AGRICULTURAL POLICIES AND COMPETITION IN WORLD AGRICULTURE

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ABSTRACT. *Agricultural policies have had a guiding role in agriculture development and implicitly in their marketing. Usually they belong to each state and government and are issued in accordance with their specific climate, social-economic and cultural background which includes food and gastronomic traditions. Agricultural policies have in view home and foreign market demand, as well as the socio-demographic, political and military context at a certain point in the socio-economic development.*

Keywords: *agricultural policies, centres of agricultural power, present situation of world agriculture.*

During the latest decades, the increased demand for agricultural products generated by demographic growth and higher exigency with regard to food, has led to global "agriculture command centres". Some of them have become structures of economic, socio-political and even military power (a powerful army has to be properly fed and equipped). There are three centres of this kind in the world, all of them in the Northern Hemisphere: the North-American (*USA* and *Canada*), European (*European Union*) and Asian one (*China* and India).

As food is going to be a major socio-economic world problem, the competition among these centres will also bear special connotations (scientific espionage, economic and financial sabotage, commercial and political conflicts) and famine will extend in poor countries leading to a humanitarian and migration drama.

The North-American Centre *(USA and Canada*) works according to liberal principles of the capitalist economic system based on private property over the land and means of production, on initiative, competition and maximum profit targets.

North American agriculture is very efficient, has vast fertile lands such as faeozioms, various climate areas allowing diversity of crops and excellent

equipment (the agricultural combine was invented in the *USA*) and relies on remarkable marketing spirit (see The Agriculture Stock Market for Meat and Cereals in *Chicago*).

USA produces 45% of corn and 55% of soy production, has the following percents in world sales: 50 corn, 78% soy, 26% wheat, 25% cotton, 15% citric fruit and rice. Agriculture represents in the *USA* over 10.4% from the export and in *Canada* over 12% (*Canada* exports 50% from the wheat production, mostly Manitoba wheat). Agricultural products import is remarkably low – 4% in *USA* and 6.5% in *Canada* (Warde 2005).

The use of fertilizers and pesticides and the growing of genetically modified plants have contributed to the increased production, together with the use of better and better tools and equipment (*Ford, John Deere, McCornick*).

The agricultural belts in the *USA* represent monocultures: the corn-belt – 1500km in *Ohio, Illinois, Iowa* and *Indiana*, together with the soy-belt (cornsoybelt) or with barley; the cotton-belt is associated with the tobacco-belt; the wheat-belt in the Mississippi Plane (grown in dry-forming system) is associated with the dairy-belt (cattle raising) in the north-east. *California* and *Florida* specialized in fruit and vegetables, strongly irrigated. Both the *USA* and *Canada* largely use genetically modified plants (corn, soy, rice, rape, barley, cotton) (Fouet, Baudrchon 2002).

Cattle raising became industrialized in the feed lots where cattle were fed soy, corn, and alfalfa and were given hormonal stimuli, which fast enhanced meat production. Scientific research, mainly genetics, had an important role in the 4-4.5% increase in productivity. In the North-American agriculture, on a surface twice the surface of *Europe*, only 2.6% of the active population (3.6 mil.people) work in agriculture. In *Canada* 3.4% (60 thousand people) work in agriculture; the average size of a North American farm is 190ha (Warde 2005).

American agriculture covers the needs of internal market up to the level of consumerism (see the 70% of obese people in USA) and has remarkable possibilities to export.

Internally, the transport is made by trucks and for the export are used cereals cargos and containers leaving from the ports *New Orleans, Baltimore, Seattle, Montreal* towards *Hamburg, Yokohama, Alexandria, Sankt Petersburg* etc.

The states in the *European Union* avoid North-American products obtained through genetically modified plants and meat obtained with growth hormones, therefore *USA* imposed higher taxes for the products imported from *EU*. *USA* also has the control in most Latin-American countries, as well as in some African and Asian ones.

The European Centre (*European Union*) has an efficient agriculture, with some exceptions, such as Romania. The EU has sufficient supplies for the internal markets and can also export meat, dairy, cereals, wine, vegetables, fruit,

citric fruit, olive oil etc. Due to the variety of the climate, the products are very diversified, from Mediterranean citric fruit to potato which is typical to temperate oceanic climate. *EU* states have top technology, excellent tools and equipment and highly specialized scientific research. Production has doubled during the last 50 years due to thorough selection of plants and animals and to the expanding of irrigations in the Mediterranean areas (Spain, Portugal, France, Italy and Greece) (Duma 2009).

The most various products are in *France* which also has the best pedo-climatic conditions. It is followed by *Germany, United Kingdom, Italy, Denmark* and *Holland*.

The *EU* countries are also specialized on different products; *France* has the cereals and vineyards, *Spain, Portugal* and *Greece* have the citrus fruit and the vineyards, *Ireland, UK, Germany* and *Holland* have the potatoes and wheat, *Germany, Holland* and *Denmark* have cattle and poultry.

There were 8 million agricultural workers in the *EU* before *Romania* and *Bulgaria* became members. The farms have at least 50 ha, or 40 cows. The small farms have been mostly incorporated by lager ones as a result of subsidizing policies. Large agricultural plots, over 50ha, are in *UK* – 85.5%, *Luxembourg* - 80.4%, *France*-76.7%, *Denmark* – 69.6%, *Spain* – 68.2%, *Germany* – 66% and *Portugal* -60.1%. In *Italy*, *Austria* and *Holland* the percentage is 34-37% and in *Greece* only 10.6% (Popescu 2005). In *Italy* there are mostly 5 ha farms. Only 4.6% of the Italian farms are larger than 20 ha and they cover 54.8% from the farming land. Most small farms are run by their owners and their families represent the working force, this compensating the small size of the farm (Socol 2006). *Italy* also has the largest ecologically treated surface of farm land in EU – 1.23 mil ha) representing 7.94% from all its farming land; only *Austria* surpasses it with 11.3% (Săgeată 2005). Crop rotation, poly-cultures and the moderate dimensions of the farms allowed European farmers a certain flexibility with regard to the market demand and reduced the loss due to pests and climate changes.

EU, through its agricultural policies, has kept its position as centre of world civilization, also due to its agricultural Mediterranean, Germanic and Atlantic traditions which ensure its cultural superiority. *EU* members have a common agricultural policy –PAC (*La Politique Agricole Commune*) which, according to Rome Treaty in 1957 (that founded the EEC), aims at increasing the efficiency of agriculture in order to offer a decent life standard to the farmers, stable prices and safe food at reasonable prices. PAC grants a commune unique market for agricultural products and fast modernization of farming. It relies on free circulation of agricultural products inside EU, tax free, on the unity of the market, encouraging of national products consume and financial solidity. The intervention expenses are financed from FEOGA (European Fund of Orientation and Guarantee in Agriculture) to which all member countries participate. EU

agricultural policy relies on the demand and offer law which leads to balance between price and quality and the state intervention allows stable currencies and absorption of surplus products (Duma 2009).

From late sixties until 1998 agricultural production of EU increased annually with 1.8%, the efficiency/ha with 2% and the productivity with 4.7% (Report of the Agricultural Comission Bruxelles, 1998). The evolution of average production of wheat, barely and corn in EU between 1961-2001 is represented in Fig.1 and the perspective for the cereals market until 2011 is represented in Fig.2.

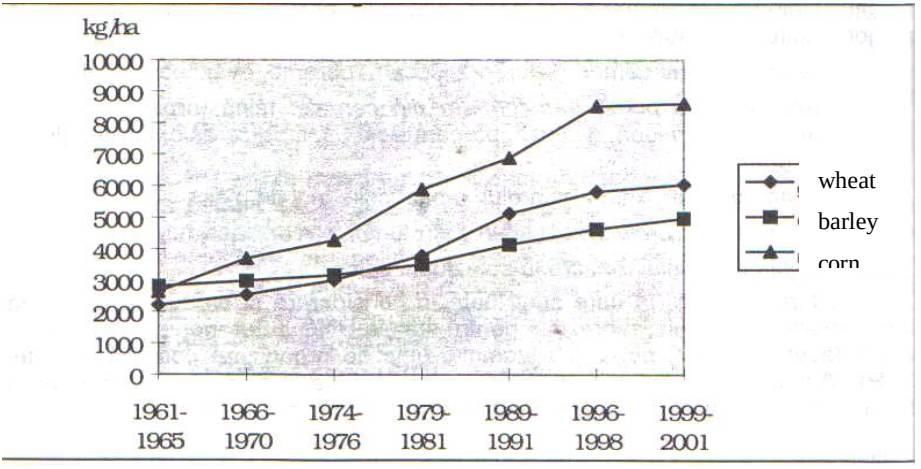

Fig.1 Evolution of average production of wheat, barley and corn in the EU, during 1961-2001, according to Alexandri and Sima 2005

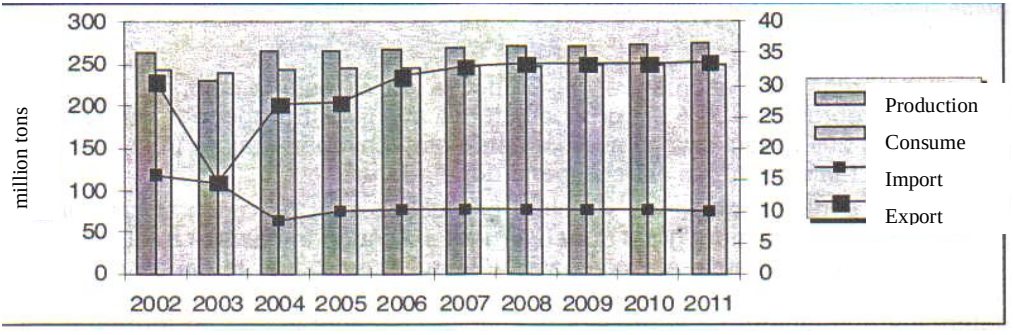

Fig.2 Perspective on cereals market in the EU, according to Alexandri and Sima 2005

EU bans growing genetically modified plants and the use of growth hormones in animal

breeding. The only countries where such plants (namely corn) have been used are *Romania, Bulgaria* and *Spain*. *Spain* has already started eliminating these plants.

EU also has stock markets for very valuable agricultural products; *London* for coffee, tea and cocoa and *Zurich* for cocoa.

Agricultural products are transported on motorways or railways and the export is made by sea, from *Marseille, Rotterdam, Hamburg* etc. In areas close to the *EU*, such as *Russian Federation* or *Near East*, motorways are used. Perishable goods and hothouse products are transported inside and outside *EU* in special planes.

In spite of its pedo-climatic potential, *Romania* has underdeveloped agriculture. The farms larger than 100ha represent 46.80% from the farming land. The smaller ones (below 1ha-5ha) represent 45.80% and they are divided in lots smaller than 1ha; this is an obstacle for the use of advanced techniques and efficient equipment and consequently they are inadequately farmed or even abandoned (Popescu 2005). *Ireland, UK, France* and *Holland* had an average production of 7200-8300kg/ha, while *Romania* had 2500-2600kg/ha. *Austria, Italy, Greece* and *Spain* had an average corn production of 9000kg/ha and *Romania* had 2500-2600kg/ha. Many industrial plants, vegetables, protected vegetables are grown on smaller areas, leaving place for wheat and corn. Technology costs in cereals production increased along with the rest of the prices, while the sums offered to the farmers remained practically the same. Low profit led to bankruptcy, some oriented towards bioenergetical plants such as rape. Fruit tree growing regressed too. Many orchards have been abandoned, others are poorly kept, too old and no plantations were made, except for the small orchards around farmhouses. These are the reasons why *Romania* imports fruit (apples, pears, apricots etc.). There is a similar situation in viticulture and *Romania* imports grapes. In this field there have also been attempts at establishing the compatibility between Romanian and *EU* wines. Animal breeding has also diminished drastically because most large farms were closed and small farms breed animals mostly for their own needs. For this reason, *Romania* came to import carcass meat and exports small quantities of processed meat. And here we have the whole picture of the disaster in Romanian agriculture: with a pedo-climatic potential ranking it among the first 3-4 countries in EU, *Romania* imports agricultural products and food, as well as manufactured products (textiles, ready-made clothes, footwear etc.) which use agricultural products as raw materials. This happened because no coherent agricultural policy supports the reorganizing of agriculture, farmers' subsidizing, efficient irrigation systems, proper equipment. Part of the intervention funds can be obtained by accessing structural funds (including FEOGA) on account of development programmes. It is worth mentioning that, due to its position on the 45^{o} parallel, the incidence angle between sunlight and land is optimum for

biochemical and biosynthesis processes of plants, which confers exceptional aroma and taste to fruit and vegetables (Duma 2009).

The *Russian Federation* and the *CSI* European countries have an extensive agriculture due to their large farming spaces. They cover most of their needs, but also import products from *USA* and *EU*. The *Russian Federation* is one of the most important wheat producers in the world (fourth place after *China, India* and *USA*); it ranks among the first with rye, potatoes (second place in the world after *China*), sunflower and corn. *Ukraine* ranks fourth in the world in potatoes growing and has remarkable productions of wheat, corn and sun flower.

In the Turkish speaking countries belonging to the *CSI*, from *Central Asia*, there is merely a 'sustenance' agriculture, because of the unfavorable conditions (arid zones) and mostly because of poorly developed technology.

The Asian Centre (*China* and *India*) has recently been founded as a consequence of the population boom.

China has fertile soils in its large plains, impressive workforce which is also efficient and cheap. Lately there have been record productions in *China*, due to modernizing through technology and equipment import and at the same time due to a certain ideological 'relaxation' which encouraged the private initiative of Chinese farmers. Irrigations, fertilizers, pesticides, genetically modified plants and know-how- all these contributed to increased production (Gentelle 2004). China leads in wheat, rice, potatoes, fruit (apples, pears), tea, silk, pork and mutton production and ranks among the first in corn, soy, wool, poultry and sugar production. They transport the goods mainly by ship on the large rivers and canals and the export is made from the ports *Shanghai* and *Huanzghou* (Domenech 2001).

India has also become an important partner in regional and international agriculture. They obtained better efficiency by expanding the farming areas which replaced the former woods, by irrigating large surfaces (95 mil.ha in 2006), by using superior technologies, including growing genetically modified plants, the use of fertilizers and pesticides. *India* is the world leader in millet, barley, jute, bananas and sugar and ranks second in the production of rice, wheat, tobacco and milk; it also ranks among the first producers of corn, soy, cotton, potatoes, agrumens etc. Animal breeding, although important, has a smaller importance, it limits to dairy (second in the world) and wool processing, because of rigid religious traditions which may hinder the economic development (Assyang 2001).

Demographic growth has been significantly slowed down in *China*, but it continues to increase in *India* where it outweighs the progress in agriculture; besides, the water for irrigations becomes scarce in *Punjab*, where most of the wheat grows.

Japan has a completely distinct agriculture in comparison to the rest of the Asian countries. Only 12% of the land is used for farming, but it is extremely

efficient due to the small farmers and strong support from the government (72% from the costs are subsidized). Rice is the predominant plant and it grows both on the sea shore plains and on terraces. 38 transgenic plants are grown, but they are exported. There are 3.5 million farms in Japan where only 5% of the population works. In spite of the high technology, extremely modern equipment and advanced scientific research, Japanese agriculture produces only 60-65% from the agricultural products needed and the rest is imported from *USA, Australia* and *China*. The missing animal protein in the food industry is completed with fish provided by farms or sea fishing (Regine, Serra 2005).

The countries from *South-Eastern Asia* mostly grow expensive and rare products, mainly on plantations which are financed and managed by foreign companies. It is the case with natural rubber (first in the world- *Thailand, Indonesia* and *Malaysia*), coffee(*Indonesia* third in the world), cocoa, tea, bananas, peanuts, palm tree oil; for the home market they produce rice (Indonesia, third in the world) (Duma 2009).

In the Asian Islamic world, *Turkey* has made great progress in agriculture and has a powerful regional economy founded on Ottoman tradition combined with Kemal Ataturk's reforms. In fact, *Turkey* is the most European of the Islamic countries. The agriculture specialized in production and export of cotton, tobacco, vegetables (tomatoes), fruit (apples, pears, apricots), citrus fruit (oranges and lemons), grapes, wool for mohair etc. There are 28 mil. ha of farming land in *Turkey*, 21% are irrigated; there are 4 million farms and 99% of them cover less than 50 ha. Fertilizers and pesticides are largely used, as well as modern tools and equipment, imported mostly from *USA*. Agriculture represents 15% from the gross national product and the export of agricultural products (5.5 billion dollars worth) represents 10.5% from all exports from *Turkey* (Massicard 2005). The agricultural products, the history and tradition of this country, as well as the modern infrastructure and spectacular landscapes (long beaches, thermal waters etc.) enabled *Turkey* to strongly develop tourism. The Turkish agricultural model is perfectly adapted to the land, climate, history and traditions of the Turkish people. The fact that *Turkey* produces enough consumer goods for its population and that it is also able to export constitutes a great accomplishment, consistent with its ambitions of ex- world power (Bozarlslan 2004).

The countries close to Turkey, including the Arab ones, have only 'sustenance' agriculture because of the severe pedo-climatic conditions (aridity). One of them, Afghanistan, specialized in dangerous cultures such as poppy, producing 90% from the opium in the world.

In the *Southern Hemisphere* there are no real agriculture centres, apart from Australia, one of the most important producers of wheat and cotton in the world and second in sheep breeding (after *China*). Due to its large surface of farming land, extensive growing of wheat is practiced. Intensive farming and irrigations are present only on the plains *Murray* and *Darling*. *New Zealand*

specializes in cattle and sheep breeding, as well as meat and dairy products (Duma 2009).

Both *Australia* and *New Zealand* produce enough for the internal market and also export wheat, mutton, beef, dairy etc.

Agriculture is very scarce in *Africa*, except for *South Africa*, where modern tools and equipment are used. Here they grow wheat, corn, sunflower and raise animals (sheep and cattle). The rest of the African countries grow millet and rice (*Nigeria*, *Sudan*), but mostly palms for oil, peanuts, coffee, cocoa, tea, dates, pineapple, bananas etc). Most African countries have sustenance agriculture and the expensive products, such as bananas, rubber, cocoa and coffee are managed by North-American companies like *United Fruits* and *Firestone* (Duma 2009).

Agriculture in *Latin America* is characterized by contrasts – large productions for the North-American companies (*United Brands*, *Costel* and *Coove* and *Delmonte*) and small productions on the natives' farms.

In *Brazil*, farming developed as a consequence of massive deforestations, which led to serious national and global problems, such as global warming. Here agriculture evolved according to an exogenous consume model (North-American) which generated an extrovert development, subordinated to important financing companies. The culture for home consume, such as manioc, is limited, while the large productions supported by scientific research – soy, rice, cotton tobacco, coffee, cocoa, agrumens and sugar cane- are largely exported. In the "cerrados", wheat is intensively cultivated; its large productions are supported by North-American capital as well. Genetically modified plants – soy, rice and corn – have also appeared in *Brazil* lately. The peasants who lost their farming land are a cheap and numerous (20 mil. workers) work force, while the small farmers fight to survive, trying to access the trade circuits. Although the second soy exporter in the world and one of the most important rice producers, *Brazil*'s inhabitants, especially those living in the North-East – such as the *Pernambuco* area- are menaced by starvation (Droulers 2001). *Brazil* is the second in cattle raising in the world (after India); they mostly raise the zebu breed, but production, even in the fazendas, is low.

In *Latin America*, *Argentina* and *Mexico* also have important agricultural productions, but again, with dominant North-American capital. *Argentina* produces genetically modified corn and soy, sunflower, fruit (apples, pears), agrumens and grapes and they raise cattle using growth hormones added to their food. In Mexico corn millet and rice, agrumens and bananas are the dominant products. Most of them, especially the valuable ones (meat, bananas, agrumens, fruit grapes etc) are exported. In fact the countries in *Latin America*, mainly *Brazil* and *Argentina* and lately *Mexico*, are only a 'prolongation' of the North-American agricultural power (Duma 2009).

Conclusions

The demand for food will steadily grow in the future, while the farming land becomes more limited and the global warming will affect irrigations in agriculture. Consequently, the competition for agricultural products and implicitly for food resources determined by demographic growth and consumers' higher expectations will generate more economic conflicts, mostly in the commercial field and also mass migration of hungry people. As a result, productions will grow mostly on account of the genetically modified plants and growth hormones in animal raising, food will be less and less healthy and people will be sicker and sicker.

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