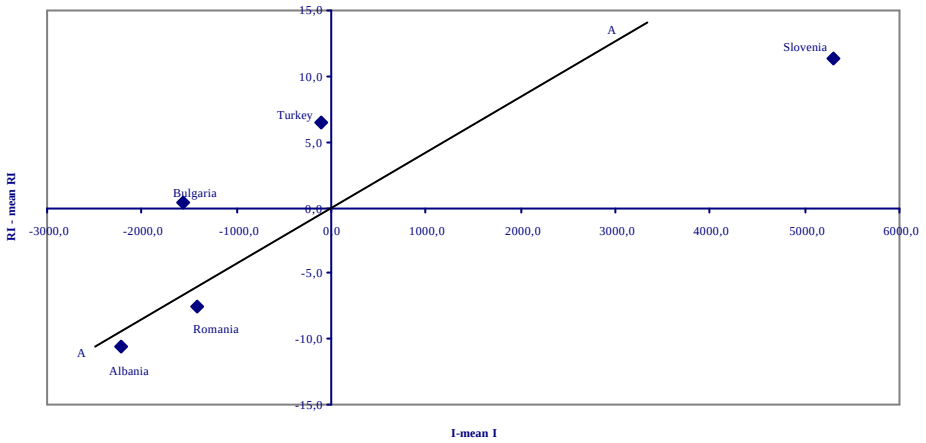
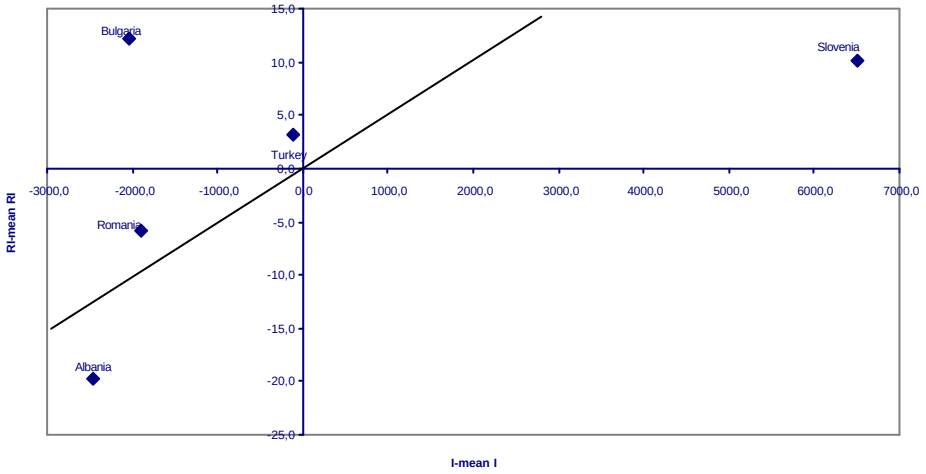


Figure 8. Regional and Income Inequalities in SE European Countries (1998)



Conclusions

A theory is presented to determine equilibrium conditions for households and firms in the presence of variations in regional characteristics. These equilibrium conditions provided us with firm and household locations that can be explained either by the dominance of firms or by the dominance of households. The results of this theory were applied in the case of five South-Eastern countries for two periods: 1993 and 1995. The analysis showed that in Albania and in Romania both regional and income indices are lagging behind in comparison to Slovenia. We also showed that Slovenia, Bulgaria and Turkey (in 1993) are far from a balanced development

By concluding, the book first realizes that the Balkan countries are characterized by increasing regional disparities, unbalanced development, increasingly superior performance of the metropolitan regions, serious discontinuities at the borders and an urban system with serious deficiencies in medium sized cities. Based on the above findings, the book supports that the Balkan region requires a two-fold approach. First a macroscopic approach focusing on trade and investment. Specific measures within this approach include free trade areas, free investment zones and schemes of regional monetary integration. Second, a microscopic approach focusing on regional and cross-border cooperation. The development of networks and groupings of small businesses in border regions, the collaboration of educational institutions between neighboring countries in the framework of research programs and especially in the framework of transboundary resources and the introduction of new methods such as performance management at the local level (e.g. municipalities) are some of the policy measures proposed by the authors of this book.

References

Acs, Z. and Audretsch, D. (1988) "Small-Firm Mobility", *Economics Letters* 26, 281-284.

Anderson, S., Andre de Palma and Gap-Seon, H. (1992) *Canadian Journal of Economics* XXV, No.1, 76-88.

Abu-Lughod, J. and Foley, M. (1996) "The consumer votes by moving in: William L.C. Wheaton" in Grace Milgram and Margy Ellin Meyerson, (eds) *Urban housing*. Free Press, New York, 175-191.

Benson, L., and Hartigan, J. (1983) "Tariffs which lower price in the restricting country: an analysis of spatial models", *Journal of International Economics*, 15, 117-33.

- (1984) "Tariffs and quotas in a spatial duopoly", *Southern Economic Journal* 50, 965-78.

- (1987) "Tariffs and location specific income redistribution", *Regional Science and Urban Economics* 17, 223-43.

Brown, J. (1975) "Changes in workplace and residential locations" *Journal of the American Institute of Planners* 41, Jan. 32-39.

Caves, R. and Porter, M. (1977) "From entry to mobility barriers", *Quarterly Journal of Economics* 91, May, 241-261.

Conlisk, J. (1969) "A Neoclassical Growth Model with Endogenously Positioned Technical Change Frontier", *Economic J.* 348-62.

Goldstein, G.S and Mayer, K.B. (1964) "Migration and the journey to work", *Social Forces* 42, May, 472-81.

Hatzipanayotou, P. and Heffley, D. (1991) "Tariff protection in an open spatial economy", *Journal of Regional Science* 31, 1-15.

Herander, M. (1997) "Tariff policy with intracountry firm mobility: a spatial analysis" *Canadian Journal of Economics*, XXX, No. 2, 413-428.

Hotelling, H. (1992) "Stability in competition" *Economic Journal* 39, 41-57.

Krugman, P. (1991) "Increasing Returns and Economic Geography", *Journal of Political Economy* 99(3).

Krugman, P., and Venable, A. (1990) "Integration and the Competitiveness of Peripheral Industry" in C. Bliss and J. Braga de Macedo (eds) *Unity with Diversity in the European Economy: The community's Southern Frontier*, pp.56-75. Cambridge: Cambridge University Press.

Maisel, S. J. (1968) "Rates of ownership, mobility, and purchase" in *Essays in land economics*. University of California Press, Los Angeles, CA, 76-108.

Myrdal, G. (1957) *Economic Theory and Underdeveloped Regions*. London: Duckworth.

Porter, R. (1984) "Tariff policies in a small open spatial economy" *Canadian Journal of Economics*, 17, 270-82.

Prud'homme, R. (1993) "The Potential Role of the EC Budget in the Reduction of Regional Disparities in a European Economic and monetary Union", *European Economy*, Reports and Studies, 5.

Richter, W. (1994) "The efficient allocation of local public factors in Tiebout's tradition", *Regional Science and Urban Economics* 24 , 323-340.

Robson, P. (1987) *The Economics of International Integration*. 3rd edn. London: Allen and Unwin.

Romer, P.M. (1986) "Increasing Returns and Long-Run Growth", *Journal of Political Economy* 98**,**

S71-S102.
Rossi, P. (1955) *Why families move.* Free Press, Glencoe, IL.
Sabagh, G, Van Arsdol, M. and Butler, E. (1969) "Some determinants of intra-metropolitan residential mobility: Conceptual considerations", *Social Forces* 48, 72-87.
Solow, M. (1956) "A contribution to the Theory of Growth", *Quarterly Journal of Economics* 70, 65-94.
Tirole, J. (1988) *The Theory of Industrial Organization.* Cambridge, MA: MIT Press.
Tiebout, M. (1956) "A pure theory of local expenditures", *Journal of Political Economy* 64, 416-424.
Stegman, K. (1983) "Wasteful imports due to domestic monopoly in a spatially differentiated market" *Southern Economic Journal* 49, 734-42.
Uzawa, H. (1965) "Optimum Technical Change in an Aggregative Model of Economic Growth", *International Economic Review* 6**,** 18-31.
Van der Ploeg and Tang (1992) "The Macroeconomics of Growth: An International Perspective", *Oxford Review of Economic Policy* 8(4), 15-28.
Weinberg, D. (1977). "Toward a simultaneous model of intra-urban household mobility", *Explorations in Economic Research* 4, no. 4, Fall, 579-592.
- (1979) "The Determinants of Intra-Urban Household Mobility", *Regional Science and Urban Economics* 9, 219-246.