

Testing Wagner's Law for Eastern European Countries

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This paper aims to illustrate, using quantitative analysis, the most critical transformations between 1990 and 2006 witnessed by the higher education sectors in the new EU member countries. During the last years, the newly accepted countries have witnessed fundamental transformations of the higher education systems, which have been accelerated by the integration processes that needed to be completed in order to join the EU. The Bologna Process will continue to shape changes in the higher education systems of the new EU members.

Within the education literature there is a wide consensus about the connection between human capital and economic growth. Using economic methods we will highlight commonalities and differences in the allocation of public educational expenses by the countries that recently joined the European Union. Empirical studies conclude that there are significant differences in the allocation of such expenses even when one examines countries with similar levels of economic development. Moreover, within each country there are significant variations from one period to another. Wagner's law, first proposed in 1883, posits the existence of a positive correlation between the level of economic development and the size of the public sector.

This study will test Wagner's law for the Eastern European countries using both an aggregate measure of public expenditures and a disaggregated form (education expenditures, military expenditures and health expenditures). For both types of measures we will estimate parameters for the models developed by Peacock-Wiseman, Gupta, Goffman, Musgrave and Mann.

In order to identify the factors that determine the size of educational expenditures, we will estimate the parameters of various regression models using panel data. The parameters of these models will be estimated using fixed effect models and random effect models.

A series of studies conducted using panel type data on a group of countries indicated a weak relationship between education and the economic performance of the analyzed countries. Critical indicators that typically describe the health of the higher education system such as the number of students per 10,000 inhabitants, the number of students per instructor and the number of specializations were extremely unfavorable for the countries from the former socialist block. Through the '90s, most of these countries created and developed a strong private sector as an alternative to the public higher education institutions.

Applying the proposed models we also attempt to identify those factors that had contributed to the expansion of student enrollment in these countries and to identify the economic and social impacts of the change of higher education on labor markets.

Keywords: Wagner's law, education expenditures, panel data, cointegration, random effect model, fixed effect model