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DEVELOPMENT OF FARM STRUCTURE IMPACTED BY THE AGRICULTURAL REFORM IN LATGALE REGION

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Abstract

In theoretical reviews, a land reform and an agricultural reform might cause different consequences, creating various possibilities. The consequence of a reform is directly shaped and determined by its goal. The goal of the forth land reform in Latvia was the restitution of property rights on land, which were granted during the previous (third) land reform. During the third land reform, Latvia was mostly an agricultural country and the land was distributed in a way that every family could have a piece of land for their own subsistence. Small subsistence farms were especially characteristic of Latgale.

The paper presents research results on the development of agriculture impacted by the fourth agricultural reform in the most problematic region of Latvia, i.e. Latgale, as the rate of unemployment increased and incomes of the population substantially decreased in Latgale after the reform was implemented.

The research aim of the paper is to analyse the changes in the structure of farms in Latgale, which were caused and impacted by the agricultural reform, the commercial orientation and output capacity of farms, and to ascertain the dynamics of value added in farms of various economic sizes.

It was found in the research that the structure of small subsistence and semi-subsistence farms, which emerged as a result of the land and agricultural reform, constantly and significantly changes; the number of small and very small farms decreases, and the land resources are concentrated in large and largest agricultural enterprises. The research revealed that the largest part of farms in Latgale (85%) do not produce agricultural commodities for sale or sell a small part of them, but irrespective of it, the number and share of farms producing all their agricultural products for the market gradually increased over the researched period.

An analysis of total standard gross margin showed that half of it in Latgale is derived from small and very small farms, but the total standard gross margin per ha of utilised agricultural area constantly rises with an increase in the economic size of farms, and the efficiency of large farms is almost three times higher than it is for small and very small farms. Therefore, the dominance of small and very small farms in Latgale significantly hinders an increase in the productivity of farms. An analysis of output of the key agricultural industries (crop, livestock, and dairy farming) showed that the total output of agricultural produce after the fourth reform is several times behind the level it was in the beginning of the agricultural reform. The output of meat is dramatically low.

An analysis of value added showed that the amount of value added in Latgale region is directly related to the consolidation of farm land and the concentration of production: with an increase in the economic size of farms, a net value added per ha of actually utilised agricultural area, per lat of total output, and per annual work unit rises.

Key words:

Latgale region, agricultural reform, farm size, production capacity, value added, gross margin.

Introduction, Problem Approach

As to theoretical evaluations, the land and agrarian reform may cause different consequences as well as provide diverse possibilities. The reform consequences are directly formed or determined by its target. It is well-known that the target of the regular (fourth) land reform of Latvia was the restitution of land ownership formed by the previous (third) land reform. It is also known that during the previous land reform Latvia was a typically agrarian country and the land was shared in the way fit for natural farming where each family had a land plot. A particular small farm structure was created in Latgale. Nevertheless, during the twentieth century, Europe and the entire civilized world has experienced enormous progress in science, knowledge, technique, technologies, genetics and other fields.

The agrarian and food market has become global. The farmers capable to make use of their comparable or absolute advantages are those to operate successfully manufacturing compatible products. Modern, specialised commercial agricultural enterprises or groups of

specialised farms, co-operative companies or joint stock companies are fit for that task. Adam Smith in his 18-th century work „Investigation of Character and Causes of Nations' Wealth" revealed the importance of labour division and specialisation (Boaz, 2006). He concluded that labour division appears to be an inevitable precondition for a civilized society.

As a development problem Gundars Ķeniņš-Kings (1999) mentions the fact that Latvian farmers having enjoyed the lifestyle and work of their parents may not be called entrepreneurs in the common sense. That may explain the existence of the large proportion of natural small farms in Latgale. In his other work (2004) Ķēniņš-Kings analyses and contrasts Latvian, European and American farmers from the point of knowledge level and specialists' qualification. Academician Oļģerts Krastiņš (2001) renders data, according to which in 1935, following the third land reform, there were more than 44 thousand very small farms in Latvia with the owned land area less than 1 hectare and the proportion of small farms of 1-20 hectares of land exceeding 56.7% of the total number. The proportion of farms with the land area exceeding 50 hectares was just 5.6% of the total number owning 24.2% of land.

Following realisation of the land reform (in the year 2005), the proportion of the unemployed in Latgale was two times exceeding the average level in Latvia, but the Latgalian income – 1.6 times less than the corresponding average figures of Latvia (in the process of changes the proportion is still the same in the year 2008).

While investigating the factors of economical growth in Latvia, I. Čurkina (2003) has stated that Latvian economical growth is achieved by means of a high proportion of capital and labour capacious production.

Latgale being the most problematic region of Latvia, it has periodically attracted the attention of several researchers. During the last years' period Staņislavs Šķesters (2008, 2009) published his investigation results on the land and agrarian reform processes and the results obtained in Latgale. The published results of research disclose many questions requiring wider and more profound development investigations.

To evaluate reform consequences by objective considerations and more thoroughly, classical and more complex social and economic capacity indicators are to be used.

The aim of the study referred to in the present paper is to analyse the Latgalian rural farm structure development caused and affected by the agrarian reform, its commercial orientation, production capacity, as well as to clarify the dynamics of the added value in the farms of different economic capacity.

The study tasks involved in the aim were the following:

- to analyse the structure of the Latgalian farm forming the production capacity and affected by the agrarian reform;
- to clarify the production dynamics of the chief agricultural branches in the context of the agrarian reform;
- to evaluate the possibilities of gaining the added value within groups of farms of different economic capacity.

Materials and Methods

To solve the study tasks two information sources were used: The data of the Central Statistical Board of the Republic of Latvia and economic analysis data of selected agricultural farms (CSB), which was performed by the Institute of Agrarian Economics of the Republic of Latvia (IAE) in accordance with the unified EU methodology and the order of Ministry of Agriculture of the Republic of Latvia.

Methods of economic analysis and synthesis were applied, as well.

Structure of Latgale Farms Forming Production Capacity

Capacity of agricultural production is formed by an aggregate of several factors and preconditions, it may be characterised by different indicators. To solve the study task, the present paper uses a complex indicator – economic magnitude of the farm, characterising its potential in creating the added value and, to a large extent, competitiveness (CSB, 2007).

In turn, economic analysis evaluating operative activity calculations of the farm, uses such an indicator as the total standard gross coverage of the farm (TSGC), which means also economic magnitude of the farm, in terms of money. It is calculated for each branch – a hectare of field crops, domestic animals per year, by multiplying with the branch magnitude – number of hectares and domestic animals. By summimg up all the gross coverage of branches (SBS), a total gross coverage of the farm is obtained, which is called also the economic magnitude unit of the farm. Such calculations (CSB) are performed annually by the Latvian State Institute of Agrarian Economics (V. Bratka, e.a.), following the appropriate order of the Ministry of Agriculture and the unified statistic methodology of the EU Commission.

For studies included into the present paper, the mentioned data of CSB have been used expressing economic magnitude of farms in economic magnitude units (EMU), the unit value being EUR 1200, or LVL 801.

The Latvian Central Statistic Board (CSB) data classify the Latvian agrarian farms into three economic magnitude groups: 4<7.9 EMU – small farms, 8<39.9 EMU– medium size farms and >40 EMU – large farms. Structural survey results in turn are classified in a more detailed manner – as seven groups, see Table 1.

Table 1. Classification of Farms of Latgale Region According to Production Capacity, Year 2007

Groups of Farms	Number of Farms	% of the Total Number	Agriculturally Used Land (AUL)	
			thous. ha	% of the used AUL
Small scale economies, EMU of which <2	32589	82.5	220.0	47.9
Very small (EMU 2.0-3.9)	4251	10.8	71.7	15.6
Small (EMU 4.0-7.9)	1702	4.3	50.3	11.0
Medium small (EMU 8.0-15.9)	580	1.5	33.2	7.2
Medium (EMU 16.0-39.9)	273	0.7	34.7	7.6
Medium large (EMU 40.0-100)	69	0.2	22.9	5.0
Large, EMU of which >100	28	01.	26.4	5.8

Source: CSB data and authors' calculations.

According to the data in Table 1 one may conclude that more than four-fifths of Latgalian farms belong to the group of natural small scale economies the production volume of which is less than 2 EMU. Nevertheless, the next indicator shall be evaluated in particular – those natural small scale economies use less than a half of the total agriculturally used land of the region.

Furtheron one sixth of the AUL of the region is used by very small farms (EMU 2.0-3.9), the number of which exceeds one tenth of the total number of all the farms.

Just 28 farms of the region are currently considered to be large (EMU >100), each of them managing about one thousand hectares of AUL, as an average.

A very small number of farms belong to the group of medium and medium large producers (0.9%), while the potential growth of them is characterised by the fact that 1% of the large (medium, medium large and large) farms of Latgale is already managing almost one fifth of the AUL. In the year 2007 the total number of such farms was 370 with the average AUL area 227 ha.

Production capacity of farms is objectively appraised by the activity target – the level of manufacturing of products – proportion of products manufactured for sale (see Table 2).

Table 2. Classification of Agicultural Farms of Latgale Region According to their Activity Targets, Years 2005 and 2007

Activity Target Group	Number of Farms		Proportion of Number of Farms, %	
	2005	2007	2005	2007
All the products manufactured for sale	367	671	0.7	1.7
At least 75% of entire products are manufactured for sale	5781	4976	6.3	10.9
Natural small scale economies not producing for sale	30418	21523	66.3	54.5
Semi-natural farms, selling 10-74% of manufactured products	11791	12558	26.7	31.8
All the farms	45880	39492	100	100

Source: CSB data and authors' calculations

As shown by the data and calculations in Table 2, the share of commercial farms producing for sale is very small, nevertheless, during the last years their number has grown, which might be considered as a progress.

The second group shows the farms predominantly (at least to the extent of 75%) producing for sale, their proportion is small as well, but considerably increased.

The absolute number and proportion of natural small-scale economies not producing for sale at all has diminished, but it still constitutes the majority of the total number.

Very large is the number and proportion of the fourth group, selling a part of the production (10-74%).

On the whole, the evaluation shows the small scale economies and small farms as characteristic for Latgale, which either cannnot, do not know, or do not want to produce for sale and 85% of farms can be classified as natural or semi-natural ones.

The author's previous studies (Šķesters, 2008) clarified the farm structure of the post-reform period as continuously changing with constantly diminishing number and proportion of natural small-scale economies the production of which being concentrated in larger commercial agricultural enterprises. The process of consolidation and concentration is going on, which is shown by data and calculations of Table 2. The restructuring results or consequences are convincingly characterised by the total standard gross coverage obtained by farms (see Table 3).

As shown by the data and calculations in Table 3 one third of the Total Standart Gross Coverage (TSGC) in the Latgale region still is produced by natural small-scale economies. Large percentage still is reteined by semi-natural small farms (2.0-3.9 EMU), the share of which in TSGC exceeds 17%. That means, half of the TSGC in Latgale still forms the natural economies and small farms.

Table 3. Total Standard Gross Coverage within Latgale Region Company Capacity Groups, Year 2007

Farm groups, acording to EMU	Total SBS, thous. Ls	Group percentage, %	TSGC per 1 ha of the AUL	
			Ls	%
Natural small scale economies, EMU <2.0	17774.01	33.0	80.79	100
Very small (EMU 2.0-3.9)	9250.10	17.2	129.01	159.7
Small (EMU 4.0-7.9)	7399.61	13.7	147.11	182.1
Medium small (EMU 8.0-15.9)	4951.42	9.2	149.14	184.6
Medium (EMU 16.0-39.9)	5290.53	9.8	152.46	188.7
Medium large (EMU40.0-100)	3283.70	6.1	143.39	177.5
Large (EMU >100)	5963.51	11.1	225.89	279.6
Total	53912.80	100	-	-

Source:CSB data and authors' calculations

Nevertheless, the post-reform situation in Latgale more completely and objectively may be characterised by the TSGC per 1 ha of the really used AUL. That may be considered as the management effectivity indicator. Following the calculations given in Table 3, the TSGS per ha consequently grows alongside with growing economic magnitude of farms and the large farms show almost three times higher effectivity than that of the first group.

Dynamics of the Chief Branch Total Productivity

To evaluate more objectively the land and agrarian reform consequences, the analysis is made for a longer time period – 30 years (see Table 4).

Table 4. Dynamics of Total Production under the Impact of Agrarian Reform in Latgale,the 1975 – 2008 Years Time Period

Indicator	1975	1980	1986-1990	2000	2006	2008
Cereal harvest, thous.t	208.3	223.0	326.3	118.1	143.2	264.5
Potatoe harvest, thous.t	120.7	109.0	78.2	15.6	15.4	109.8
Produced meat, thous.t	50.0	64.3	79.0	12.5	12.1	12.6
Produced milk, thous.t	276.1	251.9	315.0	217.27	178.6	155.2

Source: CSB data

Several conclusions may be drawn from Table 4:

- production of the main cereal harvest in Latgale still hasn't reached the pre-reform level;
- harvest of another particularly characteristic culture for Latgale are potatoes;
- dramatically lower and deplorable is the current meat production level;
- although almost every Latgale natural small-scale economy and small farm is characterised by a cow or several cows, the total milk production is still lagging behind the pre-reform yield level.

Added Value Generation

Indicator of the net added value has ben included into the study programme with the aim to clarify the impact of land resource consolidation and production concentration upon the economic effectivity and evaluation of process development dynamics and tendences. To reach that target three indicators were selected:

- added value per hectare of actually used land;
- added value per one Lats of total production;
- to evaluate labour productivity – added value per each Lats invested into agricultural labour.

Table 5. Net Added Value per 1 ha of Used Land in Different Magnitude of Farms of Latgale Region, Time Period of Years 2003 – 2008

Years of study	Economic Magnitude of Farms					
	Very small (EMU 2<4)		Small (EMU 4<8)		Medium large (EMU 40<100)	
	LVL	%	LVL	%	LVL	%
2003	33.54	-	29.87	-	30.42	-
2004	101.97	100	154.72	100	118.57	100
2005	110.90	109	148.44	96	77.54	65
2006	120.67	118	136.32	88	154.08	130
2007	121.81	119	174.82	113	182.90	154
2008	109.63	107	123.46	80	156.60	132

Source: Authors' calculations, following the CSB data

According to the data and calculations in Table 5, the following logical tendences may be traced:

- the added value level increases in all the economical groups, but the pace of the increase and the achieved level differs even more considerably;
- the most explicit progress is marked in the group of medium range farms, where during the last years of the analysed period the net added value has grown one point five times;
- during the last year of the analysed period, the third group of farms (the medium), the yield per hectare has been higher than that of the natural small-size economies;
- in the time period 2006-2007 the progress has been more rapid in the group of medium size farms (EMU 40<100).

As shown in Table 6, evaluations do not include data on the start of the analysed period – the year 2003, as sharp differences could require another calculation methodology. The net added value provision per each Ls of production is shown in Table 6.

Table 6. Net Added Value per 1 Ls of Products in Different Farms of Latgale Region, Years 2003-2008

Economic Magnitude of Farms						
Years of study	Very small (EMU 2<4)		Small (EMU 4<8)		Medium large (EMU 40<100)	
	LVL	%	LVL	%	LVL	%
2003	0.17	-	0.20	-	0.26	-
2004	0.53	100	0.76	100	0.63	100
2005	0.47	89	0.55	72	0.37	59
2006	0.51	96	0.56	74	0.65	103
2007	0.57	107	0.59	77	0.49	78
2008	0.45	85	0.46	60	0.41	65

Source: Authors' calculations, following the CSB data

Table 6 does not show definite regularities, nor tendencies to be explained by production costs within economic magnitude groups or technologic differences.

Further on, authors analyse labour productivity dependence on the economic magnitude of farms (see Table 7) and its relation to the net added value level.

Table 7. Net Added Value per 1 Agicultural Labour Unit in Different Farms of Latgale Region, Years 2003-2008

Economic Magnitude of Farms									
Years of study	Very small (EMU 2<4)			Small (EMU 4<8)			Medium large (EMU 40<100)		
	LVL	%		LVL	%		LVL	%	
2003	379	100	-	806	100	-	1269	100	-
2004	1152	304	100	3709	460	100	5089	401	100
2005	1298	342	113	3736	463	101	...	...	...
2006	1472	388	128	3295	409	89	5381	424	106
2007	1644	434	143	3393	421	91	9424	743	185
2008	1940	511	168	2858	354	77	6337	499	124

Source: Authors' calculations, following the CSB data

The calculations in Table 7 present convincing changes and definite tendencies in the dynamics, as well as relating to the economic magnitude of farms:

- labour productivity in the agriculture of Latgale sharply inceases alongside with the growth of economic magnitude of farms;
- positive labour productivity dynamics is marked in all the groups of economic magnitude;
- effectiveness of agricultural labour has progressed mostly in the third group, i.e., the large farms (EMU 40<100);
- the group of very small farms has undergone very positive changes.

Since the year 2005 larger agricultural enterprises have emerged in Latgale with EMU 100<250. The study analysis of them is shown in Table 8.

Table 8. The Added Value Generation Level in Larger (EMU 100<250) Agicultural Enterprises of Latgale Region, Years 2005-2008

Added Value, Ls	Largest Enterprises (EMU 100<250)			
	2005	2006	2007	2008
per agricultural labour unit (1 ALU)	6199	6157	9034	7982
per 1 Ls of products	0.50	0.55	0.56	0.31
per 1 ha really used land	109.78	194.31	194.86	105.99

Source: Authors' calculations, following the CSB data

As shown in Table 8, such large farms are manifesting high labour productivity, consequently growing net added value, counted per 1 Ls of production and within the analysis period of 2006-2007 the created value added progress per 1 ha of actually used land is high.

Conclusions

1. Structure of natural and semi-natural farms created as a result of the land and agrarian reform in Latgale region consequently and radically changes as the number of natural small-scale economies and very small farms is diminishing under the impact of consolidation of land resources into large and larger agricultural production enterprises. Two thirds of agriculturally used land is still owned by natural small-scale economies and very small farms.

1.1. The majority of farms in Latgale do not manufacture products for sale, they are natural farms alongside with a large portion of semi-natural farms selling just 10-74% of products.

1.2. Economically justified is the motion of Latgale's farm structure towards increasing the number and proportion of commercial farms manufacturing their products exclusively for sale.

2. Prevalence of natural small-scale economies and small farms in Latgale radically hampers production effectivity as the standard gross coverage per hectare of the actually used land in the large commercial enterprises appears to be 2.8 times greater than that of the small farms.
3. Production volume of the chief branches in Latgale is radically lagging behind the level registered in the pre-reform period and at the dawn of the agrarian reform.
4. Generation of the added value is directly related to the consolidation of land areas of farms and concentration of production – under the impact of growth of economic magnitude of farms grows the net added value per 1 ha of actually used land, per 1 Ls of products and per each agricultural labour unit.

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