



The influence of land-use change paradigm on Romania's agro-food trade competitiveness—An overview



Gheorghe H. Popescu^a, Istudor Nicoale^b, Elvira Nica^b, Andrei Jean Vasile^{c,*},
Ion Raluca Andreea^b

^a Dimitrie Cantemir Christian University, Splaiul Unirii Street, No. 176, District 4, 030134, Bucharest, Romania

^b The Bucharest University of Economic Studies, Piata Romana, No. 6, 010374, Bucharest, Romania

^c Faculty of Economic Sciences, Petroleum-Gas University of Ploiesti, B-dul Bucuresti, No. 39, 100680, Ploiesti, Prahova, Romania

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ABSTRACT

The current transformations of the Romanian agricultural sector have imposed new paradigms in using the land resources. The objective of this study is to assess Romanian agro-food products competitiveness on world market, in terms of land use changing paradigms. The research question is whether the land is cultivated with crops which are competitive on world market. For assessing agro-food competitiveness, Balassa index is calculated. The findings show relative performance for barley, maize, triticale, wheat, poultry meat, oilseeds, and tobacco. But the areas cultivated with barley and wheat decreased in the period under analysis, although these products have highest relative performance of exports. The paper also proposes structural changes of land use needed for encouraging those crops and products which have high revealed comparative advantages on world markets.

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1. Introduction

Analysing the agro-food trade competitiveness represents a mandatory step in reconsidering the existent agricultural production structures in their way to adapt on a free market economy demands imposed by a more profound approach of the agricultural paradigm shift. In the recent years the agricultural competitiveness has been more associated to the inland agricultural sectorial transformation and to the agricultural productivity and in a larger manner to the international trade paradigm.

The Romanian agricultural competitiveness is a debate full topic in the context of the late sectorial reforms' during the country accession and convergence to the EU-28 agricultural model. In this context, agro-food trade competitiveness as a vital component of a total economic competitiveness requires a more thorough approach in the process of land use valuing potential. Understanding the agricultural competitiveness improves the inland agricultural structure development in order to value the most appropriate crops cultivation with highest productivity.

As (Andrei and Popescu, 2014; Ciutacu et al., 2015) argues, the agricultural sector holds a major place in the Romanian economy,

with an important contribution to gross Domestic Product (GDP) creation and also a key role in international trade. The importance of agriculture in Romanian economy results from its share in GDP, labour force and rural community's impact. Lazăr and Lazăr (2016) analysing the trends in the evolution of Romania's agricultural resources in the context of sustainable development highlights the discrepancies and the need for sectorial convergence in valuing the agricultural potential in order to achieve high levels of competitiveness.

Numerous studies (Vasile et al., 2015; Andrei and Popescu, 2014; Leonardo and Mihai, 2008; Popescu, 2016; Vasile et al., 2016) concerning the role and impact of agricultural economy in an emergent economy as Romanian one highlights the massive sectorial transformations during the land reform and adaptation of the production structures to the new free economy requirements. Another studies as (Popescu, 2015a,b,c) insists on complementary aspects in drafting an competitive economic paradigm, beyond the agriculture, as ICT's potential in reducing GHG emissions through sustainable manufacturing technologies (Popescu, 2015a) in implementation of citizen-oriented services (Popescu, 2015b) or the role of multinational corporations in global environmental politics (Popescu, 2015c).

The research starts from the premise of the significance of agriculture in Romanian economy and from the importance of external trade with agro-food commodities for Romania. The external trade

* Corresponding author.

E-mail address: andrei.jeanvasile@yahoo.com (A.J. Vasile).

has a determinant role in Romania's trade balance, for both exports and imports, especially due the accentuated dependence for the imported food products.

A close sectorial analysis (Ion et al., 2008; Gavrilesescu, 2014) reveals the fact that, on the one hand, the agricultural potential exceeds domestic needs, therefore surpluses of food and agricultural products are exported to world markets. It is the case of live animals, cereals, wine, tobacco and other products. On the other hand, agricultural production is seasonal and Romania must import food products in winter, such as vegetables and fruits. Hereinafter, the exports with agro-food products are analysed worldwide and in Romania, to have a better inside on trade competitiveness.

As it is argued in literature (Grundy et al., 2016; Crowder and Reganold, 2015; Crescimanno et al., 2014; Kim and Lee, 2013), international competitiveness is largely discussed in research articles, governmental reports, economic policies and press. It is defined by (OECD, 2007a,b) as "a measure of a country's advantage or disadvantage in selling its products in international markets" (OECD, 2007a,b). On the other hand, according to European Competitiveness Report (2010) international competitiveness refers to "the ability to export goods and services in order to afford imports, and hence it will be summarized by world market shares". (European Commission, 2010).

Despite the fact that in studies were presented different methods of assessing competitiveness, this research focuses on foreign trade competitiveness analysis using as preliminary method the relative competitiveness advantage (RCA) methodology designed by Balassa (1965) and grounded in the conventional economic trade theory.

In literature, are available researches on Romanian foreign trade competitiveness, with limits, approaches and contradictions which needed to be reconsidered and further analysed in a wider approach. Yilmaz (2003) showed that Romania is highly competitive in terms of export performance in raw material and labour intensive goods; while it still has comparative disadvantages in exporting of capital intensive, easily and difficultly research-oriented goods.

Also (Herciu, 2013) calculated the revealed comparative advantages for Romanian products on European Union market and observed that it has a competitive advantage against EU -28 on raw materials (RCA = 2.04), on machinery and transport equipment (RCA = 1.12) and other manufactured goods (RCA = 1.28). These results show the trade competitiveness for all industries, but we are interested to find out the performance of agro-food trade.

As it was already proved in literature, it is important to study the competitiveness of agro-food products, as a determinant factor to improve the general economic performance, taking into account that external trade with these products has specificities which results from agricultural importance in assuring food security of a country.

Even in WTO negotiations, agricultural products play a special role. In the last few decades, the WTO has been making coherent efforts, on the one hand, to liberalize agricultural trade as on the grounds that it would contribute to the growth of the global economy via specialization and expanded production and trade, benefit consumers around the world, and stimulate farming sectors in developing countries by enabling them to access markets in developed countries" (Moon, 2011).

On the other hand, liberalization of agricultural trade has been criticized. First of all, agriculture is the main source of ensuring food security of a country, and, therefore, social and political stability. Domestic production has, as main direction, internal consumption for assuring food security and, afterwards, the surpluses are exported. Secondly, agriculture is at the forefront in managing a wide range of natural resources: land, soil, water, biodiversity, forestry, and, as a consequence, proper management of such

depletable resources is highly important. Thereby, sustainable agriculture concept and food security of future generations have been promoted (Khan and Hanjra, 2009; Tilman et al., 2002).

In the context in which the food demand is projected to double by 2050 due to population growth to 9 billion (Godfray et al., 2010) and due to rising income emerging economies, the need for sustainable use of agricultural resources becomes particularly important in considering the burden the world agriculture faces in terms of meeting the increasing food demand. This is the reason why agriculture has a special role in external trade, as seen in the box system in the Uruguay Round Agreement on Agriculture (AoA) that admits inherent limitations in the degree of trade liberalization in agriculture and allows member countries to use farm subsidies or border protection.

In conclusion, such features of agriculture makes its relation with international trade special: farm subsidies affect comparative advantages between countries, liberalized trade has implications for sustainable use of natural resources (land/soil, water), the need to ensure food security in less developed countries and the necessity to increasing demand of agro-food products due to world population growth. In this context the main objective of this paper is the analysis of the Romanian agro-food trade competitiveness from the perspective of the relative competitiveness advantage (RCA).

This study investigates the revealed comparative advantages for agricultural products exported by Romania on world market. The results will be then discussed considering the dynamic of agricultural sector in those regarding the areas cultivated with main crops. The findings could indicate whether the Romanian agriculture is oriented to those branches or commodities which are competitive in international trade or not.

This paper comes to fill in this gap and to investigate the trade with agro-food products in order to rank products and crops depending on their competitiveness on external markets. Further on, structural changes in land use are discussed and measures needed to be imposed for increasing the areas cultivated with crops competitive on external market.

2. Research methodology

Economic theory proposes several models for assessing foreign trade competitiveness. Two of them are more often used: Ricardo's theory and Heckscher-Ohlin's theory. Accordingly, the comparative advantage of a country is determined by the abundance/scarcity of a resource or of an product. The model Heckscher-Ohlin essentially says that "countries will export products that use their abundant and cheap factor(s) of production and import products that use the countries' scarce factor(s)" (Blaug, 1992).

The model Heckscher-Ohlin has been extended by many economists during the years. Among them are Stolper and Samuelson (1941), Vanek (1968), Balassa (1965) and Jones (2000) who suggested how the basic core of real trade theory can be modified to take into account the increased international mobility of inputs and productive factors. Without insisting on further models in assessing foreign trade competitiveness, in this paper it was used the method of relative competitiveness advantage (RCA) computation and analysis.

During the years and field experience the measurement of comparative advantage using the theory of Heckscher-Ohlin proved to be difficult, the economist Balassa proposed a formula for determining the comparative advantage, aiming more to identify the comparative advantages of a country and less to identify the source of this advantage. The concept of revealed comparative advantage, introduced by Liesner (1958) and refined by Balassa (1965)

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