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## Total Factor Productivity Approach in Competitiveness Determination of the Enterprises from the Horticultural Sector of the Republic of Moldova

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### Abstract

The competitiveness of enterprises has a special place in the studies of the scientists from all over the world, being a very popular concept and measured by various indicators. In the modern scientific literature exists more than 100 methods of enterprises competitiveness evaluation. The term of competitiveness of enterprises cannot be separated from the competitiveness of the products, services created within the enterprises. In this scientific research was analysed the competitiveness of the enterprises from the horticultural sector of the Republic of Moldova using the Total Factor Productivity (TFP) indicator, which reflects how efficiently an enterprise uses all the means of production (total inputs) to produce outputs. The basic purpose of this scientific research is to reveal the importance and the advantages of the TFP approach in competitiveness determination of the enterprises from the horticultural sector of the Republic of Moldova; to analyse how different factors are influencing the competitiveness of enterprises and to propose recommendations in order to increase the competitiveness of the agricultural enterprises from the horticultural sector of the Republic of Moldova.

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## 1. Introduction

The Republic of Moldova after signing and ratifying the Deep and Comprehensive Free Trade Agreement (DCFTA) in 2014, has manifested the European aspirations of the country and recognized the strategic vector of economic and social development orientation of the country to European values.

According to the Lisbon Strategy (2005), the increasing of competitiveness of the European Union must be based on micro level competitiveness.

Thus, the increasing of the competitiveness of the agricultural enterprises from the Republic of Moldova, must become a strategic objective both at international, national and local level.

The term of competitiveness is very often used by politicians, scientists, mass media, but an unique definition regarding competitiveness significance and of the determination methods of competitiveness doesn't exist.

To be competitive, means to succeed as well as others. We can appreciate an enterprise as being competitive, when due to the available conditions (production factors, managerial and marketing skills, financial resources, etc.), this enterprise obtains a sustainable advantage over competitors by higher productivity, and on this basis, lower costs, diversity of products, high quality products, ensuring in this way, higher dividends for the shareholders, financial resources for a better financing of the enterprise activity and the remuneration of the labor force, correlated with productivity (Garrelli, 2008; Krugman, 1994; Сырбу, 2013).

The agricultural enterprises use the technology, in order to combine the inputs for producing outputs, the basic objective being – the profit maximization.

Therefore, the productivity represents the capacity of a company to transform the production inputs in production outputs.

The problem of competitiveness of enterprises from the horticultural sector is very stringent, because there are necessary concrete steps in the agricultural policy of the state, which will ensure the success of the horticultural exported production on the international markets.

In this context the problem of determining the competitiveness of agricultural enterprises from the horticultural sector of the Republic of Moldova is attributed a particular significance.

In present, a widespread method in determining the measurement of the partial factor productivity is the method based on the report between the output index and input index, thus determining the outputs variation compared to inputs for the analyzed period of time.

Of course that the partial factor productivity is very useful in some cases, for example in analyze of the labor market, land market, but these indicators can mislead the manager about the technological progress of the enterprise, because it doesn't reflects all the variations regarding the use of other outputs.

In this context, the main idea of this scientific research consists of determination the Total Factor Productivity (TFP), as a global indicator of competitiveness accepted by scientists from all over the world. The determination of TFP of the enterprises from the horticultural sector will give the possibility to analyze the influence of several factors on competitiveness change and to propose solutions of increasing the competitiveness of agricultural enterprises from the horticultural sector of the Republic of Moldova.

## 2. Materials and Methods

In order to realize the scientific investigations were used the data from the National Bureau of Statistics of the Republic of Moldova and also the data collected from the agricultural enterprises of the Republic of Moldova.

To analyze the competitiveness of the agricultural enterprises was used the scientific research method – DEA (Data Envelopment Analysis), which is very popular in efficiency and productivity investigation of enterprises. DEA gives possibility to estimate the frontier using the non-parametric models of linear programming, establishing for the analyzed enterprises technical efficiency based rankings. The focus is not on the estimation of the medium technological production function, used by all the analyzed enterprises, but on the identification of the most competitive enterprises. In this way, is drawn the production frontier, which has at its base the best production practices, and all the analyzed enterprises are linked to this frontier.

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