

THE RELATIONSHIP BETWEEN POVERTY AND AGRICULTURAL GROWTH IN COUNTRIES WITHIN CENTRAL AND EASTERN EUROPE

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Abstract

The paper aims to analyze the relationship between economic growth and increasing agricultural productivity at macroeconomic level, relationship that determines a decrease of poverty. Data sets are analyzed using econometric methods in order to test the cointegration relationships. The results of the data shows that, in Romania's case, the added value of agriculture has no significant impact in the evolution of the country's GDP, so also the impact in raising the standard of living is marginal. Increase productivity and profitability of agriculture requires a complex approach: a financial system to support development of the sector by providing specific financial products and services, the reorganization / retechnologization of farms, encouraging young people to invest in agriculture, ownership structure of agricultural land.

Keywords

added value, poverty, production, labor force

Introduction

Agriculture is a very important factor in reducing global poverty, is the primary production sector in most poor countries, in terms of percentage of GDP and almost always in terms of the number of people engaged in this activity. (IDA, 2009)

To reduce poverty, to improve living standards and food security is necessary to focus efforts on the development and efficiency of small-scale farming.

Sustainable development of the agricultural sector will lead to job growth in rural areas, increasing the remuneration of these jobs, reduce the gap between living standards in urban and in rural areas, reducing migration of rural youth in urban and fighting poverty

In order to observe the evolution of the agricultural sector in the emerging countries of Central and Eastern Europe I have studied the case of Poland, Romania, Bulgaria and Hungary. These countries were selected because of the similar economic structure and the common agricultural history. Former communist countries in which agriculture is practiced centralized, went to a market economy by implementing specific land reform. In all these states are still practical large-scale, subsistence agriculture, which perpetuates poverty in rural areas.

1. Literature review

The growth in agriculture can fuel economic development, through direct and indirect mechanisms. Extreme poverty continues to be a rural phenomenon despite increasing urbanization. World agricultural productivity, especially in poor countries, is essential to global food security and the fight against poverty and hunger (VON BRAUN et al., 2008).

While economic growth is essential for poverty reduction, it is found that this does not cause a rapid reduction of poverty (NWAFOR et al., 2011).

Poverty reduction has been achieved by increasing productivity. Agriculture provide jobs to disadvantaged people with low skills and low levels of education. (Grewal and Ahmed, 2011).

The contribution of agriculture to economic growth decreases as emerging countries focus on development of other sectors. However, agriculture is in this case an important factor in ensuring increased living standards and food safety (DFID, 2005).

75% of the world population lives in rural areas and is mostly dependent on agriculture. In these conditions, agriculture is very important in ensuring global economic growth, poverty reduction and environmental sustainability (UNDP, 2012).

2. Methodology

2.1. Data

Data sets are composed of annual historical data for 1995-2014. Data source is EUROSTAT (<http://ec.europa.eu/eurostat/data/database>), World Bank (<http://data.worldbank.org>) and FAOSTAT (<http://faostat3.fao.org/home/E>).

2.2. Analytical framework

Non-agricultural activities and additional revenues are an important part of income in rural areas. This additional revenue ensuring human survival, without allowing an increase in living standards. The discrepancy between the incomes of large urban and rural areas has made much of the young rural population to migrate to urban areas.

Another problem in rural areas is the high level of unemployment. Due to the low level of financial support to the unemployed workforce, about 50% - 65% of them can be classified as the poor.

In the analyzed countries, family farms, small size farms, are prevalent as in countries with developed agriculture there is no this kind of division of property. However, we must take into account the important social role that these micro farms have in the survival of the poor. In periods of transition, characterized by unemployment, high inflation, lack of capital, poor and insufficient social systems, subsistence farming has provided livelihood for a significant part of the population, as a supplement for small pensions.

Table 1 Agricultural structure

Countries	Labor Input in agriculture	Input unpaid labor	Input paid labor
Bulgaria	299.0	221.0	78.0
Hungary	445.3	320.6	124.8
Poland	1,937.1	1,809.0	128.1
Romania	1,444.0	1,279.0	165.0

Source: EUROSTAT, data as of 2014

In developed countries, many farmers lease land for agriculture. In countries like Belgium, France and Germany, farmers are renting more than 60% of the land they cultivate, while the average leased land in the countries of the European Union is 40% (Lerman et. Al. 2002).

Also in emerging countries the lease mechanism works, although the number of farms practicing leasing is small. The farms operating with lease land are significantly larger in surface than the wholly property farms

Technical and structural problems arising in rural areas of emerging countries analyzed are:

- Lack of jobs in an area other than agriculture,
- Low wages in rural areas and in agriculture,
- Lack of funding specific to agriculture

- Difficulties in ensuring selling of farm products in the markets due to lack of transport means, lack of infrastructure or/and very long distances
- Small quotas of milk as a major asset in the subsistence.

The effects of agricultural reform and land restitution manner differed from country to country. Thus, in Romania's case the land was divided in a number of small farms, low tech, without financial support from the state or the financial sector (67% of total agricultural area). An important part of the young labor force migrated to cities due to the disparity between living standards in rural and urban areas.

Hungary recorded a strong initial decrease in agricultural production and a greater decrease in occupancy workforce. The transition from collectivism to a market economy was limited so they are still large farms (50% -80% of all farms).

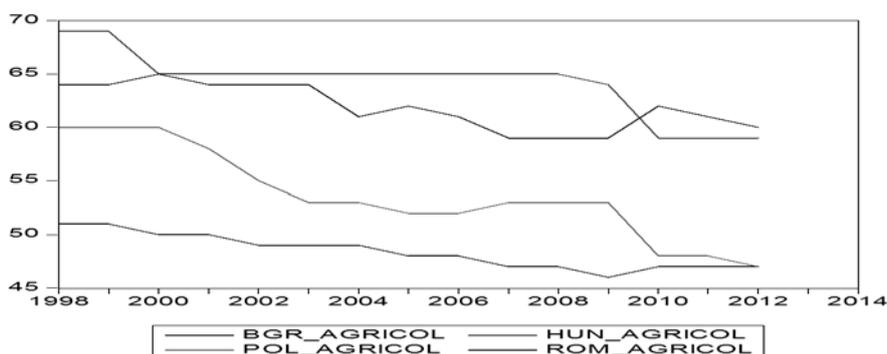
Bulgaria has registered a sharp drop in production and workforce productivity. Most of the land was partitioned to individual owners (about 50% of agricultural land).

In the case of Poland agrarian reform was implemented more effectively. Polish farms proved more profitable, with a larger average surface and using a higher level of technology. Also, support was provided by the authorities during and after achieving this reform. Profitability increased significantly after 2005, when Poland began intensive farming the land, characterized by the use of chemicals.

With the development of support programs for agricultural sector, including the issuance of guarantee funds loans in agriculture subsidies to farmers, EU development funds to rural areas, programs to encourage young people to return to villages, have increased the level of investment and funds raised. To these were added and the easing of bank loans to the agricultural sector.

Agricultural land surface and quality are important factors influencing productivity and ensure the competitiveness of natural agricultural production.

Analyzing the evolution of agricultural land area ⁷ (% of total area of the country), we see that it decreased in all 4 states observed - see Figure 1. Many lands have been abandoned or set aside from the agriculture circuit.

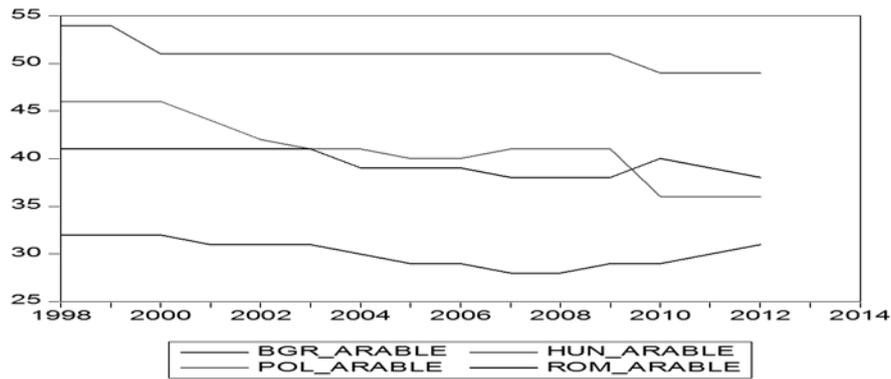


Source: EUROSTAT

Fig. 1 Evolution of agricultural land surface (% total)

Land structure is also very important for the efficiency of agriculture. The share of arable land in total area decreased during the period studied, in all four countries: from -4% in Bulgaria, 22% for Poland.

⁷ Agriculture land - land with perpetual crops and pastures. excluded (definition according to the World bank)

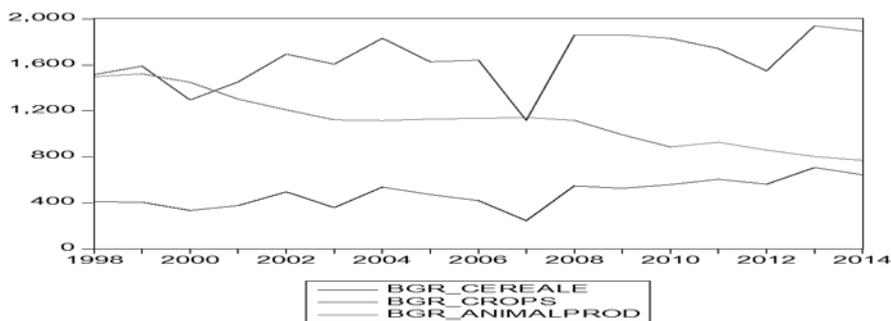


Source: EUROSTAT

Fig. 2 Evolution of arable land area (% total)

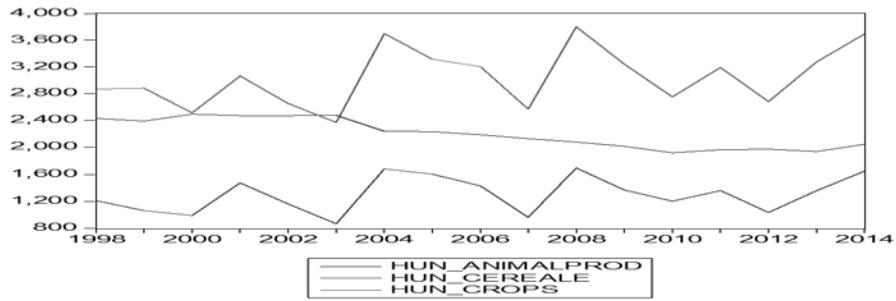
In case of the studied emerging markets, we see an increase volatility of the crops and cereal production as well as a decrease of animal production. This is due to the lack of an irrigation system, as well as insufficient investments from private investors and authorities.

As a result of the programs that support agricultural development, sustained by the European Union, in the last years we see an improvement of investments in the sector: SMEs and other forms of collaboration that attract capital, in order to develop economical viable farms, a growing interest from the local financial institutions for lending to the agriculture sector, programs to support young farmers.



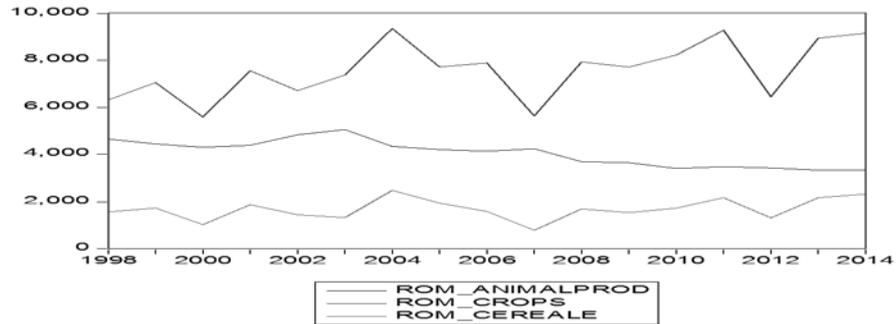
Source: EUROSTAT

Fig. 3 Structure of agricultural production in Bulgaria



Source: EUROSTAT

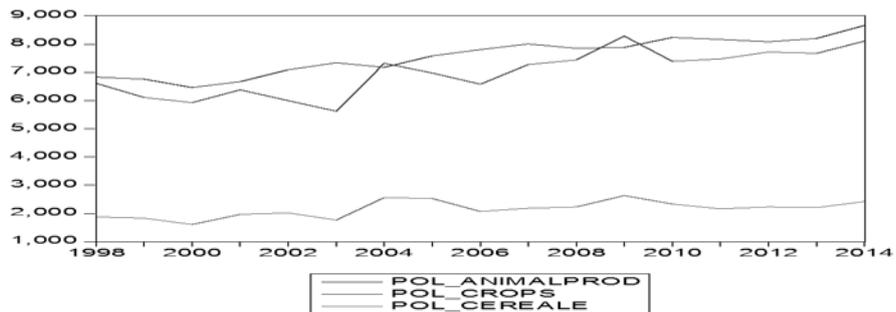
Fig. 4 Structure of agricultural production in Hungary



Source: EUROSTAT

Fig. 5 Structure of agricultural production in Romania

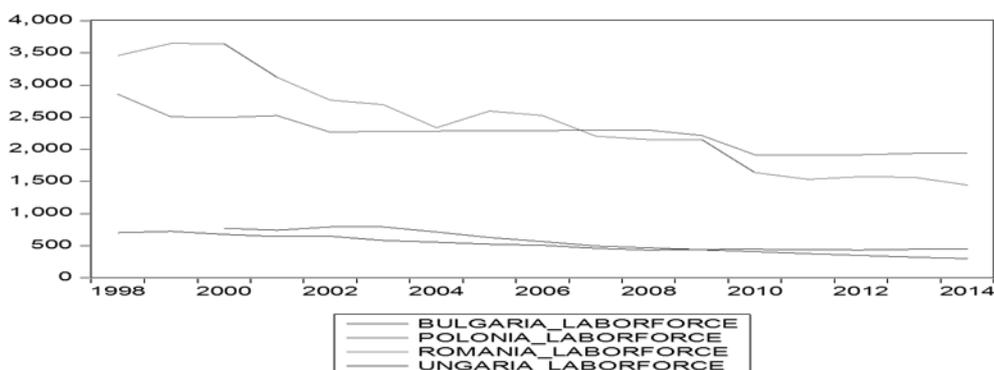
In case of Poland, the value of agricultural production registered an upward trend, without majors slips. This is due to the level of technology and investments that are higher than in the rest of the emergent markets. A better irrigation system, modern machineries and the usage of chemicals generated an increase of productivity per hectare, regardless the cyclical weather. Less fragmented agricultural lands, the existence of markets and infrastructure generated more investments in the sector.



Source: EUROSTAT

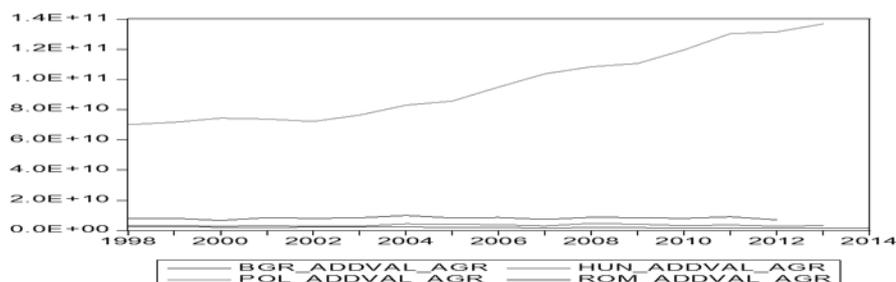
Fig. 6 Structure of agricultural production in Poland

The labor force in the agricultural sector registered a decline, especially in Romania. This is due not only to the rural-urban migration, but also to an important migration of the labor force from the emerging markets to the developed markets. The main driver of this phenomena is the gap between the living standards and employment between the emergent and developed economies. Large parts of the income earned by the migrant people that work in the developed markets helped to the development of the rural area generating an increase of consumption, investment and decrease of the level of unemployment, especially in poor areas.



Source: EUROSTAT

Fig. 7 Labor force - Total input of labor force in the agricultural sector



Source: EUROSTAT

Fig. 8 Added value of the agriculture

With the exception of Poland, that managed to obtain an important increase of the added value generated by agriculture within the GDP, for the rest of the studied countries, the level remained approximatively the same. This results demonstrate the efficiency of the model implemented by Poland, that managed to efficientized the agricultural sector.

Conclusion

The impact of agriculture in real GPD growth is marginal. As the value of the GDP increases, the impact of agriculture in GDP decreases. Nevertheless, we must keep in mind that a competitive agriculture has a very important impact in poverty alleviation. In order for the impact of the agricultural added value to grow in the Romanian economic development, a change in the present production model is required.

In later years we can see an improvement of the productivity and profitability of the agricultural sector. Thus, we can observe a development and diversification of entities that activates in agriculture. Positive factors :

- New SMEs and other forms of cooperation that have the main activity the exploitation of agricultural land (property or leased), animal farms, etc.. The development of SMEs creates jobs in rural areas and is financially sustained by European funds;
- Loans provided by financial institutions that are guaranteed by the authorities, incentives and funds for young farmers
- Contracts between manufacturing factories/ retail or wholesale shops and local farmers;
- Direct or online sale of products (in cases of farms/ agricultural exploitations situated near cities);
- Local authorities have provided services: cleaning, repairs, infrastructural development;
- Transportation for commuters that work in industrial centers;
- Organization and development of rural tourism within traditional farm.

Nevertheless, the advance average age of landlords, lack of capital and information, as well as the reluctance of entering different forms of collaboration/ lease of land, slows the growth and profitability in the agricultural sector.

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