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COMPETITIVENESS, PRODUCTIVITY AND EFFICIENCY OF WHEAT PRODUCTION IN BULGARIA

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ABSTRACT

Wheat is a main grain crop in Bulgaria, covering more than 60 % of all areas under grains in the country. During the past years it provides nearly three-fourths of the total grain quantities intended for the national economy. In the period of transition to market economy and preparation for accession to the EU, the stipulations and results of the country's participation in the domestic and foreign trade in wheat, underwent considerable changes connected mainly with reducing the share of Bulgaria's agricultural exports, reorientation of the commodity flows and increasing the share of agricultural imports.

The object of this study is on the basis of examination of wheat production, an analysis of the competitiveness, and evaluation of socio-economic results of Bulgaria's participation in the international trade in wheat, to differentiate the possibilities for improving the country's competitive power and increasing of its market capacity.

The study is carried out in the period 2010-2011 within the project "Production and Institutional models for Sustainable and Competitive development of Bulgarian agriculture and rural areas" from the URF of the Agrarian University – Plovdiv. It consists of three stages. The first stage focuses on substantiation of the theoretical foundations of both, the competitiveness, productivity and efficiency and their realization in the process of developing of competitive power and market capacity of the agricultural production. The second stage includes an analysis of the competitiveness, level of productivity and market capacity of wheat production. With using the matrix for political analyses an evaluation is made of the economic and social results from the implemented agrarian policy in the field of grain-production. The third stage accentuates the country's possibilities for realizing its comparative advantages through improving the competitive power and market capacity after its accession to the EU.

Data from centralized information sources and also results from independently conducted tests, interviews, evaluations and calculations are used in the study. The main information sources used in the study are: Statistical Year-books of Republic of Bulgaria, specialized issues of NIS, MAF, EC, FAO, World Bank and OECD.

Key words*:* wheat production, competitiveness, productivity, market capacity, EU accession;

INTRODUCTION

The international grain markets development during the last years is very changeable. The main tendency of prices increasing was combined with the institutional interventions of the bigger participants in grain trade. Bulgaria is traditional exporter of the grain with strong positions on both, on the Black sea and South-European wheat markets (Aleksiev, 2008). Wheat is a main grain crop in Bulgaria, covering more than 60 % of all areas under grains in the country. During the past years it provides nearly three-fourths of the total grain quantities intended for the national economy. In the period of transition to market economy and preparation for accession to the EU, the stipulations and results of the country's participation in the domestic and foreign trade in wheat, underwent considerable changes connected mainly with reducing the share of Bulgaria's agricultural exports, reorientation of the commodity flows and increasing the share of agricultural imports.

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Data from centralized information sources and also results from independently conducted tests, interviews, evaluations and calculations are used in the study. The main information sources used in the study are: Statistical Year-books of Republic of Bulgaria, specialized issues of NIS, MAF, EC, FAO, World Bank and OECD. Key sources of information for analysis of efficiency of wheat production and its decomposition are Agricultural census and Agricultural accountant accounts. The data mainly from primary sources were collected from 84 farms selected in framework of the project "Competitiveness of Bulgarian Agricultural Sector" from the six regions of the country.

MATERIAL AND METOD

1. Competitiveness, productivity and efficiency

The main question that underlines research in economics is how to allocate resources in order to ensure social welfare, including full employment and high living standards. Researchers are interested in which sector can contribute the most to a nations economic growth and they often turn to the concept of competitiveness as a basis for analysis. The concept of international competitiveness is often used in analyzing countries macroeconomic performance. It compares, for a country and its trading partners, a number of salient economic features that can help explain international trade trends. This concept encompasses, first of all, qualitative factors or factors that do not lend themselves readily to quantification. Thus, capacity for technological innovation, degree of product specialization, the quality of the products involved, or the value of after-sales service are all factors that may influence a country's trade performance favorably. Likewise, high rates of productivity growth are often sought as a way of strengthening competitiveness.

The Organisation for Economic Co-operation and Development (OECD) defines competitiveness as the "ability of companies, industries, regions, nations, and supranational regions to generate, while being and remaining exposed to international competition, relatively high factor income and factor employment levels on a sustainable basis" (Hatzichronologou, 1996). The European Commission uses the following definition: "a sustained rise in the standards of living of a nation or region and as low a level of involuntary unemployment as possible" (European Commission, 2009). In parallel, the trade negotiations over the past couple of decades in the context of the General Agreement on Tariffs and Trade (GATT) and World Trade Organisation (WTO) have increased government interest in evaluating their country's competitiveness. In particular, the competitiveness of the agricultural sector, which in general has been protected in developed countries, is central, especially given the potential consequences if protection is reduced. Hawkins and Meindertsma (2004) defined competitiveness as the ability of a country to increase its share of domestic and export markets where a country has a comparative advantage in a product when it can produce at a lower opportunity cost than other countries. Increased competitiveness is reflected in sustained growth in productivity of producers, firms and industry clusters in the agribusiness sector and a result of sound

business strategies and supportive micro-economic and macro-economic conditions.
Thus, profitability is the most important element of competitiveness, as it relates benefits (revenues) and costs (expenditure), and productivity is the most important underlying factor. Anything what would increase profitability and productivity, therefore, would increase competitiveness. Higher efficiency in production, cost reductions, higher quality, lower risk, higher added value, all increase competitiveness, so all factors influencing these affect competitiveness.

The competitiveness of a country is a field of Economic theory, which analyses the facts and policies that shape the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people. Fundamentally, what differentiates competitiveness of nations and competitiveness of enterprises is where the creation of economic value takes place in society (Garelli, 2005). Our assumption is that economic value is only created by enterprises. Nations can establish an environment that hinders or supports the activities of enterprises.

Productivity and efficiency are often cited as indicators or measures of competitiveness, and the European Commission considers it as the most reliable indicator for competitiveness over the long term (European Commission, 2008). However, in general, in empirical studies of productivity and efficiency, no explicit reference to competitiveness is made. A general definition of productivity is the ability of production factors to produce the output. It can be simply measured as a partial productivity indicator, relating output to one input (*e.g.* yields or partial productivity of labour), but this does not account for the possibility of either factor substitution or output substitution. By contrast, the more comprehensive measure of total factor productivity (TFP), sometimes called the multi-factor productivity (MFP), is a ratio that relates the aggregation of all outputs to the aggregation of all inputs. This concept is often used in a dynamic framework, where change in TFP, that is to say productivity improvement, is investigated.

Efficiency is the most widely used concept in economics and gives an indication of whether farms are able to use the existing technology in the best way. It has three components: scale efficiency, technical efficiency and allocative efficiency. Scale efficiency gives insights into whether the farm operates at an optimal or sub-optimal size. Farms that are scale efficient operate under constant returns to scale (CRS) and have a scale elasticity of one, while scale inefficient firms could exploit scale economies or diseconomies. Technical efficiency, sometimes referred to as pure technical efficiency, as opposed to scale efficiency, assumes variable returns to scale (VRS) and shows whether a farm is able to attain the maximum output from a given set of inputs. It refers to a physical notion, independent of input and output prices. By contrast, the allocative efficiency of a farm, also called its price efficiency, reflects its ability to use inputs in their optimal proportions given their respective prices, or to produce an optimal combination of outputs given their respective prices. A farm is allocatively efficient if its outputs and inputs maximise its profit, or minimise its costs, at given prices. Allocative efficiency implies technical efficiency, as in order to maximise its profits, the farm must firstly lie on the production frontier. However, technical efficiency does not necessarily imply allocative efficiency, since the combination of outputs and inputs can be optimal with respect to the production possibilities, but not be profit maximising. Technical, scale and allocative efficiency scores multiplied by each other make up the overall efficiency of a firm, sometimes called its production or economic efficiency.

2. Methodology

The concepts of comparative advantage and competitiveness are two important foundations for understanding the importance of international trade in agriculture and to illuminate the underlying factors responsible for current trade patterns. Comparative advantage refers to the ability of one nation to produce a commodity at a lower opportunity cost of other products forgone than another nation, while competitive advantage indicates whether a firm could successfully compete in the trade of the commodity in the international market given existing policies and economic structure (Warr, 1994).

The concept of Revealed Comparative Advantage (RCA) is grounded in conventional trade theory. Revealed comparative advantage

(RCA) was first formulated by Balassa (1965) and modified by Vollrath (1991) in order to avoid double counting between pairs of countries. RCA is sometimes called the Balassa index. Vollraths modified version is called the relative export advantage (RXA) measure, as it is based on exports. This calculates the ratio of a countrys export share of a commodity in the international market to the countrys export share of all other commodities. For the *i*-th country and *j*-th commodity, the RCA is defined as follows:

$$RCA_{ij} = RXA_{ij} = \frac{\left(X_{ij}/X_{ik}\right)}{\left(X_{nj}/X_{nk}\right)} \quad (1)$$

where *X* are agricultural exports; *k* denotes all commodities other than *j*; *n* denotes all countries in the world other than *i*.

An RCA index greater than 1 indicates that the country has a comparative advantage in the commodity under consideration, since it has a strong export sector. It reveals higher competitiveness. Other comparative advantage measures have been proposed (Vollrath, 1991). The relative import advantage (RMA) index is similar to the RXA, but relates to imports (*M*) rather than exports:

$$RMA_{ij} = \frac{\left(M_{ij}/M_{ik}\right)}{\left(M_{nj}/M_{nk}\right)} \quad (2)$$

In this case, an RMA index of less than 1 indicates revealed comparative advantage and thus higher competitiveness. Balassa (1965) argued that revealed comparative advantage could be indicated by the trade performance of individual commodities and countries in the sense that the commodity pattern of trade reflects relative market costs as well as differences in non-price competitive factors. The Balassa (1965) method compares a country's share of the world market in one commodity relative to its share of all traded goods. An improved version of Balassa's original version, namely the Relative Revealed Comparative Trade Advantage (RTA) index, offered by Vollrath (1991) reflects both imports and exports, and is formulated as:

$$RTA_{ij} = RXA_{ij} - RMA_{ij} \quad (3)$$

A positive value of RTA is an indication of comparative advantage. X (M) refer to exports (imports), with the subscripts *i* and *k* denoting the product categories, while *j* and 1 denote the country categories. The numerator is equal to a country's export (imports) of a specific product category relative to the export (import) of this product from all other countries. The denominator reveals the exports (imports) of all products but the considered commodity from the respective country as a percentage of all other countries' exports (imports) of all other products. The level of these indicators shows the degree of revealed export competitiveness and import penetration. Values below (above) zero point to a competitive trade disadvantage (advantage). The RTA considers both export and import activities and this seems to be an advantage from the viewpoint of trade theory. Due to the increase in intra-industry trade, this aspect, according to Frohberg & Hartmann (Frohberg & Hartmann, 1997) is also becoming increasingly important.

When RXA and RMA are compared in logarithmic form, they are symmetric at the origin. Their difference is called the revealed competitiveness (RC):

$$RC_{ij} = ln(RXA_{ij}) - ln(RMA_{ij}) \quad (4)$$

A problem with these types of indices is that observed trade patterns are likely to be distorted by government policies and interventions, and may therefore misrepresent underlying comparative advantages (Ferto & Hubbard, 2001). Furthermore it says nothing about how a country acquires its market share. Market share may well be maintained by costly government incentives.

The measurement of productivity and economic efficiency has been intimately linked to the use of frontier functions. The modern literature in both fields begins with the same seminal paper, namely Farrell (Farrell, 1957). According to Farrell, technical efficiency (TE) is associated with the ability of a firm to produce on the isoquant frontier while allocative efficiency (AE) refers to the ability of a firm to produce at a given level of output using the cost-minimising input ratios .Thus defining economic efficiency (EE) as the capacity of a firm to produce a predetermined quantity output at a minimum cost for a given level of technology (Bravo et al., 1997).

Michael J. Farrell, greatly influenced by Koopmans (Koopmans, 1951)'s formal definition and Debreu (Debreu, 1951)'s measure of technical efficiency introduced a method to decompose the overall efficiency of a production unit into its technical and allocative components. Farrell characterised the different ways in which a productive unit can be inefficient either by obtaining less than the maximum output available from a determined group of inputs (technically inefficient) or by not purchasing the best package of inputs given their prices and marginal productivities (allocatively inefficient).

The data envelopment analysis (DEA) first proposed by Charnes et al., (Charnes et al., 1978) to measure technical efficiency in input output relation. DEA uses the principles of linear programming theory to examine how a particular decision making unit (DMU) operates relative to other DMU in the sample. The method constructs a frontier based on actual data. The farms working on the frontier are efficient, while the rest farm off the efficiency frontier are inefficient. Efficiency is measured as the ratio of weighted outputs to weighted inputs and can take the values between zero and one. An efficient farm does not necessarily produce the maximum level of output given the set of inputs. Rather, efficient farm means that the farm is a best practice producer in the sample.

The above mix of input and out puts was selected the broader objectives such as profitability, low cost and service provision in to account. The nature of technical efficiency can be due to the ineffective implementation of production plan in converting inputs to outputs (pure technical efficiency) and due to the divergence of the farms from the most productive scale size (scale efficiency). MPSS, as per Banker (Banker, 1984), is that size of operations where as banks production of outputs is maximized per unit of inputs. The constant returns to scale (CRS) efficiency score represents technical efficiency, which measures inefficiencies due to the input/output configuration and as well as the size of operations. On the other hand, the variable returns to scale (VRS) efficiency score represents pure technical efficiency that is a measure of efficiency without scale efficiency. It is thus possible to decompose technical efficiency in to pure technical efficiency and scale efficiency. Scale efficiency can be calculated by dividing PTE into TE (Coelli et al., 2005). Once the VRS is established and SE scores computed, the analysis could be taken a step further. This involves determining whether a particular farm is experiencing increasing returns to scale, decreasing returns to scale or operating at most productive scale size. To make this assessment, DEA is repeated with non-increasing returns to scale (NIRS) and efficiency scores compared. It should be noted that, by definition, NIRS implies CRS or DRS. So, if the scores for a particular farm under VRS equals the NIRS score, then that bank must be operating under DRS. Alternatively, if the score under VRS is not equals to the NIRS score, this implies a farm operating under IRS (Coelli et al 1998). When the VRS score equals the CRS score, then the farm is said to be operating at MPSS.

3. Data and field survey

Three main group o sources of information are used in the investigation of competitiveness, productivity and efficiency of wheat production in Bulgaria. The information connected with quantity and value of the exported and imported wheat for Bulgaria and other included in the survey countries are taken from FAO database. The Statistical Yearbooks of NSI and Agricultural reports of MAF are used for analysis of regional dimensions of wheat production and for preparation of Wheat grain balance sheet of Bulgaria.

The results from 2003 and 2010 Agricultural Census are used in investigation of productivity and efficiency of wheat production in Bulgaria.

The data mainly from primary sources were collected from 84 farms selected in framework of the project "Competitiveness of Bulgarian Agricultural Sector" from the six regions of the country. All selected farms are wheat growers and the group includes large farm from North-East and North-West regions, agricultural cooperatives from North-Central and South-East regions, and small and middle-sized family farms from South-West and South-Central regions. The selected information about the differences in technology and farming practices and connected with them production cost was very useful for analysis.
Data were collected with the use of a structured questionnaire to collect information on the input-output data of the farmers for both

the production and cost function analyses. The output data include the total value of the commonly grown food crop obtained by adding cash receipt from selling farm products plus those consumed in the household while the input data include: land area under cultivation (ha), family and hired labour in man-days, quantity of fertilizer (kg), cost of planting materials, and cost of simple farm tools. And for the cost function analysis; the output data include the total cost of production while the input data include; cost of labour, cost of fertilizer used; cost of planting materials, other operating expenses (cost of transportation and herbicides) and cost of simple farm tools such as cutlass; hoe and other simple farm implement. Data were also collected on the socio-economic variables, such as age, farming experience, educational level and credit availability.

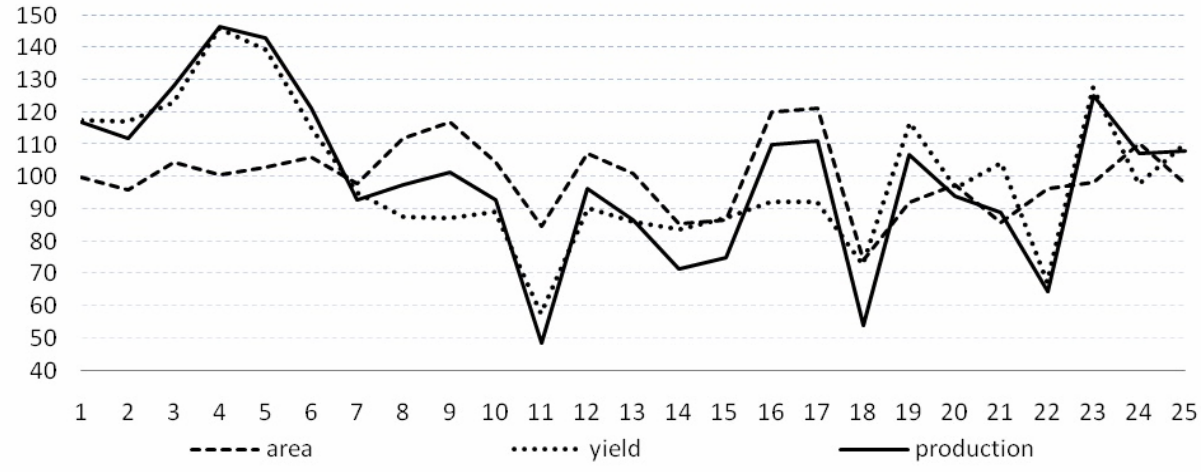
RESULTS

1. Position of wheat production in Bulgaria

In the conditions of transformation of agriculture and preparation for accession to the EU, significant changes have come in the amount of circulating resources, their efficiency level and the sector's comparative advantages. These changes bring a direct influence on the competitive power and possibilities for development of Bulgarian agriculture in the new economic and institutional environment. The assessment of their level and dynamics in the time and the space is a good basis for development of effective strategies for improving the different sectors' and productions' market positions. The country owned comparative advantages could be examined both, in a branch, and regional aspect and can be efficient in resource use and successful participation in the international market.

Wheat is the most important grain in the term of total area, output and trade balance. It accounts for nearly 60% of total grain area. The level of wheat production is very variable (Aleksiev&Tzvetanov, 2009) in the last quarter century. The differences in development of wheat production in Bulgaria during the last twenty five years are a base for its dividing of five stages. The first stage includes the last five years (1986-1990) of central-planned economy in the country. The average level of wheat production during the period is about 4,8 mill.Mt, and its share is about 55% from the grain produced in the country. The second stage includes the years from the start of changes in the country. The delay of the reform in the economy and some mistakes and errors in the first steps (1991-1995) leaded to the wheat crisis in Bulgaria. The yield from wheat decreased with about 15%, and from approximately the same area production is with one million tons less. The third period from five years (1996-2000) coincides with the transition of agrarian sector of the country. The average wheat production fall with one million tons more, to the level of 2,8 mill.Mt per year. There are three very bad for wheat production years – 1996, 1999 and 2000 with grain crisis and a rick for food security of the nation. This is a result from both, reducing of wheat area and decreasing of the yield.

Figure 1: Area, yield and production of wheat in Bulgaria (1986-2010)



Source: Statistical Yearbook of Bulgaria

The fourth five years period (2001-2005) is connected with preparation of the country for accession to European Union. The process of concentration of grain production accelerated and with financial support of Bulgarian government and the European programs (SAPARD) the modernization of new large farms started. The quantity of annual produced wheat raised to about 3,5 mill.Mt. and the export capacity of the country grow.

The fifth stage coincides with the membership of the country in EU and the growing the share of Bulgarian wheat in the European grain market. Both, the new levels of subsidies and the used model of direct payments per hectare stimulated intensification of grain production. The area under wheat extend with more that 10%, and reach in 2009 to 1,26 mill.ha. The level of production in spite of the two unsuitable years and increased support for energy crops is about 3,7 mill.Mt. The exported wheat from the country, average per year exceeds one million tons.

The wheat grain balance sheet **(Table 1)** gives correct information for the condition of production and its possibilities to guarantee the supply necessary quantity bread grain on the domestic market and effective participation on the international grain markets. The domestic demand of the wheat during the investigated twenty five years period decreased with more that 40% , and from about 4,5 mill.Mt in the beginning fall to 2,5 mill.Mt in the lest years.

Table 1. *Wheat grain balance sheet of Bulgaria average by years (Mt)*

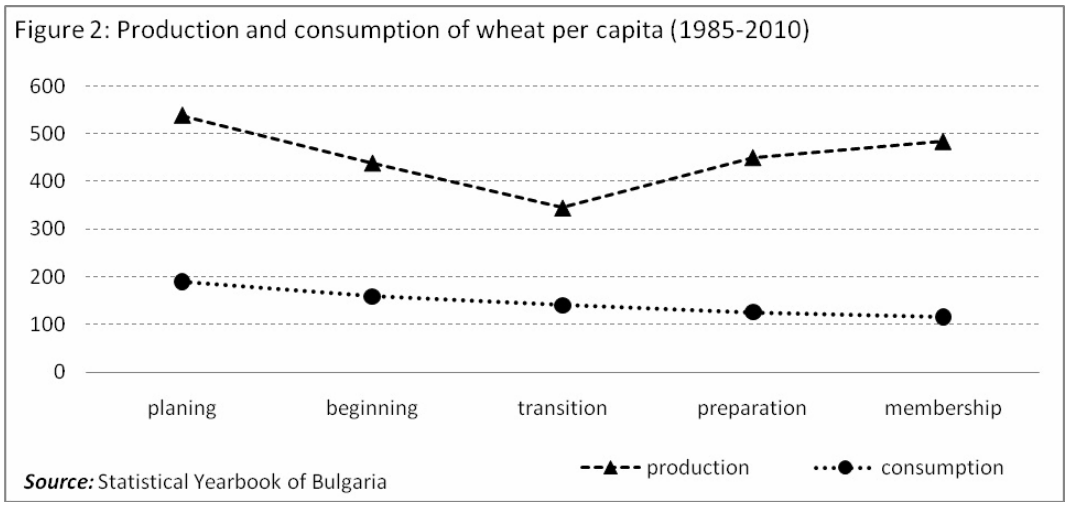
Elements of balance	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010
Production	4 787 123	3 749 476	2 800 905	3 528 689	3 659 227
Import	300 492	77 206	172 855	94 399	88 174
Stock variation	-161 394	15 942	151 719	-8 746	10 270
Export	376 738	327 448	480 109	806 822	1 091 628
Domestic supply	4 549 485	3 515 177	2 645 369	2 816 266	2 560 419
Feed	2 020 761	1 473 277	972 267	1 263 240	1 054 652
Seed	207 641	209 969	209 091	196 725	206 720
Loses	541 440	412 202	264 883	312 412	290 982
Processed	78 637	56 151	45 696	46 636	65506
Food	1 688 630	1 357 676	1 143 414	989 771	935 017
Other	12 373	5 900	10 017	7 480	7 539

Source: Calculated from FAO and NSI data

The main factors generated this diminishing of the domestic demand of wheat are both, reducing of the number of animals in the country and changing of consumption of bread. The wheat used us grain fodder during the period of planned economy is about 42% from produced quantity, and less that 29% after accession to EU. The consumption of wheat in baker's industry for preparing of bread decreased during the investigated period with about 45%, and at present is less one million tons. Two factors influence on this process – reducing of the population of the country with 14% for last quarter century and switching to Mediterranean diet more of the people.

The possibilities for used of wheat grain as input in other industry are connected with correlation between the levels of production, and consumption of wheat per capita. During

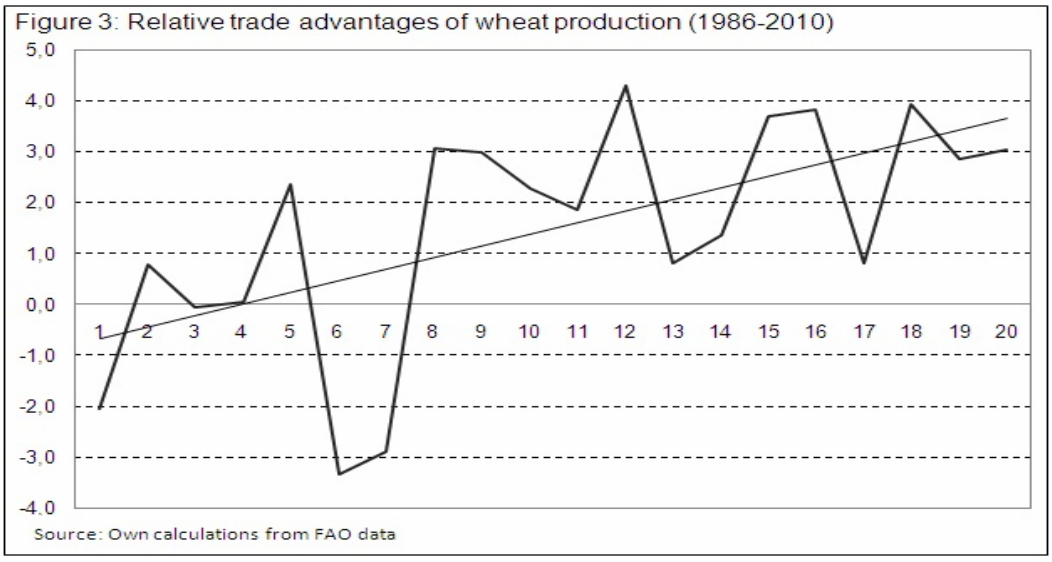
the first period the average production per capita of wheat in the country is about 538 kg., and consumption is 190 kg, what is 35% from produced quantity. The relation is changed during the period of transition, when the production decreased with 200 kg. per capita, consumption is reduced with only 50kg, that is 41% from the produced wheat grain. The production of wheat in the country increased to about 485 kg per capita after accession to EU, but consumption fall to 115 kg. The share of consumption in production is only 24%, and the rest part of the wheat can be use as input, or exported on international market.



The potential of wheat production in the country and the results from correlation between the levels of supply and demand on domestic market are a good base for participation of Bulgarian farms on international wheat grain market.

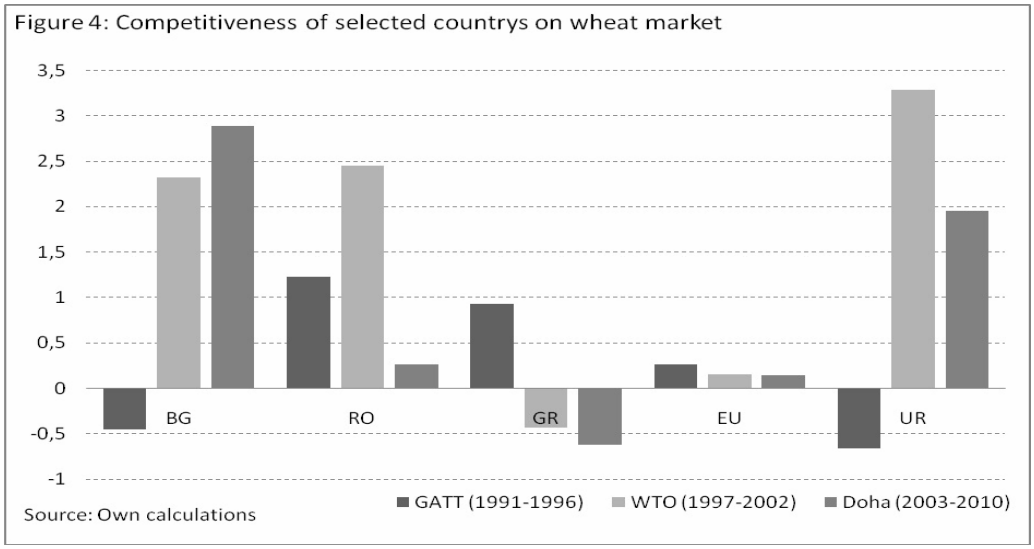
2. Estimation of comparative advantages an competitiveness of wheat production

The participation of Bulgaria in international wheat grain market is a result from both, the correlation between supply and demand on the domestic market, and the comparative advantages of the production in the country. The comparative advantages of Bulgarian wheat production are present in the **figure 3** by the Relative trade advantages (RTA) for the last twenty five years.



The analysis of wheat imported and exported quantities show the increasing of the level of comparative advantages. The tendency is dominated during the periods of transition, preparation and membership in EU. It is generated from both, reducing of grain import, and raising of exported quantities. The high level of grain prices on European and international markets stimulate the big producers to export. The increased demand of wheat in the world, and rising of the size of direct payments per hectare will keep high the share of exported quantities.

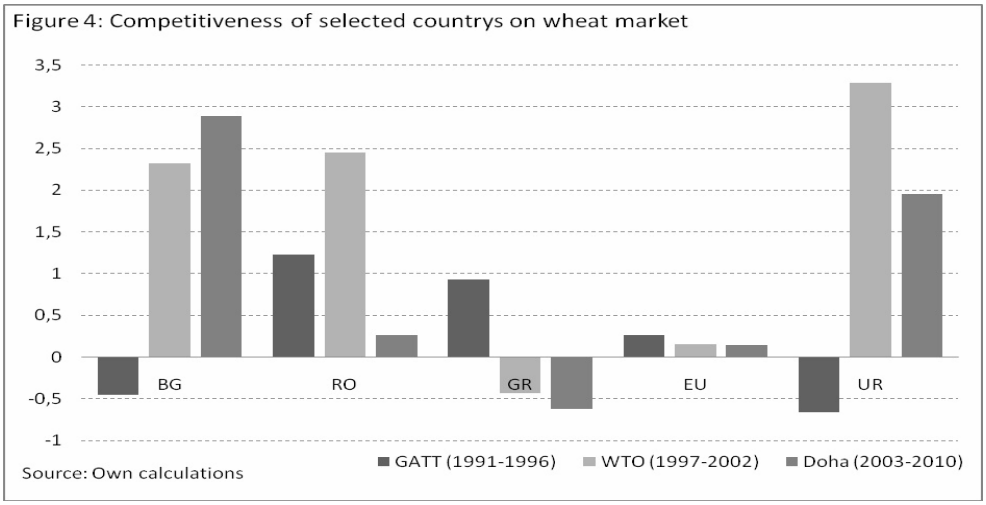
The main markets for Bulgarian wheat export are Black see area, Balkan region and European Union. The level of competitiveness for selected countries on these wheat markets are presented on **figure 4** by the index of revealed competitiveness (RC). The main exporters of wheat are Bulgaria, Romania and Ukraine. Their position in the international grain market is connected with both, the size and balance of the domestic wheat market, and the effectiveness of production in the country. Production potential of Ukraine and Romania is higher that Bulgaria, but the variation of the exported quantities is higher similarly.



The level of competitiveness of Bulgarian wheat production during investigated eleven years period increase. This is a good base for expansion of the farm of Black sea and South-European grain markets. The first direction is Greece as a country with growing demand of grain and a potential importer of Bulgarian wheat.

3. Analysis of the regional dimensions of the efficiency

The efficiency of the production is the main factor for successful participation on international market. Efficiency gives an indication of whether farms are able to use the existing technology in the best way for the competition on the market. The estimation of the parameters of stochastic frontier cost model of wheat producers in the six agricultural regions of Bulgaria for the last three years are presented in **figure 5**. The calculated coefficients of the parameters are positive for each region. The geometric mean of economic efficiency indices for all producers from the survey is 0,495, that is very high for agrarian sector. The level of efficiency of wheat production is vastly higher in North-East (0,675) and North-Central regions (0,624). The indices of wheat production efficiency are lower in South-West (0,276) and South-Central (0,387) regions.

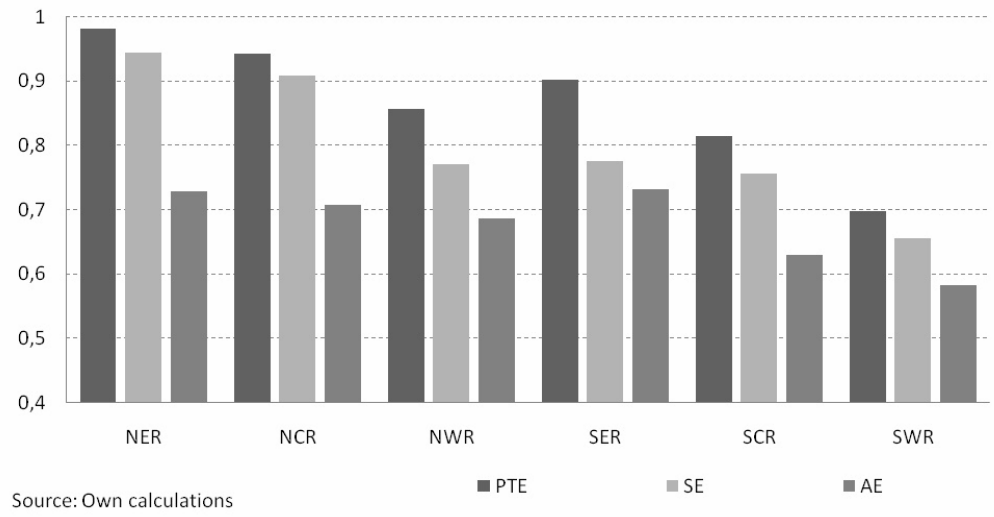


The analysis of efficiency in wheat production for the country determinates as a key factor for its high level the rising size of direct payments per hectare.

The efficiency has three components: scale efficiency, technical efficiency and allocative efficiency. Scale efficiency gives insights into whether the firm operates at an optimal or sub-optimal size. Technical efficiency shows whether a farm is able to attain the maximum output from a given set of inputs. It refers to a physical notion, independent of input and output prices. The allocative efficiency of a farm reflects its ability to use inputs in their optimal proportions given their respective prices, or to produce an optimal combination of outputs given their respective prices. A firm is allocatively efficient if its outputs and inputs maximise its profit at given prices.

The results from an experiment for decomposition of the wheat production efficiency by construction of the country's production function are presented on figure 6. The analysis shows, that main factor influences on the level of efficiency is its technical components. The average estimation for the country is (0,866). The better using of the inputs can be meet in North-East (0,982) and North-Central (0,943) regions. The lower are estimations of the pure technical efficiency of wheat production in South-West (0,698) and South-Central (0,814) regions.

Figure 6: Decomposition of the regional wheat production efficiency



Source: Own calculations

The scale efficiency expresses the results from concentration of wheat production in the country. The calculated estimation (0,802) shows, that it is very important for successful development of wheat production. The higher level of concentration can be seen in North-East (0,944) and North-Central (0,908) regions. The vastly lower is the concentration of wheat production in other four agricultural regions.

The evaluation of the allocative efficiency parameters shows the possibilities for optimization of wheat production in the framework of used production function. The estimations of the proportion of inputs and their prices present a satisfactorily level of inputs combination. For all that the level of allocative efficiency is relatively low (0,678) for the country. The main factor influences on the efficiency is the correlation between yield and the size of land payments. The calculations show that they are corresponded better in North-East (0,728) and South-Central (0,731) regions. The allocative efficiency is lower in South-West (0,583) and South-Central regions (0629). The level of this dependent from inputs and output prices in the years after accession to EU show the rising role of direct payments per hectare.

CONCLUSIONS

The investigation of the competitiveness, productivity and efficiency of wheat production in the country gives strong arguments for good circumstances and successful development. After decreasing of production during the transition the quantity of produced grain, totally and per capita grow. The wheat grain balance of the country is

stable and the country successfully participates on international market. The volume and share of wheat used in the country as food and as input in agriculture and processing industry fall. The measures of CAP and the model of direct payments per hectare stimulate increasing of the area under wheat.

Bulgaria has comparative advantages in wheat production. The country's competitiveness grows and the quantity and share of Bulgarian wheat in European grain market increases. The comparative analysis with other participants of the market demonstrates higher stability in country's export position.

The main factor for successful attendance of Bulgaria on the grain market is high efficiency of production. The both, level of productivity of inputs use and the concentration of wheat production are working for rising of production efficiency and competitiveness of wheat on international markets.

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