

Attractiveness of regions and externality in welfare economics

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Executive summary

It has been a great concern in Social Science to investigate sustainable urban and rural development both in theoretical and empirical approaches. The measurement of regional development and growth can be expressed by the GRP (Gross Regional Product) and other economic indicators. Although these may indicate the direction and the extent of economic growth, there are some missing elements to measure a real regional growth. One of missing elements is attractiveness for households to accommodate at the specific area. In other words, the real economic growth of the region needs to consider both effective economic performance and sufficient well-being environment. However, the extent of well-being attainment would be difficult to evaluate within the framework of existing representative economic indicators. Unless whole elements for the real growth of region are properly included in spatial analysis, regional development cannot fulfil actual needs of local households and firms.

Apart from the fact that households do not feel their happiness as the economic indicator shows, there is a following reason why it is necessary to conduct such an investigation. Once the level of attractiveness declines in a region, local population and economic activity may not be stable in the long run. Unstable local population and economic activity would cause shrink of market areas and supply areas on local goods and services. The shrink of market areas and supply areas of them may create uncompleted distribution of goods and services, reducing local input which eventually declines the economic development and growth of that region. In other words, appropriate decision-making of scale and scope on rural development can maintain centripetal force of local population and economic activity, which may reduce excess cost and administrative burdens on local government in addition to improve social welfare.

While there are various different approaches to investigate such particular issues, this paper solely limits its scope to explore a relationship between attractiveness of regions and

externality in welfare economics to expand the established social welfare function to the argument of regional attractiveness.

A location model

Assume that there is a representative firm who produces a good to the local market and to export other regions or nations. For reasons of simplicity, there is no market competition within the region.

- Local market area declines when local population decreases
- If goods and services can be exported at lower cost, actual market may be both in a region and outside the region
- For luxury goods and services, product differentiation is needed to survive from interregional and international market competitions
- Local population increases, local market area also increases
- For luxury goods, higher product differentiation brings more demand outside the region
- In any case, either achievement supplies more place to work across the region
- Highly qualified standard of living is more secured, since firms providing goods and services would continue to distribute their goods and services
- They bring less risk to increase consumer exclusion and visible safe-secured products are available to consume that invite more qualified standard of living as another respect
- This hypothesis varies with the type of examining goods and services

Hypothetical analysis

Classification of goods and services according to the applicability of conventional central-place theory

- Type A: necessary goods and services so that consumptions are locally available within the region
 - Immediately available to apply market-area analysis as these may be distributed within the region. For necessary goods and services, profitability is not higher than luxury goods, since prices are relatively low level and so both total revenue and total cost can be a constantly lower level
 - Directly affect the well-being enhancement of households in the region - a love of variety; spatial consumer exclusion to the local households
 - If exported to other regions or nations, the regional additional income brings higher

income and higher local government tax revenue within the region, which enables to enjoy more variety of goods and services

- Type B: necessary goods and services but locally unavailable to produce so that these are imported from other regions or countries
 - Formation of market area can be unevenly illustrated
 - The volume of information is limited
 - Fewer profit for the region as these are exported and purchased from the market outside the region
 - Increase more satisfaction based on the idea of a love of variety
 - If these are strictly distributed within the closed regional economic system, each production may cause significantly high cost with inefficient level of labour and capital because they are not on the right track of comparative advantage
 - Ideal to import from neighbour region, ideally under affiliated coordination
 - A specific case that region 1 has a good α which region 2 does not have. Similarly, region 2 has a service β which is unavailable at region 1 - If both regions realise such situation with each other and affiliation coordination is organised, both regions may save cost and increase well-being level than the circumstance where there is no contract between two regions
- Type C: luxury goods and services so that local consumption may be limited and these are more common to export to other regions or countries.
 - Difficult to apply market-area analysis
 - Normally product differentiated as a result of interregional or international competition and both higher revenue and higher cost may be observed
 - Distribution of these goods and services cannot be directly related to welfare level of households in the region
 - Indirect effects: product differentiation is available by more refined inputs (K, L)
 - Refined inputs are high quality of $K(I, L)$ and high quality of $L(d)$
 - How to maintain highly-qualified labour in a region - provide comfortable space to make a living: attractiveness
 - Other aspects: accessibility to central places for obtaining full goods and services
 - Distribution of goods and services can be directly unrelated to welfare level of

households in the region - however, product differentiation may bring higher revenue which increases the tax revenue of the local government and also increases income of local labour and other local firms under upstream and downstream linkages

An extension

Every type of goods and services can contribute to improve well-being attainment of local households, while the causation may be different among these three types of goods and services

- Explore how to define well-being or comfortable feeling in economic theories
- Stiglitz et. al., (2009) addressed missing factors to measure whole impacts of sustainable economic growth as *Report by the Commission on the Measurement of Economic Performance and Social Progress*
- Alternative measurement of sustainable regional and national growth
- Involves the notion of attractiveness for households to stay at a specific space
- Expanded terminology of urbanisation economies

Further avenues

Social welfare function in regional welfare economics

- Involvement of spatially-constrained and spatially-unconstrained internal and external economies of scale, scope, and complexity
- A formal representation can be referring to Coase (1937), and Silberberg and Suen (2000)
- Technological improvement conversely causes lower demand of labour and other input in a quantity term
- Accessibility to the centre involves additional investment which may be only acceptable if there is a sufficient demand as well as a certain level of contribution to enhance regional economy in the long run

Concluding comments

- Sustainable development and growth in urban and rural areas
- Existing indicators such as the GRP do not measure the extent of well-being in the region
- Alternative framework by central-place theory combined with externality
- Social welfare functions

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