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LM3 – Local Multiplier in Environmental Economics

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Abstract

- This study aims to evaluate the application usage of local multiplier 3 (LM3) in the area of environmental economics on a theoretical basis.
- The analysis monitors the utilization of LM3 by government organizations (subsidiary organizations, state organizational units) established by the Ministry of the Environment of the Czech Republic and tasked with the administration of specifically protected land areas.

Target

- The study aims to provide an assessment of the contributions made by organizations dedicated to this specific approach to the development of regional and interregional movement as well as analyze the expenditures of individual organizations.
- The text also deals with specific aspects associated with the management of organizations established for the purpose of nature conservation and landscape protection as well as with the potential application of the obtained results in the area of planning future national parks and protected areas in the Czech Republic and their impact on the local economy.

Material and methods

Methodology

The LM3 – local multiplier is calculated in three phases.

- Phase 1 – calculation of the annual net income of the organization in question.

Material and methods

- Phase 2 – stratification of the organization's expenditures, differentiating between expenditures spent locally and expenditures spent outside the region, while focusing on expenditures spent in the region: expenditures associated with employees, suppliers of goods and services, reinvestment of profits in the company's development and rent or mortgage expenses.

Material and methods

- Phase 3 – The third phase requires the determination of how much is spent by local employees and suppliers in a given region; the most common consumer expenses include food, clothing, leisure time and entertainment and rent or mortgage while the expenses of suppliers (organizations) tend to approximate the spending of the organization in question (personnel costs, suppliers of goods and services, rent or mortgage).

Results

Sample calculation:

- Sum total = phase 1 + phase 2 + phase 3, LM3 =
Sum total (phase 1, 2, 3) / phase 1

Example:

- Phase 1: 100,000 CZK
- Phase 2: 40,000 CZK
- Phase 3: 20,000 CZK
- Total: 160,000 CZK
LM3 = $160,000 / 100,000 = 1,60$

Results

- This means that every 10 CZK received by the organization as income creates a sum of 16 CZK for the regional economy.
- One crown (1 CZK) of the organization's expenditures creates 1.60 CZK for the local economy.
- In other words, one crown (1 CZK) of expenditure creates an additional 0.60 crowns in income for the regional economy ($1,60 - 1 = 0,60$).

Results

- An important element of the calculation of the second LM3 phase is the division of an organization's expenses into those spent in the local region (employee wages, local suppliers).
- The third LM3 calculation phase is designed to determine how local people and organisations associated with the selected organization spend their money.
- A survey must thus be conducted in order to complete the third calculation phase.

Discussion

The LM3 score also quantifies the following:

- whether the organization employs persons from the region or from outside of it,
- whether the region provides a sufficiently extensive and qualified workforce,
- whether top management may be from another area and therefore tends to hire employees from that area,
- the results clarify which suppliers are local and which are located outside of the region.

Discussion

When monitoring the contribution of a given subject to the local economy, the following aspects must be mentioned:

- the organizations in question were established with the objective of nature conservation and landscape protection in accordance with Act No. 114/1992 Coll., on Nature Conservation and Landscape Protection, as amended;
- significant financial aid provided by the founding authority (Ministry of Environment) in the form of contributions for activities (tens to hundreds of millions of CZK per year according to the size of the administrative organisation or other protected area);

Discussion

- unlike businesses or companies, these organizations are not designed to generate profit;
- without the financial support of the founding authority, these organization would not be able to function and perform all of the stipulated legal conditions necessary for nature conservation and landscape protection;
- internal management is governed by Act No. 218/2000 Coll. on Budgetary Rules, as amended, with principal and secondary economic activities;
- internal revenue may be generated from the sale of lumber, game meat and other commodities.

Discussion

- It must be emphasised that the protection of the environment often necessitates significant financial resources.
- However, it may be argued that – unlike businesses – the organizations in question are not designed to generate profit.

Discussion

- Should a discussion regarding the economic level of a region arise, the economic factors indicating the level of economic prosperity should be listed.
- The primary factors include GDP (absolute, per capita, per employee), per capita income, taxation and industrial composition.

Conclusion

- These organizations are not designed to generate profit: they are primarily tasked with nature conservation and landscape protection, thereby contributing to the improvement of the quality of life as required by society.
- However, it is necessary to emphasize the amount of funding drawn from the state budget in order to provide for the operation, management and maintenance of protected areas.

Conclusion

- The LM3 local multiplier thus serves as a methodological application tool uniquely capable of quantifying the intensity and efficiency with which organizations established for the purpose of nature conservation and landscape protection contribute to the economy of the region they are operating in and therefore the extent to which they are involved in its development.

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Thank you