



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



Serbian Academy of Sciences and Arts
Board for Village



Serbian Association
of Agricultural Economists

AGRI-FOOD SECTOR IN SERBIA

STATE AND CHALLENGES

Edited by
Academician Dragan Škorić
Danilo Tomić
Vesna Popović

Belgrade, 2013

AGRI-FOOD SECTOR IN SERBIA

STATE AND CHALLENGES

Editors

Academician Dragan Škorić
Danilo Tomić
Vesna Popović

Publisher

Serbian Association of Agricultural Economics
11080 Belgrade - Zemun, Nemanjina 6-8
www.deas.org.rs

For the Publisher

Miladin M. Ševarlić, Ph.D., President

Co-publisher

Serbian Academy of Sciences and Arts – Board for Village
11000 Belgrade, Knez Mihajlova 35

ISBN: 978-86-86087-27-0

Reviewers

Časlav Očić, Ph.D., corresponding member of Serbian Academy of Sciences and Arts, Belgrade
Milovan Mitrović, Ph.D., full professor, Faculty of Law, University of Belgrade
Jelena Birovljev, Ph.D., full professor, Faculty of Economy, University of Novi Sad

Technical preparation and design

Jovana Čikić, Ph.D., research associate, Faculty of Agriculture, University of Novi Sad
Stanislav Zekić, Ph.D., assistant professor, Faculty of Economy, University of Novi Sad
Marinko Kresoja, M.Sc., assistant, Faculty of Economics, University of Novi Sad
Strahinja Ajtić, technical assistant, Faculty of Agriculture, University of Belgrade

Number of copies CD: 200

Copyright 2013 by Dragan Škorić, Danilo Tomić, Vesna Popović

CONTENTS

INTRODUCTION.....	1
--------------------------	----------

AGRICULTURE OF THE WESTERN BALKAN COUNTRIES IN GLOBALISATION AND LIBERALISATION PROCESSES	9
--	----------

Danilo Tomić

Zoran Njegovan

INTRODUCTION	9
1. RESULTS OF THE RESEARCH AND DISCUSSION	10
1.1. General Economic Conditions in Serbia and Western Balkan Countries	10
1.2. General Economic Indicators.....	11
1.3. Resource Indicators	18
1.4. Indicators of Agricultural Production	22
1.5. Value Indicators of Agriculture	24
CONCLUSIONS	27
ACKNOWLEDGEMENT	29
REFERENCES	29

CHANGES IN THE STRUCTURE OF FARMS AND PRODUCERS ASSOCIATIONS IN THE REPUBLIC OF SERBIA	31
---	-----------

Miladin M. Ševarlić

INTRODUCTION	31
1. CHANGES IN THE LAND SIZE STRUCTURE OF FAMILY FARMS	34
2. LAND SIZE STRUCTURE OF FARMS BELONGING TO LEGAL ENTITIES AND ENTREPRENEURS	41
2.1. Land size structure of agricultural enterprises	42
2.2. Land size structure of agricultural cooperatives.....	46
2.3. Land size structure of farms belonging to other legal entities and entrepreneurs ..	50
3. CAPACITIES OF ANIMAL PRODUCTION AND LEVEL OF EQUIPPING WITH TRACTORS AT FARMS	53
4. ASSOCIATIONS OF AGRICULTURAL PRODUCERS	55
4.1. Associations of farmers – owners of family farms.....	56
4.2. Associations of agricultural enterprises	58
4.3. Cooperative alliances.....	59
CONCLUSIONS	63
REFERENCES	68

**DEVELOPMENT CHARACTERISTICS OF AGRICULTURAL
SECTOR IN SERBIA 73**

Milivoj Gajić
Stanislav Zekić

INTRODUCTION	73
1. LONG-TERM DEVELOPMENT TRENDS	74
2. DEVELOPMENT CHARACTERISTICS OF AGRICULTURE.....	76
2.1. Structure and Dynamics of Agricultural Production	77
2.2. Agricultural Production and Productivity	78
2.3. Export Performances of the Agri-food Sector.....	81
3. DEVELOPMENT CHARACTERISTICS OF AGRO-INDUSTRY	84
CONCLUSIONS	87
ACKNOWLEDGEMENT	89
REFERENCES	89

**DIFFUSION OF KNOWLEDGE AND INNOVATIONS IN
SERBIAN AGRICULTURE..... 91**

Jovana Čikić
Živojin Petrović

INTRODUCTION	91
1. FAMILY FARMS – FRAMEWORK FOR RESEARCHING POSSIBILITIES AND OBSTACLES IN LABOUR MODERNIZATION IN AGRICULTURE.....	92
2. PRODUCTION OF KNOWLEDGE FOR CONTEMPORARY AGRICULTURE – THE ROLE OF R&D IN AGRICULTURAL SCIENCES IN MODERNIZATION OF SERBIAN AGRICULTURE	95
3. AGRICULTURAL EXTENSION SERVICE IN SERBIA – CHARACTERISTICS AND POSSIBLE DEVELOPMENT PATHS	105
4. SOCIOLOGICAL AND RELATED COMPREHENSIONS OF THE DIFFUSION OF KNOWLEDGE AND INNOVATIONS IN SERBIAN AGRICULTURE – CURRENT STATE AND DEVELOPMENT PATHS OF SCIENTIFIC THOUGHT	109
CONCLUSIONS	111
ACKNOWLEDGEMENT	114
REFERENCES	114

**LONG-TERM STRUCTURAL CHANGES IN THE AGRARIAN
MARKET IN SERBIA (1990-2010): CYCLICALITY OF
PRODUCTION, OLIGOPOLISTIC OF DEMAND,
EXTENSIVE GROWTH OF EXPORT 119**

Milan Milanović

INTRODUCTION	119
1. TRENDS OF GROWTH OR FALL IN TOTAL AGRICULTURE.....	121
1.1. The Alternateness of the Annual Growth and Fall.....	122
1.2. The Sinusoid of Soil Cultivation and the Falling Parable of Livestock Breeding	123
2. SECTORAL CHARACTERISTICS OF OSCILLATIONS IN PRODUCTION.....	125
2.1. Plant production	125
2.2. Livestock production	126
3. COMPETITION AND THE CHARACTERISTICS OF THE STRUCTURE OF THE AGRARIAN MARKET IN SERBIA	127
3.1. Competition of Offer/Producers	128
3.2. The Oligopsonistic Structure of Processing	128
3.3. The Oligopsony of Trade, Especially of Hypermarkets	129
3.4. The Inefficient Competition Protection System.....	130
3.5. Undeveloped Market Institution	131
3.6. Unregulated Trade in the “Green Marketplace”	132
4. GROWTH OF AGRARIAN EXPORT TOGETHER WITH RADICAL STRUCTURAL EXTENSIFICATION	133
4.1. The Dynamics and the Coverage of Import by Export.....	134
4.2. The Agrarization of Total Export	135
4.3. The Extensification of the Export Structure.....	136
CONCLUSIONS	138
ACKNOWLEDGEMENTS	140
REFERENCES	141

**FOREIGN TRADE EXCHANGE OF AGRO-INDUSTRIAL
PRODUCTS OF SERBIA 143**

Branislav Vlahović

Anton Puškarić

INTRODUCTION	143
1. SOURCES OF DATA AND METHODOLOGY OF RESEARCH	143
2. RESEARCH RESULTS.....	144

2.1. Export of Agro-Industrial Products from Serbia	144
2.1.1. Export of Agro-Industrial Products per Commodity Groups and Sectors	146
2.1.2. Regional Determination of Export of Agro-Industrial Products	149
2.1.3. Export Expansion Factors	155
2.2. Import of Agro-Industrial Products of Serbia	156
2.2.1. Import of Agro-Industrial Products by Commodity Groups and Sections	157
2.2.2. Regional Origin of Import of Agro-Industrial Products	159
2.3. Foreign Trade Exchange Balance of Agro-Industrial Products	162
CONCLUSIONS	164
ACKNOWLEDGEMENTS	165
REFERENCES	166

SUSTAINABLE MANAGEMENT OF LAND, WATER AND BIODIVERSITY IN AGRICULTURE UNDER CLIMATE CHANGE

167

Vesna Popović
Zorica Vasiljević

INTRODUCTION	167
1. SUSTAINABLE LAND MANAGEMENT	170
1.1. Soil and Land Quality	170
1.2. Land Use and Land Use Change	172
1.3. Land Degradation	175
2. INTEGRATED WATER RESOURCES MANAGEMENT	178
2.1. Water Resource Availability	178
2.2. Water Quality	179
2.3. Irrigation and Drainage	182
3. AGROBIODIVERSITY AND LANDSCAPE PROTECTION	184
3.1. Genetic Resources in Agriculture	184
3.2. High Nature Value Farmland	186
4. CLIMATE CHANGE AND AGRICULTURE	187
4.1. Basic Climate Characteristics	187
4.2. Climate Change Trends	188
5. POLICIES OF SUSTAINABLE NATURAL RESOURCES MANAGEMENT IN AGRICULTURE UNDER CLIMATE CHANGE	189
CONCLUSIONS	193
ACKNOWLEDGEMENTS	196
REFERENCES	196

TERRITORIAL CAPITAL OF RURAL AREAS: AN EXAMPLE OF ANALYSIS OF THE POTENTIAL FOR RURAL TOURISM DEVELOPMENT IN SERBIA.....	201
---	------------

Natalija Bogdanov
Dejan Janković

INTRODUCTION	201
1. TERRITORIAL APPROACH TO RURAL DEVELOPMENT	204
2. A CONCEPT OF RURAL TERRITORIAL CAPITAL.....	207
3. TERRITORIAL CAPITAL OF RURAL AREAS AS POTENTIAL FOR DEVELOPMENT OF RURAL TOURISM IN SERBIA	212
3.1. Serbia – Diversification of Rural Territory	212
3.2. Methodology of Estimating the Territorial Capital of Rural Regions	
3.3. Results and Discussion	218
CONCLUSIONS	227
ACKNOWLEDGEMENT	230
REFERENCES	230

POLICY OF SUPPORT TO AGRICULTURE AND RURAL DEVELOPMENT	233
---	------------

Koviljko Lovre

INTRODUCTION	233
1. AGGREGATE SUPPLY AND DEMAND FOR AGRICULTURAL PRODUCTS AND FOODSTUFFS.....	234
2. THE ECONOMIC POSITION OF AGRICULTURE	240
3. EVALUATION OF THE AGRARIAN POLICY IN SERBIA	245
CONCLUSIONS	256
ACKNOWLEDGEMENT	257
REFERENCES	258

INDEX OF TERMS.....	259
----------------------------	------------

AUTHORS

DANILO TOMIĆ, Ph.D.: Association of Agricultural Economists of Serbia, Nemanjina 6, 11080 Belgrade – Zemun, e-mail: dtomic45@gmail.com

ZORAN NJEGOVAN, Ph.D.: University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, e-mail: njegovan@polj.uns.ac.rs

MILADIN M. ŠEVARLIĆ, Ph.D.: University of Belgrade, Faculty of Agriculture, Nemanjina 6, 11080 Belgrade – Zemun, e-mail: miladin.sevarlic@agrif.bg.ac.rs

MILIVOJ GAJIĆ, Ph.D.: University of Novi Sad, Faculty of Economics, Segedinski put 9-11, 24000 Subotica, e-mail: mikag@ef.uns.ac.rs

STANISLAV ZEKIĆ, Ph.D.: University of Novi Sad, Faculty of Economics, Segedinski put 9-11, 24000 Subotica, e-mail: zekics@ef.uns.ac.rs

JOVANA ČIKIĆ, Ph.D.: University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, e-mail: cikicj@polj.uns.ac.rs

ŽIVOJIN PETROVIĆ, Ph.D.: University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, e-mail: zpetrovic@polj.uns.ac.rs

MILAN R. MILANOVIĆ, Ph.D.: Megatrend University, Goce Delčeva 8, 11070 Belgrade, e-mail: milanrmilanovic@yahoo.com

BRANISLAV VLAHOVIĆ, Ph.D.: University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, e-mail: vlahovic@polj.uns.ac.rs

ANTON PUŠKARIĆ, Ph.D.: Institute of Agricultural Economics, Volgina 15, 11000 Belgrade, e-mail: anton.puskaric@gmail.com

VESNA POPOVIĆ, Ph.D.: Institute of Agricultural Economics, Volgina 15, 11000 Belgrade, e-mail: vesna_p@iep.bg.ac.rs

ZORICA VASILJEVIĆ, Ph.D.: University of Belgrade, Faculty of Agriculture, Nemanjina 6, 11080 Belgrade – Zemun, e-mail: vazor@agrif.bg.ac.rs

NATALIJA BOGDANOV, Ph.D.: University of Belgrade, Faculty of Agriculture, Nemanjina 6, 11080 Belgrade – Zemun, e-mail: natalija@agrif.bg.ac.rs

DEJAN JANKOVIĆ, Ph.D.: University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, e-mail: jankovic@polj.uns.ac.rs

KOVILJKO LOVRE, Ph.D.: University of Novi Sad, Faculty of Economics, Segedinski put 9-11, 24000 Subotica, e-mail: klovre@ef.uns.ac.rs

LONG-TERM STRUCTURAL CHANGES IN THE AGRARIAN MARKET IN SERBIA (1990-2010): CYCLICALITY OF PRODUCTION, OLIGOPOLISTIC OF DEMAND, EXTENSIVE GROWTH OF EXPORT

Milan Milanović

INTRODUCTION

When official institutions are concerned, as well as rarely in professional-scientific circles, there are almost no rather complex analyses of long-term movements and total trends in the Serbian agrarian market (agricultural production, domestic consumption, agrarian export). Meager macroeconomic indicators are most frequently related to one economic year or, however, to only the current (selected) five-year period, taking into consideration neither radical internal systemic and production-structural changes nor the consequences of the changes in the position of the Serbian agriculture in a new market environment (the old neighbourhood and the new one), either. Therefore, in this paper, we have decided to analytically gain an insight into the development of agriculture and the agrarian market in a relatively long period, which encompasses the circumstances prior to the disintegration of the common state, then for the duration of the period of the so-called transition, and, finally, the period of independent development.

So, the considerations in this paper relate to the twenty-five-year period of a broader dividing line between the two centuries (one decade of the prior century and one decade of the current century). In that period, which is relatively short from the point of view of its duration, but very turbulent from the point of view of social-historical changes, Serbia and its economy, as well as its agriculture, experienced very big, almost epochal political, economic-systemic and structural changes. This period includes the decade prior to the violent secession and the disintegration of the SFRY, the period of the existence of the SRY/S&MN, and the first decade of the new century and Serbia's independency. At the same time, and in many aspects, the whole period is analytically observed by five-year segments (the base period of the analysis is the 1986-1990 five-year period).

The more complete analyses of the movements and long-term characteristics of the production of agricultural and agro-industrial

products, within the framework of our earlier and more recent broader monographic researches [4, 5] and on the basis of the observations of the indicated data long-standing series, are indicative of the extensification and stagnation of and falling trends in production as well as of the cyclical instability and internal regional differences of the production volume and structure. Given the observed period and general circumstances which they are taking place in, such trends can be referred to as the transitional distortion of agriculture and the agrarian market.

The transitional distortion of the overall economy, as well as of agriculture and the agrarian market, is no Serbia-specific feature. If the growth and the achieved level of the gross domestic product (the GDP) is a measure of a country's success, then the last two decades are a period of a continuous crisis and the stagnation of the largest number of transition countries, which went through that period by "marking time", while some were making a big step "backward", and the most prosperous ones achieved an around 1-2% growth, which is ten times or so more slowly than in China [5].

For a number of years, agriculture and agro-industry have been marked as the sheet anchor of the Serbian economy in the international market. Apart from the degree of the competitiveness of domestic products, the key hurdle in the achievement of such commitments, is the always present (either direct or indirect) agrarian protectionism and interventionism of developed countries in the agrarian market, which, in order to protect their own products, generously subsidized both producers and exporters of agrarian products. The programs of state interventionism were not model formalized for a long time, but, as time passed, their analysis has evolved towards the economic effects of the distribution of incomes and costs amongst different interest groups [2].

The consideration of the export potential of the agrocomplex and its place in the economic structure is most frequently reduced to the analysis of the movement in the volume and structure of export and import, i.e. of the net balance of the foreign trade of agrarian products, classified according to the Standard International Trade Classification (SITC). The specificities of agrarian production as well as the commodity classification are related to the difficulties accompanying the separation of agricultural products (as unprocessed raw materials) and foodstuffs (agro-industrial products), as final processing products, i.e. products prepared for direct consumption. Here, the subject of the comparative analysis of agrarian export and import, the groups of agricultural products

and foodstuffs are the most important ones, namely those in *Section 0 – Food and Live Animals*. However, for a more complete analysis of the agro-food sector, it would be needed to include some more commodity sections or yet only some divisions which cheeses and final products of an agricultural origin are classified into, or yet industrial products whose consumption is intended for agriculture. In that way, the analysis of the comparative advantages, competitiveness and potential agrarian foreign trade of Serbia would include all the three key segments: (1) pre-farm activities (industrial inputs for the agrarian sector); (2) primary agriculture (agrarian raw materials for the processing and production of food) and (3) post-farm activities (the processing, trading and consumption of final foodstuffs). However, much more time and space is needed for such a complex analysis to carry out than the framework of this paper allowed.

1. TRENDS OF GROWTH OR FALL IN TOTAL AGRICULTURE

In the last twenty years, the dynamics of the Serbian total agricultural production have been demonstrating an extremely cyclical instability, stagnation or a much slowed down growth, with significant differences between plant and livestock production. In plant production, the annual oscillations have been ranging between minus 30 to plus 50 index points (Tab. 1). Such a high instability in the volume and structure of plant production, and therefore of total agrarian production, primarily appears under the influence of natural factors.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	110	82	97	106	105	102	106	99	100	87
Plant production	140	69	97	111	108	102	114	92	104	73
Livestock breeding	90	100	94	100	106	100	100	102	99	95
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total	117	97	93	119	95	100	92	108	101	101
Plant production	150	96	83	143	94	94	82	123	104	101
Livestock breeding	99	102	98	100	102	97	100	97	96	101

Table 1: Agricultural production chain indices, 1990-2010

Source: [15]

Given its biological specificities and production inertia, the oscillations in livestock production are also relatively high, but ranging between

plus/minus 6 index points. Throughout the period, plant production in almost every second year records a fall in comparison with the previous year, whereas livestock breeding has either a zero or negative growth rate in even 16 out of the 20 observed years! Therefore, differently from the sinusoidal trend of plant production, it is possible to see a parabolic trend of the falling of livestock production. Consequently, there is a continuous reduction in the structural share of livestock breeding, i.e. a decrease in the productivity and intensity of total agriculture, dominantly based on the lagging of and a fall in livestock production. It follows therefore that the process of the extensification of total agriculture is less under the influence of natural conditions, but is rather (via livestock breeding) primarily under the influence of inappropriate economic-systemic factors.

1.1. The Alternateness of the Annual Growth and Fall

From the comparative observation of the chain indices of the plant and livestock production in the twenty-year period, it is possible to note a particular interesting regularity: the alternateness of the current annual rise and fall in plant and livestock production (Fig. 1).

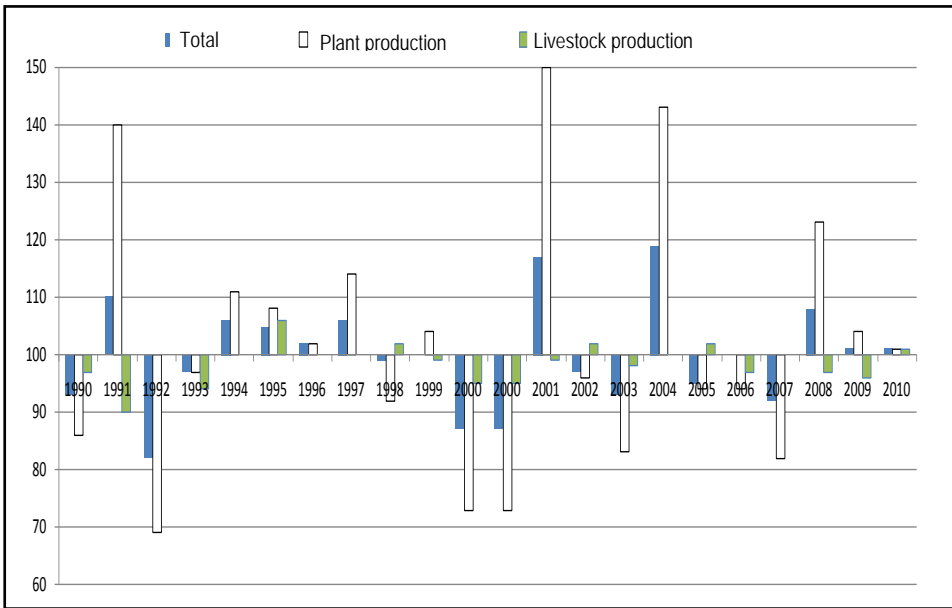


Figure 1: The alternateness of the cycle of soil cultivation and livestock breeding (the 1990-2010 chain indices)

Source: Table 1, Processed by the Author.

Namely, throughout the observed period, only in three years did the chain indices of plant and livestock production have the same direction, i.e. in

all the other years there is a regularity – if there is a fall in plant production in the current year, then livestock breeding will also be falling, however not in the same year but no sooner than in the next year. Although this statistical picture is indicative, due to the temporal nonconcurrence of the phenophases in plant production and the length of the production cycle in livestock breeding, the causal-consequential connectedness between an increase and a fall in the production of these branches of agriculture cannot be established in one – current year, but the objectivization of the regularities of their relations can be deduced by observing the movements in continuous annual production successions [10].

The base indices of the agricultural production in the 1990-2010 period represent a much more realistic picture of the development of agriculture in time. If the year 1990, as the conditionally ultimate year of the pre-transition period, is considered as the base year, a substantially more reliable picture of the dynamics of agricultural production in the past period is gained. Yet, this picture, too, and quite expectedly, shows big differences in the dynamics of plant and livestock production [5]:

- the annual level of plant production throughout the period, except in the three years, was above the volume achieved in the base year;
- contrary to this, not in one single year of the observed period did livestock production reach the volume achieved in the base year!

1.2. The Sinusoid of Soil Cultivation and the Falling Parable of Livestock Breeding

The production trends derived from the base indices also account for the sinusoidal movement of plant production, whereas a falling parable is characteristic for livestock breeding. However, apart from the undoubted significance of the intensity of the changes in production, the direction of those changes is of much greater significance at this point (Fig. 2). Namely,

- although moving sinusoidally, as a whole plant production has a positive flow, which has a rising direction as the period is coming to its end;

- unfortunately, throughout the period, livestock breeding has an extremely negative trend, so that the volume of livestock production is by around 20% lower at the end of the period than it was at the beginning of the period!
- after the negative flow accounted for in the first half, the trend of total agricultural production, as the resultant of the movements in plant and livestock production, shows the values somewhat above the base ones in the second half, so that it has a form of a slightly rising line as the period is coming to its end;
- Finally, if the indicated movements are expressed in an average rate of growth/fall, then we gain an even clearer picture of the dynamics of production changes in agriculture in the last twenty years. Therefore, based on the presented data, it follows that: plant production has been growing at an average 2.0% annual rate; livestock production has continuously been falling at an average (minus) –1.2% annual rate; total agricultural production has on average had a very modest growth at a 0.4% rate per annum.

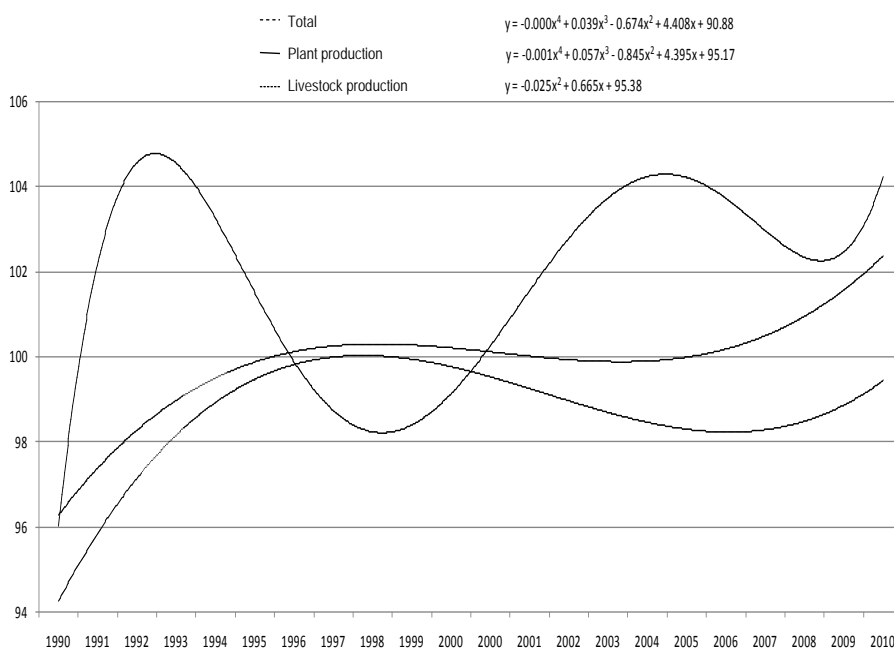


Figure 2: The basic trends of agricultural production, 1990-2010

Source: Processed by the Author.

2. SECTORAL CHARACTERISTICS OF OSCILLATIONS IN PRODUCTION

2.1. Plant production

The biological nature of this production, which is still prevalently conducted within “the factory in the open air”, natural factors have a much bigger influence than the anthropogenic ones do, does not enable one to gain an objective picture of the circumstances in plant production from a short-term cut, nor even on the basis of only a few shifting three-year averages of the result achieved. In that sense, it is necessary that a longer-term observation, even one lasting for several decades, should be conducted.

In the last two and a half decades (the base, the 1986-1990 average), and having in view the intention to cast light on the circumstances in production and in the agrarian market prior to and after the so-called “transition”, the comparative quantitative analysis of the movements in plant production in Serbia is indicative of the following [5]:

- the production of wheat, as the most important bread grain, is in a continuous decline, so that neither total production itself (due to less sowed areas) nor the average yield, either, reach the pre-transition level, but they are lower by around 20% than they were in the base period;
- corn records positive progress, the areas (although slightly reduced) are stabilized at around 1.2 mill. ha, but the average yield is considerably increased (around 30% higher than in the base period), so total production itself is higher by around 20%;
- in the production of sugar-beet, the areas are drastically reduced (by around 40%), but thanks to an increase in average yields, total production is “only” smaller by around 30% in comparison with the base period;
- sunflower is the only crop to have been produced on the areas somewhat bigger than the ones in the base period, but productivity per unit (the yield), with pronounced oscillations, is on average no higher than the pre-transition level, so that total production as well is on average higher by only around 10% [9];

- in the production of the most important vegetable crops, especially potatoes, which is sown on around 90 thousand ha (of varying) sowing areas, only around the end of the period is a significant increase in the yield recorded, which ensures that total production, too, is higher by around 20%; when it comes to beans, there is a marked falling tendency in the areas and the yield;
- in the production of apples, although there is a recorded increase in the number of fertile trees, production is very unstable, because yields per tree are significantly lower; although there is a continuous decrease in the number of fertile trees, the production of plums as the most significant national fruit still statistically records an increase in the average fruit per tree (by around 30%), as it is the case with total production as well (around 15%);

As a whole, there are rather imbalanced movements in plant production, with positive trends (especially in the production of corn, sunflower and potatoes), there is resource restructuring (smaller areas under wheat, bigger areas under some industrial crops – oleiferous plants), but neither the volume of production nor average productivity per unit in the case of the majority of products have not reached the pre-transition level.

2.2. Livestock production

Differently from plant production, where there is a much more expressed influence of natural factors in comparison with the anthropogenic ones, which essentially prevents an objective image about the circumstances in that production in the short run, the relations between those influences in livestock breeding is very different: intensive production is conducted in a closed or controlled space, there is a bigger inertia of the production cycle, the influence of the man is much bigger. In that sense, even when assessing livestock production, it is also necessary that there be a longer-term observation as well an observation lasting for several decades.

In the last two and a half decades (1985-2010), and according to a comparative quantitative analysis, livestock production in Serbia has been characterized by the most drastic negative “transitional” changes in the overall Serbian agriculture. A radical decrease in the production potential, with significant macro-regional differences, accounts for the following facts: the total number of the heads of cattle has been reduced by 38%; the total number of pigs has been reduced by 20%; the

production of beef has been reduced by 25%; the production of pork has been reduced by 8%; the number of sheep is less by around 30%; the number of poultry, as well as the production of poultry meats and eggs, is less by around 30%; the production of milk stagnates generally speaking, but production per head has significantly increased.

The enormously high “transitional” reduction in the reproductive potential of livestock breeding is obviously intrinsically worrying, even more so because of the role this activity has in the finalization and intensification of total agricultural production, which is considered as the key one for the development of the whole of the reproductive process in the agro-food complex, including domestic consumption and foreign-trade exchange. It is especially clear for one to notice while discussing the balances of the most important agricultural products-foodstuffs in the last decade of the observed period [9]. Such unfavourable long-term trends in livestock breeding can be expected to definitely determine the structure and dynamics of the development of not only the whole of the agricultural and agro-industrial complex but also the profile of the whole of the agrarian and rural development of Serbia in a longer “post-transitional” period.

3. COMPETITION AND THE CHARACTERISTICS OF THE STRUCTURE OF THE AGRARIAN MARKET IN SERBIA

Instability and high oscillations in the production of primary agricultural products have as a consequence also reflected on the total agrarian market, a lack of organization and a number of manifestations of its imperfection. That is a market with an undeveloped competition policy, “broken” ownership and contractual relationships of primary production, processing and trade, a high share of the “grey” economy, insecure buy-sell contracts [8]. These are also the basic barriers, i.e. limitations, to the development of agricultural production and the growth of export, as well as to the stability of production prices and the lowering of relatively high consumer prices of agricultural products.

The basic typical characteristics of the market of agricultural products in Serbia, which is basically characterized by a structure of the absolute competition of offer and the most frequently monopolized (oligopsonistic, to speak more correctly) structure of demand, could be classified into the following several groups.

3.1. Competition of Offer/Producers

A certain number of the markets of agricultural products – the markets of livestock, fruits, vegetables, eggs – could represent the markets of perfect (or at least high) competition; their inefficiency is reflected in a high degree of the “grey” economy, the absence of an organized purchase and contractual relatedness between primary producers and processors. So, the offer of agricultural products is characterized by: (a) the subsistence occasional character of offer – a large number of petty agricultural producers on the offer side; producers with small estates, unfavourable age and educational structures and small economic forces, are characterized by subsistent or semi-subsistent production (small and insecure market surpluses), a small possibility of investing in the construction and expansion of the storage and processing capacities (cold-storage plants, curing houses, silos), in increasing production, the introduction and certification of the security system and the food quality system; (b) disunited market offer –insufficiently organized agricultural producers through their associations and cooperatives; from what is previously said, it follows that a big number of producers have no sufficient own production for the needs of “big buyers” and simultaneously have big demand and the possibilities of placement in the local market which have been made more difficult; (c) internal producer competition – in small local and regional markets, there is a monopsonistic/oligopsonistic structure of demand, personified in one or no more than several buyers (purchasers), merchants or processors. In such conditions, on the other side, there is an offer by a large number of petty producers, who compete with each other fighting for a small space where they can sell their products (raw materials). So, apart from monopsonistic buyers’ “blackmails”, and competing with each other, producers find themselves in such a position that they have to lower the prices of their products which are not suitable for being transported and stored (e.g. livestock, soft fruits and so forth).

3.2. The Oligopsonistic Structure of Processing

The majority of markets of primary agricultural products (first of all wheat, sunflower, soya, sugar-beet, milk, tobacco) are dominated by a small number of processors, i.e. buyers of agricultural products (an oligopsony), who have a common market share and an influence on the conditions of purchase and the formation of purchase prices not only with respect to agricultural products as raw materials but also on the

prices of final products;¹ the purchase and processing market is characterized by a marked imbalance in the economic power of a small number of the major purchasers (dairies, oil works, sugar factories, cold-storage plants), on the one hand, and a large number of primary producers, on the other; an oligopsony in this market is almost impossible to avoid, given the dispersion of offer, demanding storing conditions or the necessity of industrial processing, a rather difficult possibility of placement, especially export, highly set technological requirements of production, standards in the security system and the food quality system; an oligopsony can be beneficial when it ensures the long-term contractual relatedness between producers and processors (by which agriculturalists reduce the market risk), when it contributes to the enhancement of quality and the introduction of standards in agricultural production and so on; what is crucial, however, is the fact that the state, due to undeveloped institutions, has no possibility of sanctioning the behaviour of those participants who abuse their market position or threaten the competition by disobeying contracts, carrying out transactions in the “grey economy” and so forth.

3.3. The Oligopsony of Trade, Especially of Hypermarkets

An oligopsony is also present when we speak about agriculturalists’ placement in hypermarkets; only those few agricultural producers with big production possibilities, then organized and successful cooperatives, associations and so on can count on this market; the development of hypermarkets is suitable for the establishment of contractual and long-term cooperation with producers, the implementation and certification of standards in production, and other advantages related to trade modernization; in this case as well, an oligopsony in the retail market is impossible to avoid, because of the small domestic market, the globalization of the retail market, the increasingly pronounced concentration of retail; however, it is evident that there is a big negotiating power of trade chains against their suppliers, in this particular case – agricultural producers (conditioning the producer with a price, quality, payment deadlines, imposed packaging standards etc.); researches related to this theme are indicative of retail concentration in

¹ There are only three factories dominating in the production of oil; there is one company with a dominating market share in the production of milk; seven sugar refineries are owned by only three owners (with a noticeable intention of further concentration), and so on. Therefore, in the last several years, all these processing groups have been exposed to an attentive eye of the Committee for the Protection of Competition.

Serbia and of the domination of big trade enterprises over production ones, which to a certain extent has dimensions of imposing limitations on the competition (a short-term benefit is made by consumers, due to lower prices, and small trade chains, shops as well as producers themselves are the ones to lose) [1]; the strong negotiating power of few trade chains in Serbia is legalized, supported by an explanation that in the world as well “one not only pays to penetrate a trade chain but they also pay for their place on the shelf.”

3.4. The Inefficient Competition Protection System

On principle, the Law on the Protection of Competition (2005), which is significantly complied with the EU legislation, regulates ensuring the equality of market players, all this with the aim to give impetus to economic efficiency and the achievement of the economic welfare of the society as a whole. However, the main shortcomings of this system (according to the experiences and views of lawyers, economists, and business people) are: an insufficient number of material-legal norms as well as the absence of the timely or appropriate application of the existing norms in practice, i.e. an inefficient competition protection system. This is best seen on the examples of the two very important segments of the agrarian market, the inefficiency of the competition

protection system in the milk market², and the protection of concentration and monopolies instead of protecting competition in the sugar market³.

² The first example: In mid-2007, on the basis of the sectoral analyses, the Committee for the Protection of Competition initiated a procedure in the milk market and, in the month of January 2008, by a resolution, they established a fact that one company (Danube Foods Group B.V., which is the owner of the five biggest Serbian dairies) had a dominant position in the market of where raw milk was purchased (in the year 2006, they had a 47.4% market share) and that they abused their position when fixing the price, conditions, and the manner of business doing in that market. Subsequently, there were several cycles of appeals-complaints made by milk producers, the judgments brought by the Administrative and Supreme Courts, repeated actions, repeated complaints for the cancellation of the judgments and resolutions, rejections of complaints and the judgment by the Supreme Court of Appeals. Ultimately, the judgment reached by the Administrative Court (in the month of December 2012), rejected the milk producers' complaint, and confirmed the resolution of the Committee for the Protection of Competition in the repeated action (as of August 2012), which determined that there was a breach of competition by having abused the predominant position by the mentioned market participants, which made that resolution irrevocable. As we can see, the whole procedure for the determination of such breach of competition – the abuse of the predominant position, lasted for more than six years, which undoubtedly demonstrates the insufficient efficiency of the whole system of the protection of competition, not only of the work carried out by the Committee but of the work of the legal-judicial system as well.

³ The second example: The biggest producer of sugar in Serbia (the “Sunoko” Company of Novi Sad, now the owner of the four Serbian sugar works), submitted (in the month of August 2011) a Declaration of Concentration to the Committee for the Protection of Competition according to the tender for the sale of the majority share package of the second big producer of sugar (“Hellenic Industry SA” from Thessaloniki, the owner of the two Serbian sugar works). After there had initially been a ban imposed on the conducting of such concentration, the withdrawal and the repeated submission of the declaration, the Committee (in the month of February 2013), conditionally approved of the same concentration of the market participants, together with prescribing the so-called measures of structural character (that “Sunoko” alienates one of the two factories, now owned by “Hellenica”, deconcentration). Not discussing the criteria of the assessment of the market justification of such a high concentration, also including the possibilities of the formal new owner of the alienated sugar refinery being “within the hand reach” of the “Sunoko” company, it is obvious that this procedure (concentration, then deconcentration) will enable one owner to possess five sugar refineries (out of the total of six active ones), with an at least 65% market share. In no case can that be considered as the protection of competition or as the creation of a competitive market, either. Given the fact that one buyer of the basic raw material for further processing – sugar-beet – will be dictating or will undoubtedly be in a position to influence the prices and conditions of payment, too, such a decision brought by the Committee could be characterized as the protection of monopolies rather than the protection of competition, in two different ways: firstly, by protecting the position of the oligopsony/monopsony of one company of the predominant buyer of a raw material (sugar-beet); secondly, in the second phase of reproduction, that very same company will appear as a monopolist, the predominant buyer of the final product (sugar), with the same possibility of influencing the prices of the output as well as the prices of input products!

Such abuses of the position and concentration could negatively influence the degree of the domestic competition, while respecting all the positive effects related to the investment of the mentioned companies in the improvement of the technology and productivity of primary agricultural production, product assortment and quality.

3.5. Undeveloped Market Institution

In Serbia, there is no developed market of commodity notes or term market, either, of agricultural products; there is a lack of purchase-distribution centers (where products, primarily fruits and vegetables, are purchased, sorted and packed); nor are there developed farming cooperatives which would take over the function of the more rational and efficient placement and distribution from agricultural producers (old cooperatives are almost closed, whereas new ones are emerging slowly and are deprived of having any influence on the market structure). There is also another characteristic – irregularity and the “grey market”. A big segment of the market of primary agricultural products is in the irregular flows of purchase and payment, which leads to unequal conditions of the competition between the firms which do their business in compliance with the law and those which evade it (improvised purchase points, without minimal technical and sanitary conditions for such purchase, usual cash payments on purchase, a high share of “middlemen”, commodities of a suspicious origin and so on). It means that the state does not ensure the consistent application of the law, through the efficient work of inspection organs (veterinary, phytosanitary, agricultural, market, tax, customs).

3.6. Unregulated Trade in the “Green Marketplace”

In comparison with agriculturalists in rural regions, agriculturalists from the peri-urban zones of bigger cities (Belgrade, Novi Sad, Niš, Kragujevac) have greater possibilities of placing their products, given the fact that, even in big consumer centers, there is significant trading taking place at the “green marketplaces”. Marketplaces are suitable for producers with small and insecure market surpluses because trading is carried out in cash, without a fiscal bill. Nevertheless, products traded like this are not sufficiently safe because sellers most frequently have no traceable or any certificate whatsoever of the origin and health safety of

their products,⁴ and for a large part such trading is conducted by the so-called “middlemen”. It is estimated that marketplaces have an around 35% share in the total trade and purchase of agricultural products on the Serbian territory. Yet, in spite of an increase in trading goods at the marketplaces, such a growth is smaller than the growth of the trading of agricultural products in organized wholesale and retail. Thus, marketplaces have entered a new stage of the market game in the environment characterized by the expansion of supermarkets.

4. GROWTH OF AGRARIAN EXPORT TOGETHER WITH RADICAL STRUCTURAL EXTENSIFICATION

Because of the big internal differences of the production-resource structure, the former uniform Yugoslav market was characterized by intensive inter-republic trade. Due to the controlled prices of agrarian products by the central government, their internal trade was frequently referred to as an example of non-equivalent exchange. All the republics had their foreign trade positions, but the export of the federation was practically the sum of the market surpluses of the agrarian-sufficient republics, in which Serbia had a dominant role. By the violent secession and disintegration of the common state, the balances of the agrarian trade of the former republics and their position in foreign trade essentially changed.

	<i>Export</i>			<i>Import</i>		
	<i>1988-1990</i>	<i>1998-2000</i>	<i>2008-2010</i>	<i>1988-1990</i>	<i>1998-2000</i>	<i>2008-2010</i>
<i>Worth in mill. USD</i>						
a)	12,573.2	5,653.0	9,703.9	15,634.5	10,685.5	18,552.4
b)	1,128.0	838.6	1,581.5	1,374.9	792.2	792.3
<i>Dynamics of changes (Indices, \square1988-1990 = 100)</i>						
a)	100	45	77	100	68	119
b)	100	74	140	100	58	58
<i>Coverage of import by export, % (Import = 100)</i>						
a)	80.4	52.9	52.3	100	100	100
b)	82.0	105.8	199.6	100	100	100
<i>Share of agrarian export in total export / import (%)</i>						
	8.97	14.84	16.30	8.79	7.41	4.27

⁴ Unfortunately, the Law on the Safety of Food [18] does not regulate more closely the trading of agricultural products at marketplaces. There is no mention of trading agricultural products at marketplaces neither in the defining of the terms and meanings of certain expressions used in this law (Article 4), nor in *risk* analysis, nor as *trade of food*, nor as *retail*, nor as *wholesale*. However, there is a special emphasis on *retail* in: shops, supermarkets and mega-markets.

<i>Share of Serbia in the total ex-YU market space (%)</i>						
b)	31.75	27.53	17.55	33.67	33.63	20.81
b)	40.27	59.03	36.46	36.51	30.49	11.09

*Table 2: The characteristics of the agrarian export and import of Serbia, as per periods from 1988 to 2010. a) total (all the sections of the SITC);
b) Section 0-food and live animals*

Sources: for the 1988-1990 period [16]; for the other periods [14].

The export potential of the agrocomplex and its significance in the economic structure is most frequently derived from the analysis of the movements of the volume and structure of export and import, i.e. the net balance of the foreign trade of agrarian products. The Serbian agrarian export was also considered to be a big development potential even in the common state, with significant comparative advantages in the closer neighbourhood and the European environment. For that reason, the relative changes in the agrarian-export position of Serbia should also be viewed in the context of the market structure and the agrarian potentials of the former common and currently new European environment. If we comparatively analyse the market structure and relations in the three status/systemically completely different circumstances during the period lasting for almost two and a half decades (1988-2010), namely: (1) the pre-transition position in the uniform market; (2) the transition period after the disintegration of the common state and (3) the post-transition period of independence.

The source data are processed as the three-year averages of the results achieved at the end of the selected decades. The transition changes in the balances of agrarian trade are comparatively analysed in time (through three sections) and in space (the ex-Yu countries). The sectoral significance of the agrarian market is assessed by the analysis of the share of agrarian trade in total foreign trade, whereas positional changes in the spatial structure of total and agrarian export and import are viewed from the aspect of the relative share in the total trade of the countries of the ex-Yugoslav market.

4.1. The Dynamics and the Coverage of Import by Export

In the years just prior to the beginning of the so-called transition and the disintegration of the uniform Yugoslav market (1988-1990), the worth of the *total export* of Serbia was around 12,573 million USD on average per annum, and the total import was around 15,634 million USD, i.e. import

was covered by export with 80%. About twenty years later (2008-2010), the average annual export fell (by 23%) to 9,704 million USD whereas import increased (by 19%) to 18,552 million USD, so that the coverage of import by export fell to merely 52%.

Simultaneously, the average annual worth of *agrarian export* (the agricultural products and foodstuffs from *Section 0 – Food and Live animals*) increased from 1, 128 to 1,581 million USD, whereas *agrarian import* was reduced from 1,374 to 792 million USD. The coverage of agrarian import (82% prior to the transition) was radically changed, so that – differently from all the other ex-Yu countries with a situation contrary to this one – the import of food far exceeds the worth of export, with a declining rate of import coverage – Serbia had a convincingly positive agrarian foreign trade balance (its export of food was even twice as big as food import).

The dynamic increase in the agrarian export at the end of the last decade importantly influenced the total trade exchange of Serbia with foreign countries, which is otherwise characterized by a big long-standing imbalance, i.e. a negative balance, which, in the years before the so-called “world economic crisis”, had reached over 12 billion USD (2008). The depth of the problem of the economic exchange with foreign countries, as well as the total Serbian economy, is illustrated by the fact that the total negative foreign trade balance exceeds severalfold the worth of the total agrarian export as the “sheet anchor” of the export economy [11].

4.2. The Agrarization of Total Export

Apart from the analysis of the movements of the volume and structure i.e. net-balance of the foreign trade of agrarian products, the sectoral significance of agrarian export and import, i.e. the export potential of the agrocomplex and its place in the economic structure can be derived on the basis of the share of this sector in the structure of the total national foreign trade. In that respect, we can notice the asymmetry of the Serbian foreign trade structure in relation to the ex-Yu environment: total export is relatively the most agrarized (the share of the export of food increased from around 9% of the total export to over 16%), amongst other things because agrarian export and total export moved in the opposite directions (the agrarian one increases, the total one decreases); only in the case of

Serbia is the share of agrarian import in total import facing a fall and is far the smallest (4.27%).

The directions of the territorial structural changes of the foreign trade *agrarian* trade, if the whole of the ex-Yu space is observed, account for the fact that Serbia, especially in agrarian *export*, keeps its dominant position, although with a radically changed (extensified) commodity structure, and also at a relatively rather lower level (an increase in the share to around 60% in the mid-period and a fall to around 36% at the end of the period). At the same time, the Croatian share significantly decreases (to 20%), while the Slovenian share increases to the same extent (to 31%). The growth of the relative share of the agrarian export of Montenegro and Macedonia is, for the most part, the consequence of the monocrop culture of their agrarian production and, now, import as well, i.e. the fact that their big share in the former internal inter-republic trade of some products (e.g. wine and tobacco, which then used to be and now are sold to prevalently the same buyers) has the characteristic feature of export today.

4.3. The Extensification of the Export Structure

The radically different commodity structure of the agrarian export of all the countries on the ex-Yu territory is amongst the most visible changes in the balances of the agrarian trade of the former republics after the disintegration of the uniform market.

The commodity structure of the agrarian export of Serbia is here observed as an expression of its production-resource structure as well as an indicator of the level of its techno-economic development. We can notice that, prior to the beginning of the so-called transition (1988), the leading export products were those from within the field of livestock breeding (bovine cattle, fresh meat, tinned meat) as a more developed segment of total agriculture then.

Twenty years or so later, at the end of the process of reforms and the “promised welfare”, we can see that both the agrarian-production and the export structures have reformed themselves by “going backwards”. The extensification of agrarian export is obvious (Table 3): there are no livestock products amongst the leading export products, and the main export products are only plant products, mostly raw materials, primarily cereals, as well as sugar and oil.

<i>Rank</i>	<i>Product</i>	<i>Quantity in tons</i>	<i>Worth (000\$)</i>	<i>Worth per Unit \$/m</i>
<i>Serbia, 2010</i>				
1	Corn	1662151	334923	201
2	Fruits	160465	265946	1657
3	Sugar	282057	184691	655
4	Wheat	427179	89552	210
5	Sunflower oil	88222	88152	999
<i>SFR of Yugoslavia, 1988 (Serbia's share in agrarian export 40.3%)</i>				
1	Bovine cattle (bovines)	88253	135859	1539
2	Fresh meat (other than poultry)	35048	112739	3216
3	Tobacco	13758	53045	3855
4	Wine	100907	50585	501
5	Tinned meat	19363	46302	2391

Table 3: The most significant products in the agrarian export of Serbia, ranked according to the worth, 1988 and 2010

Source: [17]; [19]

The changes in the structure of agrarian export can be explained in the following ways: (1) corn, the main cattle feed and consequently the basis of the predominantly livestock export offer of the former state, has reached the top of the list now, while at the same time, domestic livestock production has continuously and in the long run been making steps backwards; (2) the main export products (wheat/flour/bread, oil, sugar) are exactly those which, via controlled prices in internal trade (and therefore frequently marked as an example of non-equivalent inter-republic exchange), used to be the supporting pillar of the policy of maintaining social peace throughout the former state. So, on the one hand, a big part of the former internal (inter-republic) trade was transformed into the export of those products, while on the other, the structural adjustment of production, which would orient itself towards livestock breeding and export on the basis of its available resources, failed to occur.

Actually, an essential question can be asked at this point – Why, with such high production of corn, does Serbia not have an appropriate production and export of meat and milk (but rather exports corn), differently from the agrarian-developed countries (e.g. Denmark and Holland), which do not produce corn but have several times as high the production of meat and milk compared with the actual needs of their domestic markets? So, apart from the production-structural extensification (with a long-term trend of decreasing the share of livestock breeding), Serbia's agriculture is also characterized by the extensification of the structure of foreign trade exchange, together with

an increase in the share of raw materials and primary unprocessed products in export, on the one hand, and, on the other, together with an increase in the import of the final products that could be produced from domestic (however exported) raw materials.

From the macroeconomic point of view, the commodity structure of export and the enormous growth of the worth of corn export actually hide the huge opportunity costs of the Serbian agrarian export. These costs could directly and indirectly be quantified via the growth of the import of live animals, meat and processed products (especially pigs and pork), as well as the import of other livestock products (e.g. in the year 2011, 7,049 tons of pork worth 18,017 USD was imported). On the other hand, the opportunity cost of such an export structure could be derived from the potential (unrealized) effects, which would be emerging from the changed structure of the domestic agro-industrial production, which would be adjusted to a better utilization of domestic available raw-material resources and to the much higher employment of the workforce, oriented towards intensive livestock breeding, processing and export. So, that big hidden cost lies in the unrealized multiplicative production-economic effects of the conversion of domestic raw-material and labour resources in high finalization products.

CONCLUSIONS

Even in the last twenty years or so, the long-term dynamics of the Serbian total agricultural production have been demonstrating exceptional cyclical instability, stagnation or a much slowed-down growth, with significant differences between (a mild growth of) plant production and (continuously declining) livestock production. At the same time, we can also notice an interesting regularity of the alternating current annual increase and fall in these branches of production. Plant production has been growing at an average annual rate of 2.0%, whereas livestock production has been accounting for a continuous decline at an average annual rate of (minus) -1.2%, so that total agricultural production has on average had a very modest growth at a 0.4% annual rate. As a whole, there are rather erratic movements in plant production: there are positive trends in the production of corn, sunflower and potatoes; there has been resource restructuring (smaller areas under wheat, bigger areas under industrial plants); but, neither the volume of

production nor the average productivity per unit with the majority of the products reached the pre-transition level. The high “transitional” reduction in the production-reproductive potential of livestock breeding is concerning because of the role of this activity in the finalization and intensification of total agricultural production. The identified unfavourable long-term production trends in agriculture, especially those in livestock breeding, will beyond any doubt determine the profile of the total agrarian and rural development of Serbia in the longer “post-transition” period.

The agricultural product market in Serbia, which is basically characterized by the structure of the complete competition of offer and most frequently the monopolized (oligopsonistic, to be more correct) structure of demand, could be described in the several following typical characteristics:

- *Competition of offer/producers*, which is characterized by: (a) a large number of petty agricultural producers, unfavourable age-educational structures and weak economic forces, semi-subsistent production, a small possibility of investing in the expansion of capacities, food safety and quality; (b) a lack of organization of producers through associations and cooperatives; insufficient production for the needs of “big buyers”, and more difficult possibilities of making placements in the local market; (c) internal competition: the oligopsonistic structure of demand against a large number of petty producers, who, while competing with each other, lower the prices of their respective products which are not suitable for being transported and stored.
- *The oligopsonistic structure of processing*: the majority of markets are predominated by a small number of processors, who have an influence on the purchase conditions and the fixing of the prices of not only raw materials but the prices of final products, too; a pronounced disharmony between the economic force of a small number of the biggest purchasers (dairies, oil plants, sugar refineries, cold-storage plants), on the one hand, and a large number of small primary producers, on the other;
- *Trade/hypermarket oligopsony*: a placement in hypermarkets is only available to a small number of producers; the big negotiating power of trade chains in comparison with suppliers-agricultural producers (conditioning with the price, quality, payment deadlines, packaging and so forth), which has dimensions of limiting competition;

- *The inefficient system of the protection of competition*: the regulations on the protection of competition are to a significant extent complied with the EU legislation, on principal regulated ensuring the equality of all participants in the market, in order to stimulate economic efficiency and the achievement of the economic welfare of the society as a whole; in practice, the inefficient system of the protection of competition is best seen on the examples of the two very important segments of the agrarian market: the inefficiency of the system of the protection of competition in the milk market, and the protection of concentration and monopoly (instead of the protection of competition) in the sugar market; (milk producers') abuses of their position and (sugar refineries') concentration can have a negative impact on the degree of domestic competition, irrespective of the positive effects of the investments made by those companies in the improvement of the technology and productivity of primary production and the assortment and quality of products.
- *Unregulated trading at the "green marketplace"*: a significant portion (more than one-third of it) of trading agricultural products is done at "green marketplaces", which are suitable for producers with small and insecure market surpluses; products in such trading are not sufficiently safe since sellers have neither a traceable nor any certificate of origin, quality and health safety of their products whatsoever; despite that, the trade of goods at marketplaces is not regulated by the Law on the Safety of Food (2009).

Accompanied by a trend of a nominal increase, the foreign trade exchange of the agro-food sector generally has the characteristics of extensification, i.e. contrary to expectations and proclamations, it has the features of a continuously increasing share of primary products (primarily plant products) against high finalization products. So, apart from the production-structural extensification (with a long-term trend of decreasing the share of livestock breeding), Serbia's agriculture is also characterized by the extensification of the structure of the foreign trade exchange, together with increasing the share of raw materials and primary unprocessed products in export, on the one hand, and on the other, with increasing the import of final products that could be produced from domestic (but exported) raw materials. Therefore, from a macroeconomic point of view, one must bear in mind the fact that an enormous growth of the worth of the export of raw materials actually hides a huge opportunity cost, i.e. a loss in the economic effects of the different utilization of available agrarian resources. Such a

macroeconomic cost (of corn export) could directly and indirectly be quantified via the growth of the worth of the import of live animals, meat and processed products (especially pigs and pork) as well as the import of other livestock products and also through the unrealized multiplicative production-economic effects of the conversion of raw materials into high finalization products.

ACKNOWLEDGEMENTS

Presented paper is integral part of the project Sustainable agriculture and rural development in terms of the Republic of Serbia strategic goals' implementation within the Danube region (III 46006, Institute of Agricultural Economics, Belgrade, 2011-2014). Project is financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

REFERENCES

- [1] Drašković, B., Domazet, I. 2008. Concentration of Market Power as an Expression of Market Imperfections. In: B. Drašković, V. Vuković (eds.) Market Structures and Protection of Competition. Belgrade: Institute of Economic Sciences. pp. 45-84. (In Serbian).
- [2] Lovre, K., Zekić, S. 2011. The Economic Analysis of Agrarian Programmes. Subotica: Faculty of Economics (In Serbian).
- [3] Milanović, M. 1999. Agrarian Export as the Condition and Basis of Stable Development – for New Institutionalization. In: Foreign Economic and Financial Relations – Possible Alternatives in Function of Renewal and Development of Yugoslav Economy. Belgrade: Scientific Society of Economists of Yugoslavia. pp. 233-236 (In Serbian).
- [4] Milanović, M. 2002. The Food Industry of FR Yugoslavia: Development–Production–Consumption–Quality–Export, 1980-2000. Belgrade: IAE and SAEJ (In Serbian).
- [5] Milanović, M., Đorović, M. 2011a. The Market of Agricultural Products in Serbia Prior to and After Transition. Belgrade: Institute of Agricultural Economics (In Serbian).
- [6] Milanović, M. 2002. Agrarian Export as an Expression of the Comparative Efficiency of Agro-industry. Economic Annals. 46: 229-234. (In Serbian).

- [7] Milanović, M. 2002. Agrocomplex in the Economic Structure of FR Yugoslavia – Significance and Changes 1955-2000. *Economics of Agriculture*. 49 (3-4): 111-128. (In Serbian).
- [8] Milanović, M., Mihailović, B., Paraušić, V. 2009. The Elements of Competitoin and Structural Typology of the Serbian Agrarian Market. *Economics of Agriculture*.56 (4): 519-534. (In Serbian).
- [9] Milanović, M. 2011b. Some Characteristics of Material Balances and Management of the Oil Market in Serbia (2000-2010). *Production and processing oil seeds*. Herceg-Nov. pp. 21-30 (In Serbian).
- [10] Milanović, M., Đorović, M., Stevanović, S. 2011. Long-term Tendencies of Agricultural Production in Serbia: Stagnation and Decline. *Economics of Agriculture*. 58 (SI-1): 317-324 (In Serbian).
- [11] Milanović, M., Stevanović, S. 2012. Comparative advantages of Serbia's agrarian export in EX-YU and other neighbouring markets. In: Cvijanović, D., Subić, J., Vasile A. J. (eds.) *Sustainable Agriculture and Rural Development in Terms of the Republic of Serbia Strategic Goals Realization in the Danube Region*. Belgrade: Institute of Agricultural Economics. pp. 1341-1358 (In Serbian).
- [12] Pelević, B. 2004. *Introduction to International Economics*. Belgrade: Faculty of Economics (In Serbian).
- [13] Stevanović, S. 2009. *The Development of Market Production in the Agriculture of the Republic of Serbia*. Zemun-Belgrade: Serbian Association of Agricultural Economists and Faculty of Agriculture. pp. 1-220 (In Serbian).
- [14] <http://www.fao.org>
- [15] *Serbian Statistical Yearbook (for several years)*. Belgrade: Statistical Office of the Republic of Serbia (In Serbian).
- [16] *Statistical Yearbook of Yugoslavia (for several years)*.Belgrade: Federal Statistical Office (In Serbian).
- [17] <http://faostat.fao.org/site/342/default.aspx> (accessed: 20.03.2013.) (In Serbian).
- [18] *The Official Gazette* No. 41/2009.
- [19] *Statistical Yearbook of Yugoslavia, 1989*. Belgrade: Statistical Office of the Republic of Yugoslavia.