Editorial
Volume 12:S5, 2021

Business and Economics Journal

ISSN: 2151-6219 **Open Access**

The Role of Physical Capital in Economic Growth

Arzu Alvan Bozderela*

Department of Business Management and Economics, Istanbul University, Beyazıt, Turkey

Description

Traditional growth accounting methodologies found that traditional physical production variables such as capital and labour contributed just 30%-40% to output growth. From this, it is clear that other nonphysical elements such as education, R&D, knowledge, learning by doing, technical advancements, and managerial talents account for a larger portion of output increase. Many researches have produced similar findings in their empirical study for Turkey. As a result, one of the most important topics in Turkey has been determining the drivers of output increase. Labour, capital, and Total Factor Productivity are the three primary elements in most empirical studies on growth sources (TFP). The residual or total factor productivity is calculated as the difference between output growth and factor input growth. The quantity of the residual is defined within the model using classic growth accounting methods, or in other words, it is determined by the magnitude of the contributions of the variables that we are unable to explain. If the residual is more than the sum of capital and labour contributions to output growth, the majority of the growth in output remains unexplained. Solow established the traditional growth accounting method in the 1950s, and Jorgenson and Griliches developed the extended version in the 1960s.

The two-deflator growth accounting approach is one of the most recent growth accounting methods (TDA). In this investigation, TDA is used. Harberger was the first to use two deflators (TDA). This method allows for a more detailed assessment of labour's contribution to output growth. The contribution of human capital and its quality-improvement component, which is in the residual of traditional approaches, can be separated and examined separately from the residual. The philosophy of production underpins traditional practises. TDA is based on the capital hypothesis. TDA's residual is also known as Total Factor Productivity (TFP), because it represents true cost savings. When TFP increases, production costs fall, implying that the share of input costs, capital value, and labour value in the total value of production decreases. The TDA is one of the most innovative forms of the most recent growth accounting methodology.

In the industry, there are several issues. The main headings of these problems are: energy, quality of the labor force, research and development (R&D), cost of adaptation to environmental and EU standards, and unrecorded economic activities. These factors explain the lower contribution of TFP growth to output growth in manufacturing industry. Therefore, the contribution of the physical capital to output growth becomes larger than TFP. The main motivation of this study is to analyse the level of contribution of physical capital growth to value added growth in Turkish Manufacturing Industry. As a result of the application of TDA, it is expected that the labour contribution with its components like, human capital maintenance upgrade and human capital quality upgrade will be successfully separated from the residual, TFP, and the magnitude of TFP in output growth decreases. Therefore, it is expected that decline in the contribution level of TFP in output growth means a larger contribution of physical capital.

Finally, it is crucial to repeat once more that manufacturing industry has several problems including, for example, the high cost of raw materials, since it depends mostly on imported raw materials, as well as real exchange rate appreciations that also bring high costs. Another problem occurs in the adaptation to internationally accepted industry standards. Energy costs, high inflation, low-tech production processes, labour cost, lack of enough financial aid, unstable political decisions and inadequate number of R&D centres are the remaining major problems. Transforming low-tech production to high-tech production processes and establishing new R&D centres that constitute strong and close relationships between the manufacturing industries and the universities should be the key targets of the forthcoming industrial policies.

How to cite this article: Bozderela, Arzu Alvan. "The Role of Physical Capital in Economic Growth" *Bus Econ J* S5 (2021): 001

Address for Correspondence: *Arzu Alvan Bozderela, Department of Business Management and Economics, Istanbul University, Beyazıt, Turkey, Tel: 905338599639; E-mail:alvanarzu005@gmail.com*

Received 01 October 2021; **Accepted** 15 October 2021; **Published** 22 October 2021