

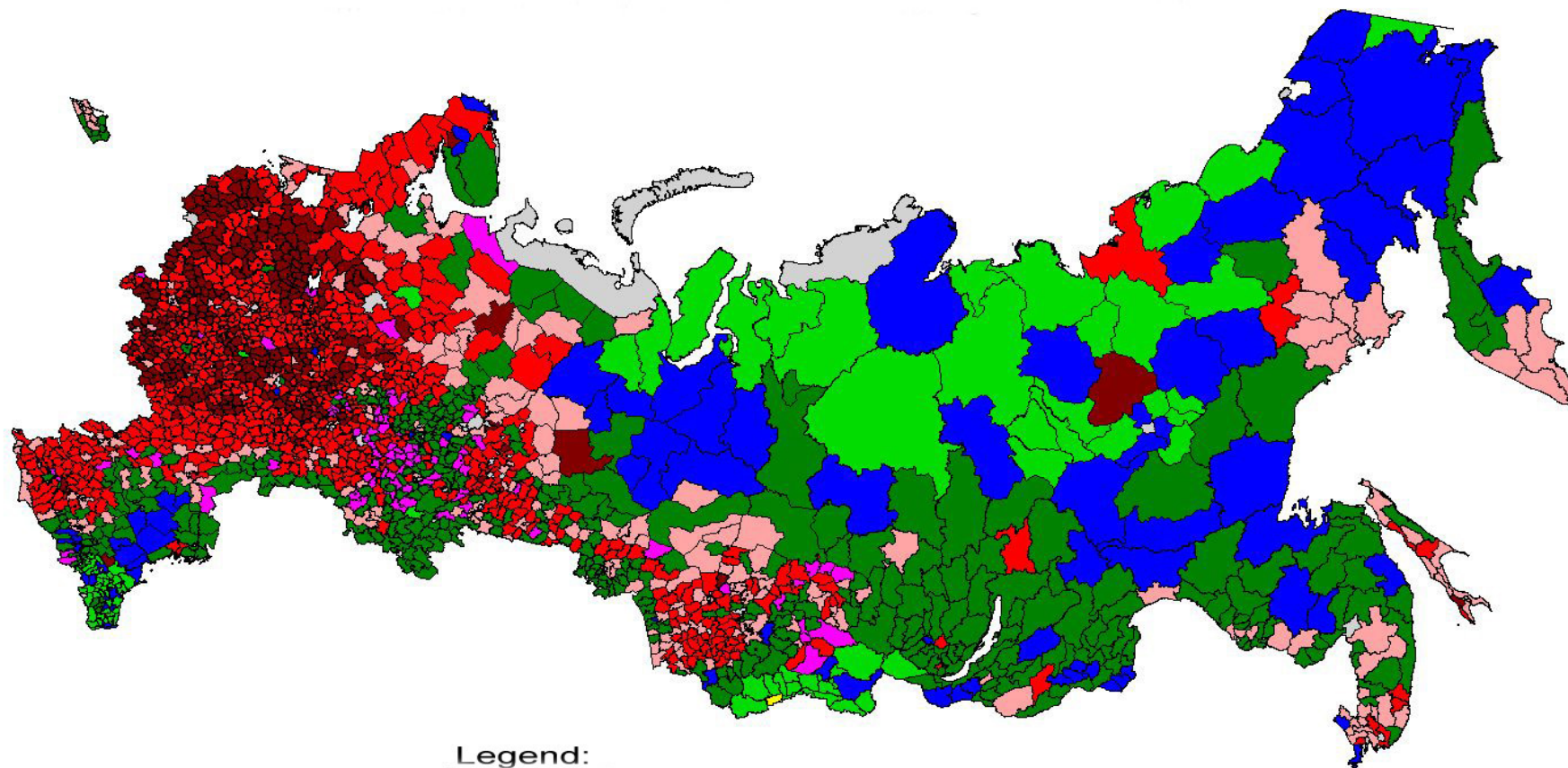


Russian Academy of Agricultural Sciences
RUSSIAN INSTITUTE OF AGRARIAN PROBLEMS AND
INFORMATICS named after A.A. NIKONOV

IPTS-11-J5-37-NC

**Prospects of the farming sector and rural
development in European Neighborhood
Policy Countries in view of food security:
The case of the Russian Federation
(ENP-Russia)**

Types of demographic development of rural population



Legend:

Types of demographic development:



Progressive (children below 15 (C) >40%,
older aged above 50 (A) <10%)

Stationary (C>20%, A<30%)

Regressive (C<30%, A>20%)



Stationary (C 0-30%, A 20-30%)



Stationary with high children rate (C>30%, A<30%)



Stationary with low rate of older group (C<30%, A<20%)



With low children rate (C<20%, A 20-30%)



"Ageing" population (C 20-30%, A 30-40%)



Depopulation (C<20%, A 30-40%)



High depopulation (C<20%, A>40%)



No rural population
or no data available

Project Goals

- The **ultimate goal** is to evaluate the degree to which the farming sector and rural areas could contribute to increases in agricultural production, and to critically assess the limiting factors to such a contribution.
- More specifically, the aim is to analyse to what extent the transition process has contributed and is contributing to the development of farming sectors, rural households and agro-industries, focusing on the efficiency and sustainability, to examine drivers of agricultural and rural development, and to assess the extent to which changes, particularly within the farming sectors and rural areas, will affect food security in Russia and outside.



Prospects of the Farming Sector and Rural Development in Russia in view of food security

I. Analysis of changes in the Russian agri-food sector.

II. Efficiency and sustainability analysis of the agrarian sector.

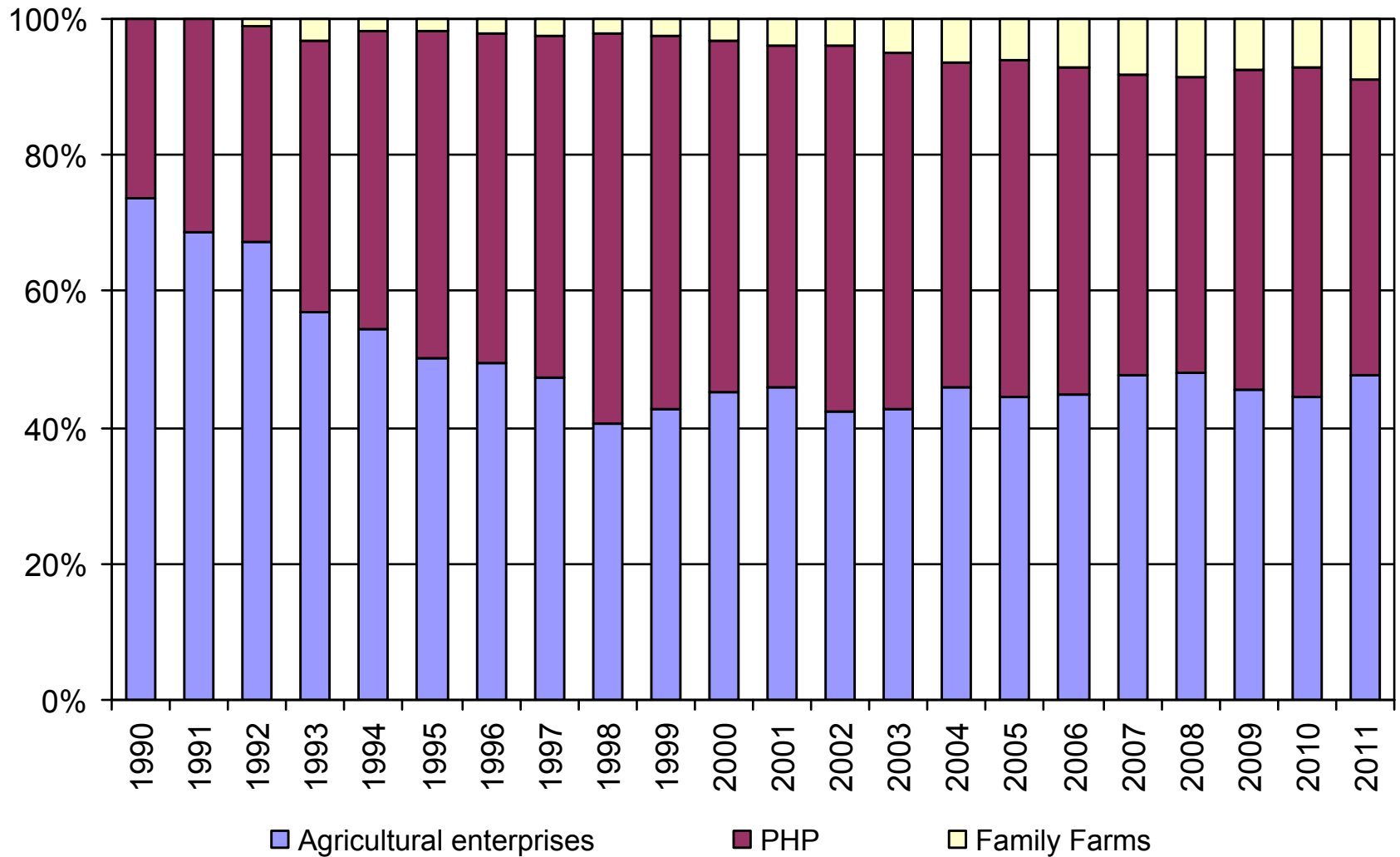
III. Factors of food security in Russia, its potential and contribution to the world food security.

Agricultural Area in Use

	1990		2011	
	Area, mln. Ha	%	Area, mln. Ha	%
Family Farms	0	0	23.8	12.5
Private plots of population	3.8	1.8	44.9	23.5
Agricultural organizations	210.0	98.2	122.1	64.0
Including state and municipal organizations	117.3	54.9	9.0	4.7
Total	213.8	100	190.8	100

Source: Russian Statistics Committee , 1995; Russian State Register, 2011

Types of Agricultural Producers



Budget Support

Indicator	2006	2007	2008	2009	2010
Subsidies from all budgets per 1 Rouble of agricultural production, kopecs	3.9	4.8	6.4	7.0	7.7
including: Federal budget	1.5	2.2	3.2	4.1	3.9
Regional budget	2.46	2.68	3.17	2.94	3.89
Regional share, %	62.9	55.2	49.7	41.9	50.2

Source: calculated using the Russian MoA and the Russian Statistics Committee data

Budget subsidies impact on the profitability of agriculture

Years	2005	2006	2007	2008	2009	2010
Without subsidies	2	2.6	7.9	2.2	-3.2	-5.4
With subsidies	7.6	9.7	16.7	14.8	9.4	8.3
Surplus in profitability due to subsidies	5.6	7.1	8.8	12.6	12.6	13.7

Source: the Russian MoA

State Funded Entities (total vs largest)

	Investment Loans (2-10 years)	Short-term Loans	Subsidies for Procurement of Mineral Fertilizers
Total state funded entities (except PHPs), number	8,695	8,177	16,880
Total subsidies, billion RUR	53.7	21.0	5.9
5% largest state funded entities, number	433	406	842
Subsidies, billion RUR	39.0	12.9	2.8
% to the Total subsidies	72.6	61.4	48.2

Source: Russian State Register, 2010

Total Support Estimates (TSE) (% of GP)

Country	Average 1995-1997	Average 2008-2010	2011
Russia	2,6	1,6	1,4
USA	0,9	0,8	0,9
EC	1,5	0,8	0,7
Canada	0,8	0,6	0,7
China	1,5	2,3	3,0

Source: OECD (2011), Agricultural Policy Monitoring and Evaluation 2011: OECD Countries and Emerging Economies, OECD Publishing

Change of the Russian Rural Population (th. pers.)

Years	At the beginning of the year	Annual Changes (+,-) :		
		Total increase	including:	
			Natural increase	Migrational increase
2000	39,470.6	-238.7	-274.2	-2.6
2001	39,231.9	-307.9	-271.7	-51.9
2002	38,924.0	-281.6	-281.9	-26.7
2003	38,642.4	-292.6	-281.6	-34.7
2004	38,349.8	-405.1	-260.2	-28.6
2005	38,754.9	-106.2	-287.7	-22.6
2006	38,648.7	-206.1	-230.3	-28.1
2007	38,442.6	-206.8	-145.7	-9.1
2008	8,235.8	-22.2	-113.3	-22.1
2009	38,213.6	-4.4	-88.9	-2.6
2010*	37,678.8	-190.0	-81.7	-90.9

* **Source:** Census-2010

Welfare provided to the most and less secured groups of rural and urban population (per person per month, RUR)

	Available Resources:		
	Rural	Urban	Rural to Urban, %
2000			
1st decile group	330.4	460.8	71.7
10th decile group	2,849.5	4,786.9	59.5
Fund coefficient	8.6	10.4	x
2009			
1st decile group	2,453.5	3,715.8	66
10th decile group	22,748.4	39,745.9	57.2
Fund coefficient	9.3	10.7	x
2010			
1st decile group	2,846.1	4,347.7	65.5
10th decile group	27,358.3	50,135.1	54.6
Fund coefficient	9.6	11.5	x

Economic Classification of Farms

Group number	Group intervals (standardized revenue), thousand roubles	Sub-classes of entities	Classes of entities
1	0	Abandoned (not functioning)	Entities without agricultural production
2	0	Having off-farm production with suspended agricultural activity	
3	0>0<=10		Residential and recreational
4	>10<=30		Self-consumption
5	>30<=50	Subsidiary commodity family farms	Commodity entities
6	>50<=80		
7	>80<=110		
8	>110<=150		
9	>150<=220		
10	>220<=300		
11	>300<=500	Family farms	
12	>500<=750		
13	>750<=1500		
14	>1500<=3000		
15	>3000<7500	Capitalistic	
16	>7500<=15000		
17	>15000<=30000		
18	>30000<=150000	Large and super-large capitalistic	
19	>150000		

Classification of Regions

Indicators	Total	Regions with different structure		
		corporative	mixed	family
Number of regions	78	23	33	22
%	100	29.5	42.3	28.2
Gross production value, all categories of agricultural entities:				
In actual prices, billion RUR	2,618	946	1,157	515
%	100	36.1	44.2	19.7
Share in gross production, %				
Agricultural Enterprises	44.5	60.5	41.9	21.1
Family Farms	7.1	5.5	6.6	11.4
Household Plots	48.4	34.1	51.6	67.5

Source: calculated using the Russian Statistics Committee data

II. Efficiency and Sustainability Analysis of the Agrarian Sector

Gross production per 1 hectare of agricultural land

	1990	1995	2000	2005	2010	2011
1. Gross production, in comparable prices for 2011, billion roubles.*	3,674.0	2,460.4	2,230.9	2,500.9	2,651.8	3,261.7
Agricultural Enterprises	2,253.1	1094	887.5	1,043.2	1,195.2	1,540.6
Family Farms**	0	44.8	61.6	157.1	201.8	294.2
Household Plots	1,420.9	1,321.6	1,281.8	1,300.6	1,254.8	1,426.9
2. Agricultural lands in use, million hectares	213.8	209.6	196.8	191.7	190.8	190.9
Agricultural Enterprises	209.8	171.2	157.6	137.9	122.1	120.9
Family Farms**	0.1	10.5	14.5	19.5	23.8	22.4
Household Plots	3.9	9.9	24.7	34.3	44.9	47.6
3. Gross production per ha of agricultural land, thousand roubles***	17.2	11.7	11.3	13.0	13.9	17.1
Agricultural Enterprises	10.7	6.4	5.6	7.6	9.8	12.7
Family Farms**	0	4.3	4.2	8.1	8.5	13.1
Household Plots	364.3	133.5	51.9	37.9	27.9	29.9

* 1990 and trillion roubles

** including individual entrepreneurs

*** 1990 and thousand roubles

Russian Agriculture: Evolution of Gross Production, Number of Employees and Labour Efficiency

Years	GP in actual prices, billion roubles	Volume Index	GP in comparable prices in 2011, billion roubles	GP in % to 1990	Number of employees in agriculture, million persons¹⁾	GP per 1 employee, thousand roubles	GP per 1 employee in % to 1990
All categories of Agricultural Entities							
2000	742.4	106.2	2,230.9	60.7	9.0	248	65.7
2005	1,380.9	101.6	2,500.9	68.1	7.4	339	89.7
2010	2,587.8	88.7	2,651.8	72.2	6.7	398	105.5
2011	3,261.7	123	3,261.7	88.8	6.6	497	131.6
Agricultural Enterprises							
2000	335.6	106.4	887.5	39.4	4.7	189	69.6
2005	615.6	103.1	1,043.2	46.3	2.5	417	153.7
2010	1150	89.4	1,195.2	53.0	1.5	807	297.2
2011	1,540.6	128.9	1,540.6	68.4	1.4	1097	404.1
Family Farms and Household Plots							
2000	406.8	106.1	1,343.4	94.5	4.3	313	31.4
2005	765.3	100.6	1,457.7	102.6	4.9	299	30.0
2010	1,437.8	88.1	1,456.6	102.5	5.2	281	28.3
2011	1,721.1	118.2	1,721.1	121.1	5.2	334	33.5

Direct labour costs per 1 tonne of product in agricultural enterprises (man-hours)

Year	Grain	Sunflower seeds	Sugar-beet	Potatoes	Field vegetables	Milk	Cattle weight gain	Pig weight gain	Poultry weight gain	Eggs
1990	9.5	11.5	7.3	26.8	38.4	63.8	340.9	257	51.6	1.96
1991	12.1	14.6	8.8	26.0	44.7	68.9	379	309	54.5	2.01
1992	11	17.1	8.7	29.4	58.3	80.9	450.2	212.4	65.4	2.28
1993	11.6	20.4	8.6	30.8	59.8	81.1	463.8	219.4	64.3	2.47
1994	12.5	21.8	11.3	35.6	57.2	87.7	521	261.4	66.1	2.51
1995	15.2	18.1	8.5	30.5	56.7	91.5	554.3	282.6	77.6	2.69
1996	13.5	23.1	9	29.9	56.7	99.8	612.4	328.1	76.4	2.55
1997	11.2	20.5	9.2	30.4	48.7	95.5	628.2	319.3	71.8	2.33
1998	17.5	22.4	10.2	29.6	55.4	93.1	616.2	294.5	69	2.26
1999	15.1	21.3	8.6	31.3	44.4	93	609.2	321.6	64.3	2.21
2000	13.3	21	8.7	29	43	89.9	578.5	286.3	60.2	1.99
2002	20.1	18.2	6.1	24.7	32.6	71.1	471.2	170.4	49	1.81
2003	11.4	16.5	4.7	19.2	24	64.3	453.3	162	41.9	1.67
2004	10.0	16.6	3.4	16.3	22.7	62.2	452.8	141.1	37.8	1.6
2005	9.1	13.1	2.7	13.0	19.0	54.1	397.2	114.4	31.2	1.4
2006	8.3	11.8	1.8	10.7	16.2	46.8	357.8	91.2	24.3	1.3
2007	7.5	11.8	1.4	9.3	14.4	41.5	335.4	70.5	21.0	1.3
2008	5.5	9.1	1.1	7.4	12.9	43.4	345.5	59.4	20.0	1.3
2009	5.5	10.1	1.0	6.3	11.6	44.0	310.2	41.9
2010	7.4	11.8	1.3	10.8	12.2	36.2	363.9
2011	4.9	7.0	0.7	6.0	8.8	31.3	384.8	31.3	15.8	1.2
1990 compared to 2011	2.0	1.6	9.9	4.5	4.4	2.0	0.9	8.2	3.3	1.6

Russia: Crop Yields at All Farm Categories, hwt per ha of harvested land)

Years	Grain and Pulse Crops	Sugar-Beet	Sunflower seeds	Soy-beans	Potatoes	Field Vegetables	Fruits and berries
1990	19.5	240.1	13.7	11.1	104.2	166.6	27.5
1995	13.1	188.3	10.6	7.5	117.7	147.8	23.5
2000	15.6	188.3	9.0	10.1	104.7	143.3	35.1
2005	18.5	282.3	11.9	10.5	123.8	170.0	40.2
2010	18.3	240.7	9.6	11.8	100.2	180.3	41.5
2011	22.4	384.8	13.4	14.8	148.3	208.2	49.6
2011 in % to 1990	114.9	160.3	97.8	133.3	142.3	125.0	180.4

Russia: Livestock and Poultry Yields

Years	Cattle weight gain, kg per year	Pig weight gain, kg per year	Poultry weight gain, gram per day	Milk yield per cow, kg per year	Average wool clippings per sheep, kg per year	Average egg-laying rate per laying hen, eggs (at agricultural enterprises)
1990	119	91	7.5	2731	3.9	236
1995	123	82	5.6	2153	2.9	212
2000	128	100	6.2	2502	3.1	264
2005	149	114	10.6	3176	3	301
2010	155	135	17.4	3776	2.6	307
2011	147	139	18.5	-	-	309
2011 in % to 1990	123.5	152.7	246.7	138.3*	66.7*	130.9

***Russian Agricultural Enterprises: Feed Consumption
per 1 hwt of Production (hwt of feed units)***

Years	Milk	Cattle Weight Gain	Pig Weight Gain
1990	1.44	13.5	8.3
1995	1.71	18.4	12.6
2000	1.46	14.9	10.3
2005	1.3	14.4	6.8
2010	1.1	13.8	4.2
1990 in % to 2011	130.9	97.8	197.6

Changes in Poultry and Livestock Number

Years	Cattle	Cows (included in Cattle)	Pigs	Sheep and Goats	Poultry
1990	57,043	20,557	38,314	58,195	659,808
1995	39,696	17,436	22,631	28,027	422,601
2000	27,520	12,743	15,824	14,962	340,665
2005	21,625	9,522	13,812	18,581	357,468
2010	19,968	8,843	17,218	21,820	449,296
2011	20,134	8,988	17,258	22,858	473,388
1990 vs 2011, %	2.8	2.3	2.2	2.5	1.4

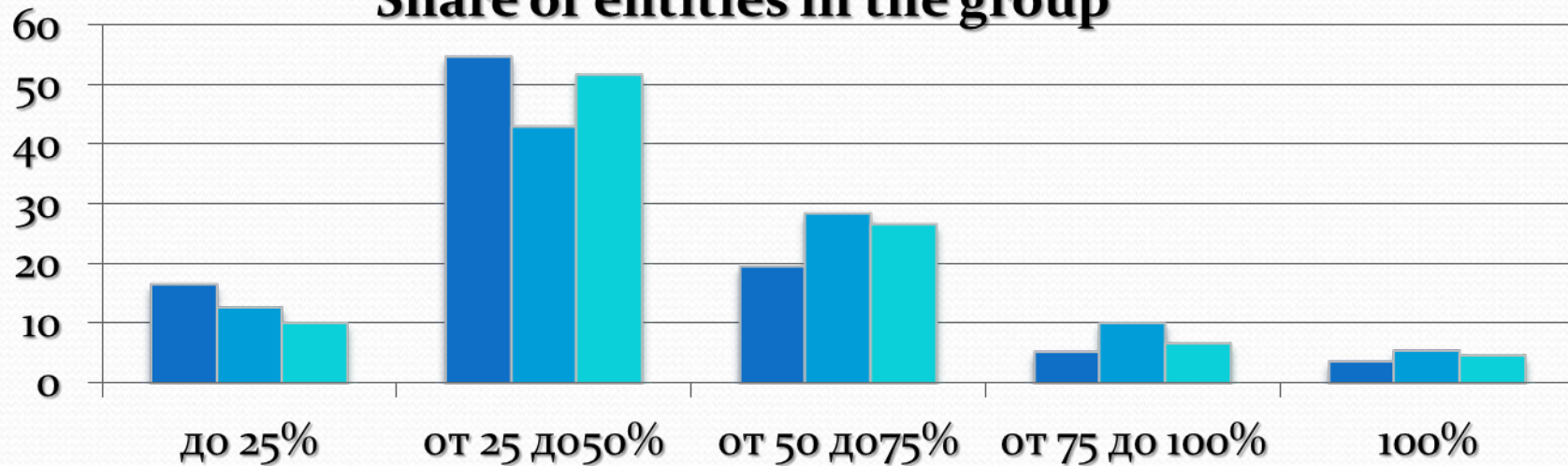
Russian Agricultural Enterprises: Consumption of Fertilizers and Power

Years	Fertilizers applied (100% active substance)		Power consumed, mln kWh		
	Mln. tonnes	Per 100 roubles of GP, kg*	Total	Including power for administrative needs	
				mln kWh	per 100 roubles of GP, kWh*
1990	9.9	0.44	62,055	53,186	2,361
1995	1.5	0.14	61,946	50,938	4,656
2000	1.4	0.16	42,767	33,140	3,734
2005	1.4	0.13	16,558	14,968	1,435
2010	1.9	0.16	15,115	13,852	1,159
2011	2	0.13	13,085	12,162	789
in % to 1990	20.2	29.5	21.1	22.9	33.4

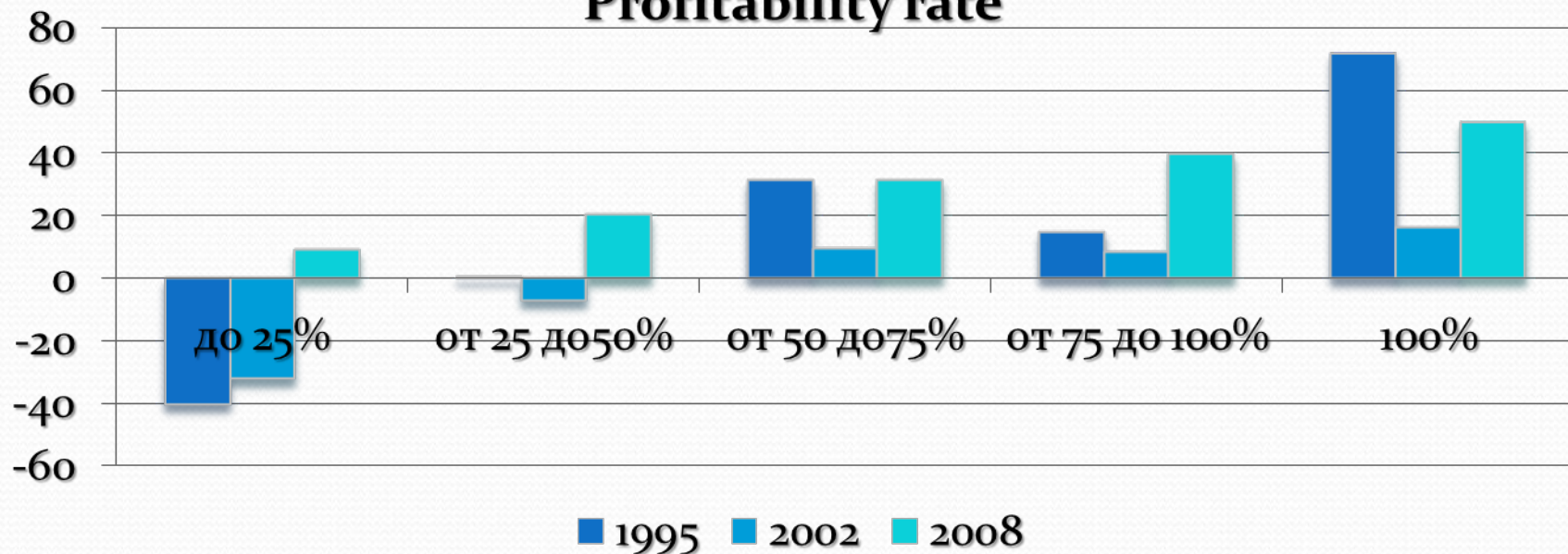
Technical Effectiveness

Grain and Technical crops

Share of entities in the group

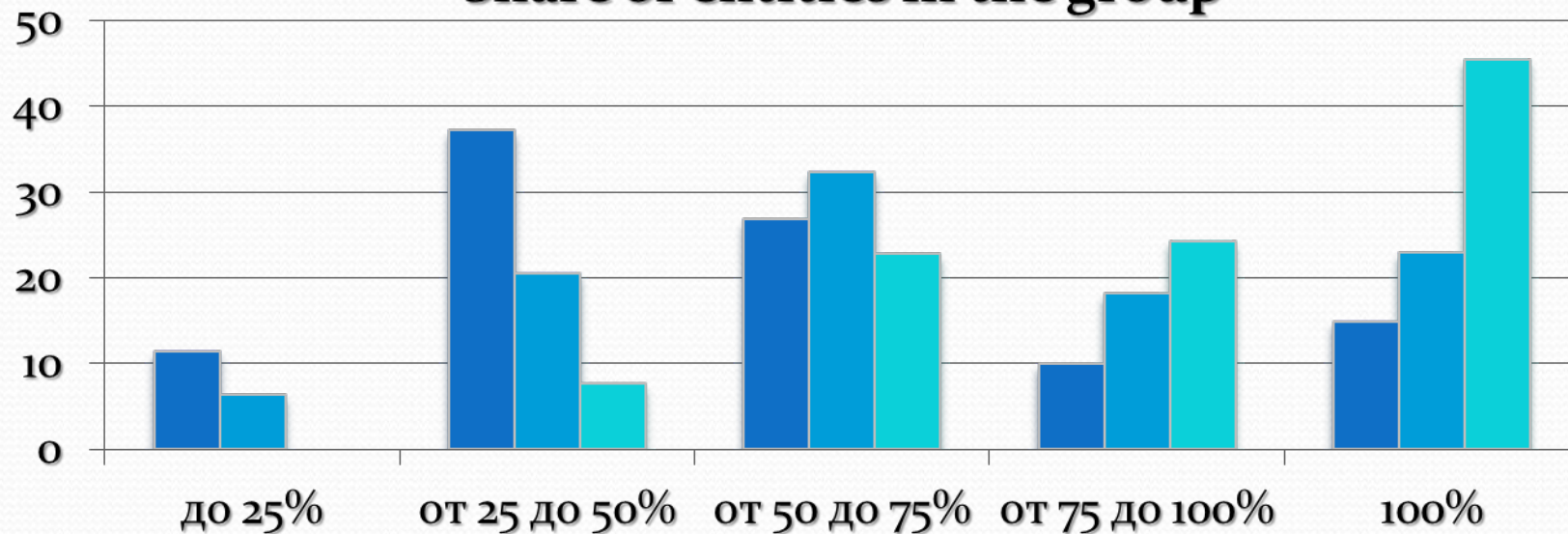


Profitability rate

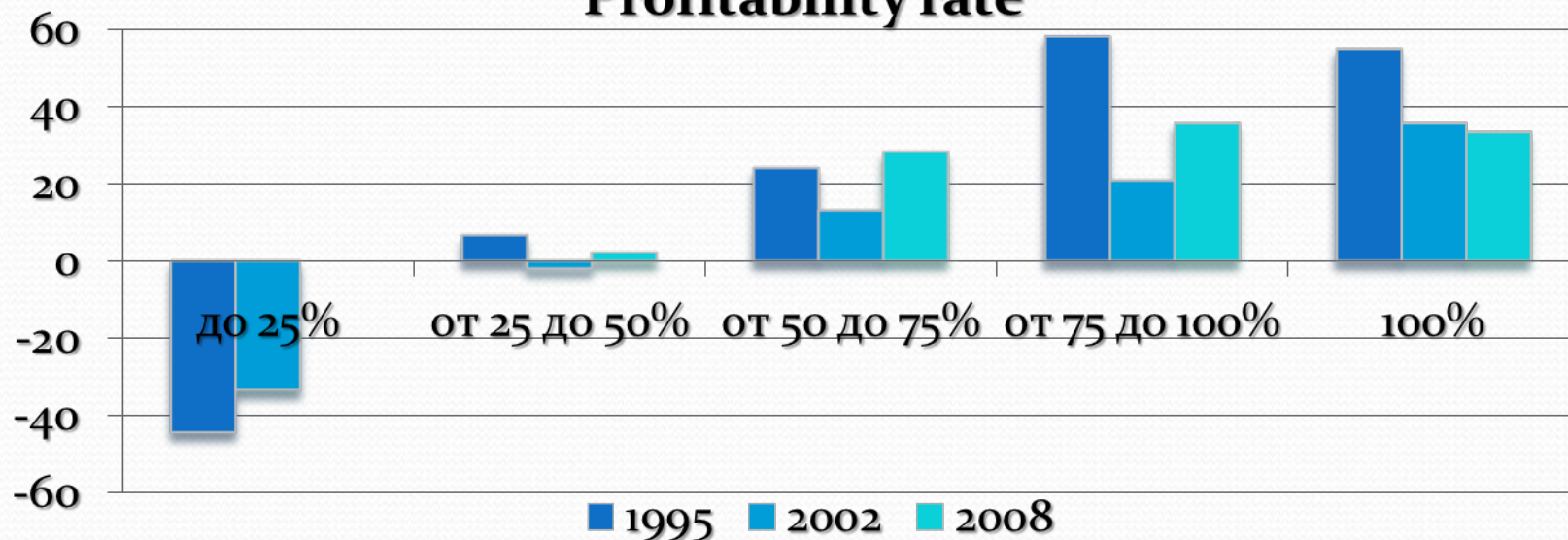


Potatoes and Vegetables

Share of entities in the group

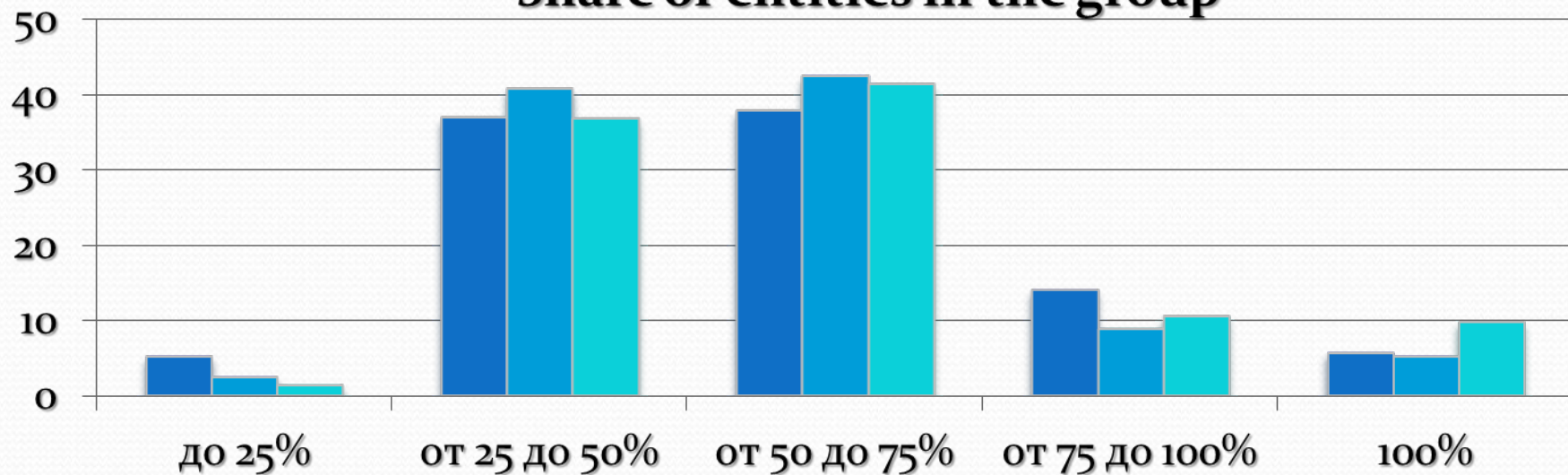


Profitability rate

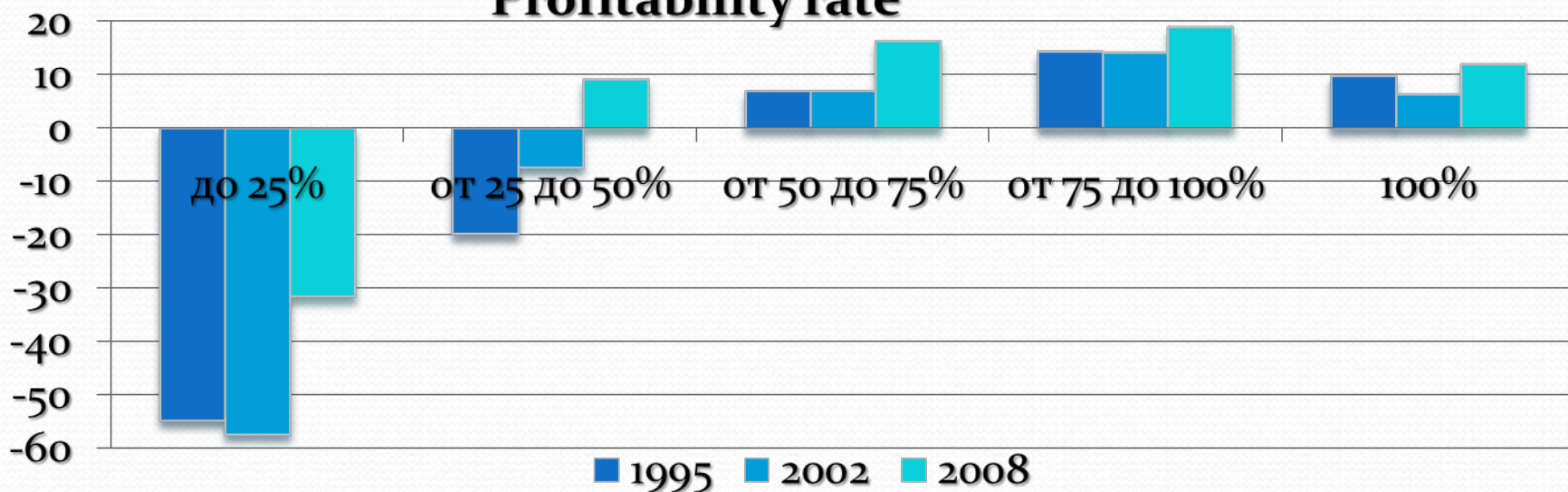


Poultry Farming

Share of entities in the group

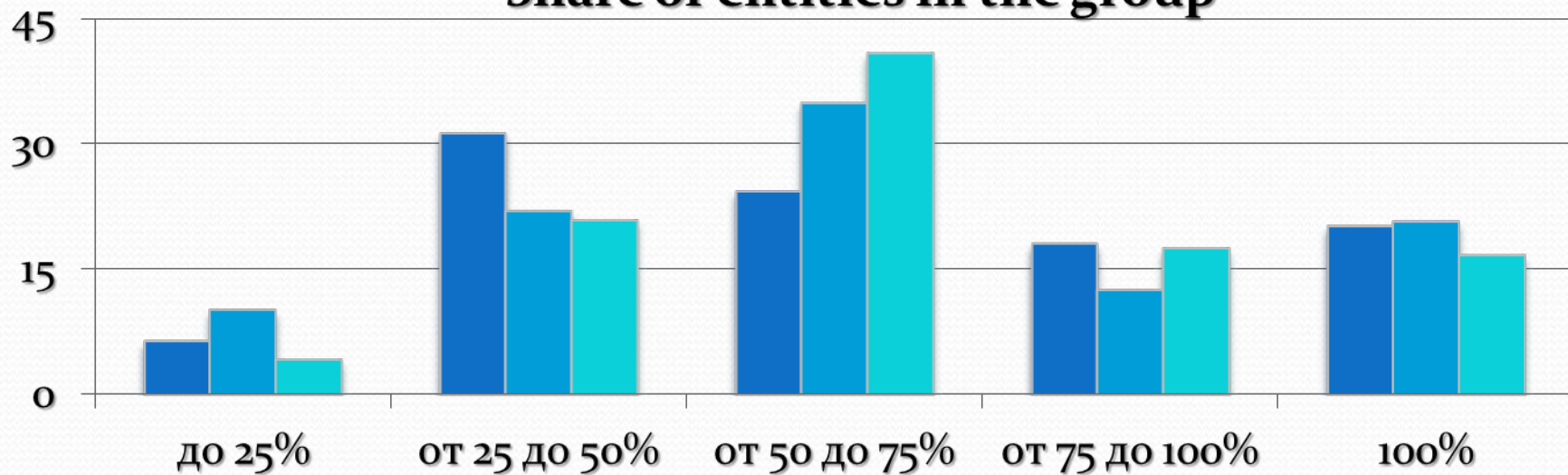


Profitability rate

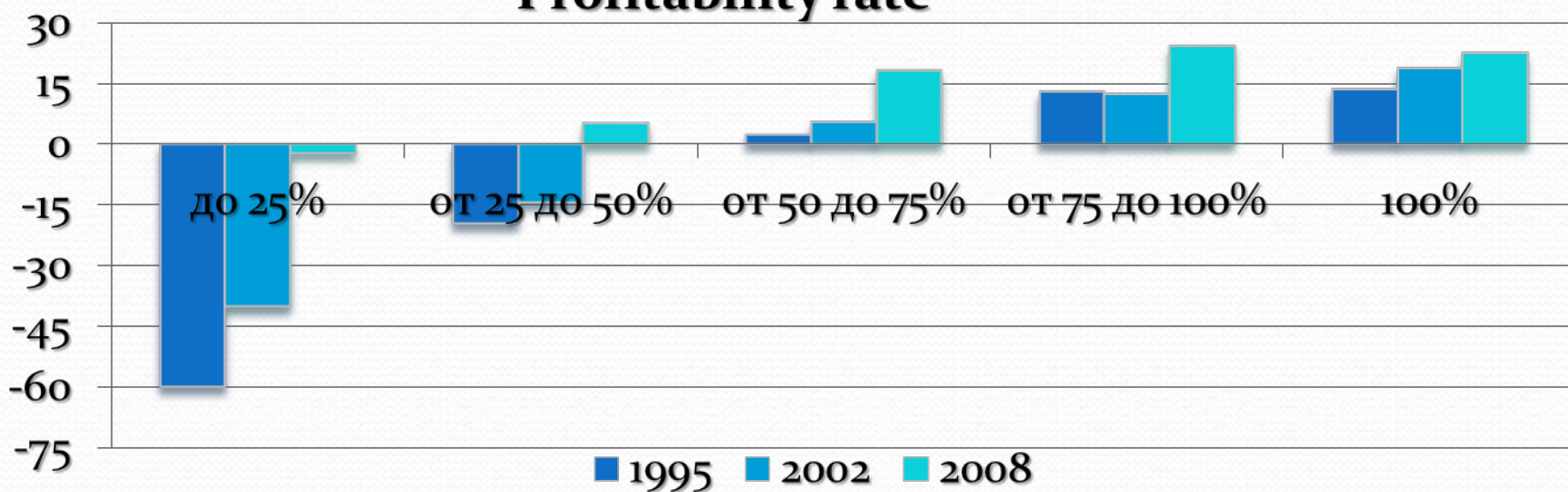


Pig Farming

Share of entities in the group

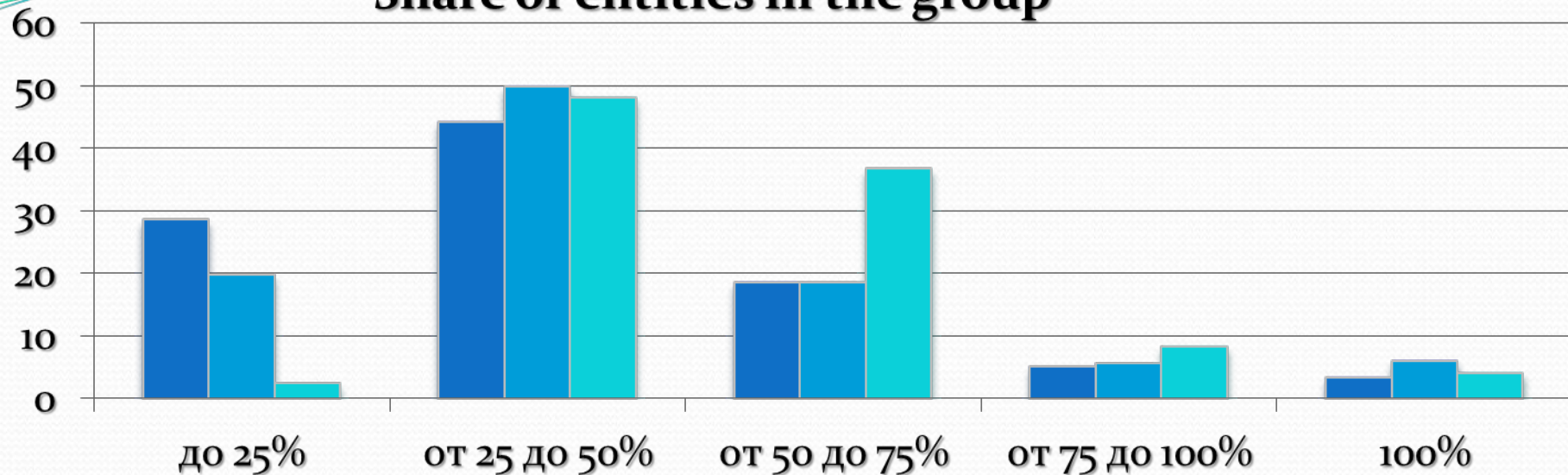


Profitability rate

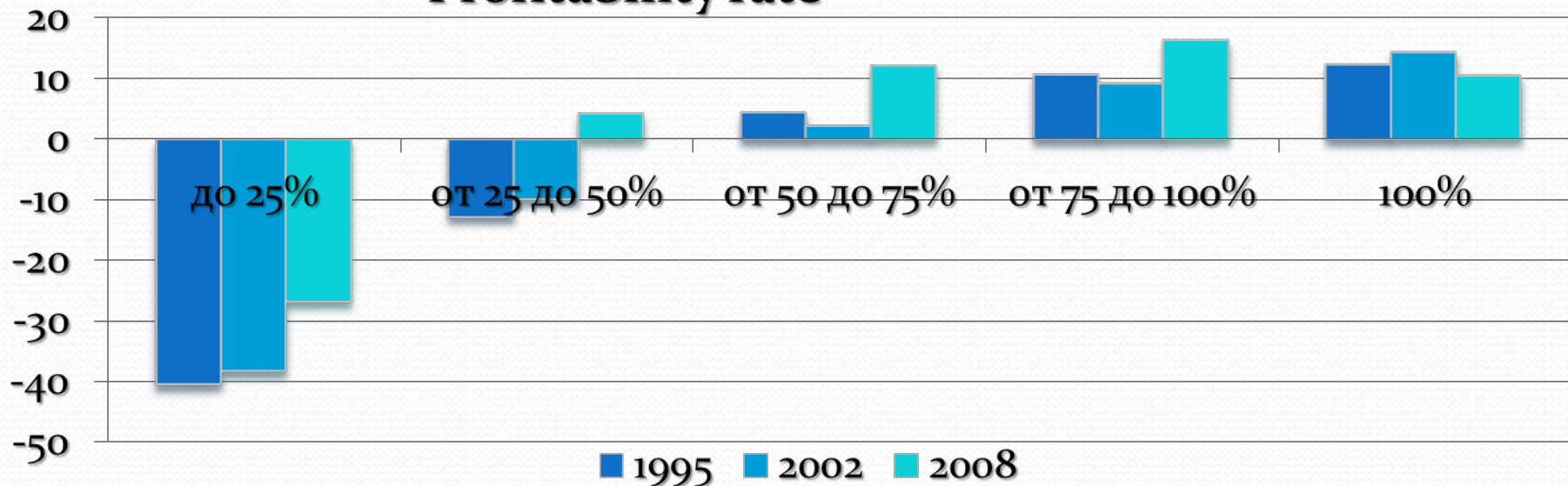


Cattle Rearing

Share of entities in the group

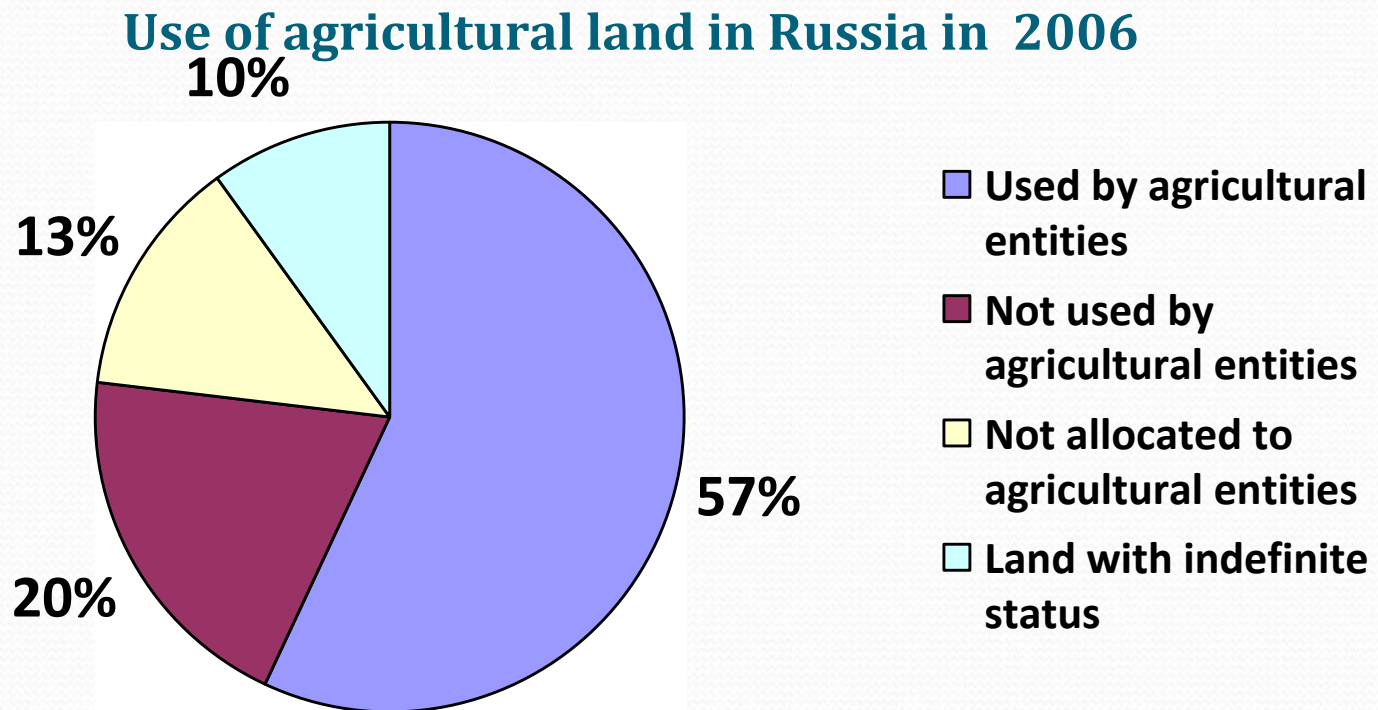


Profitability rate



III. Factors of food security in Russia, its potential and contribution to the world food security

Involvement of abandoned agricultural land back into circulation

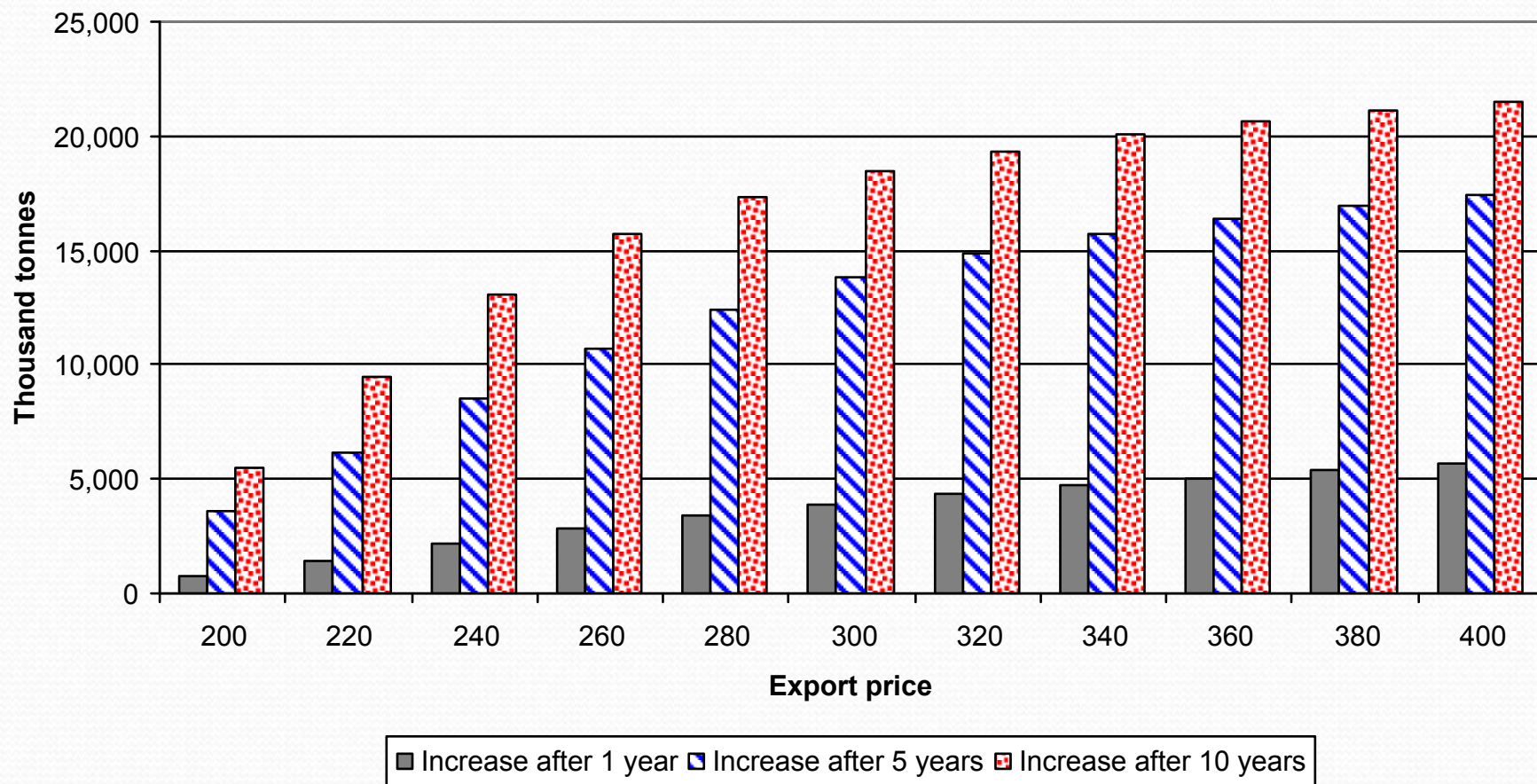


Assessing the Potential for Russian Grain Export with a Special Focus on the Prospective Cultivation of Abandoned Land

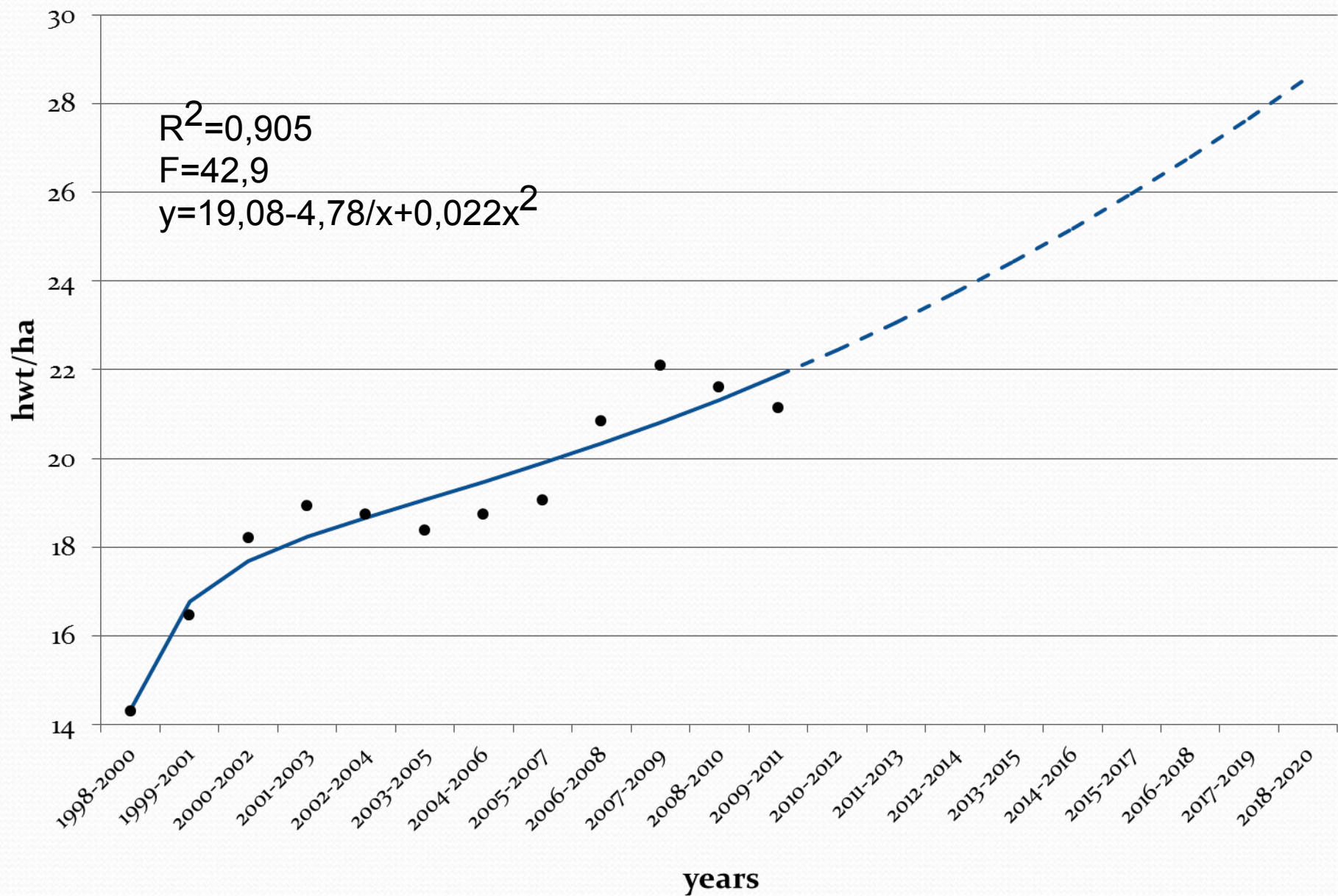
	1990	1995	2000	2005	2010	<u>2010 vs. 1990</u>	
						mln ha	%
Arable land, mln ha	131.8	127.6	119.7	116.1	115.3	-16.5	87.5
Cropland, mln ha	117.6	102.5	85.4	77.5	75.2	-42.4	63.9
Share of cropland in the arable land, %	89.2	80.3	71.3	66.8	65.2		
Grain cropland area, mln ha	63.0	54.7	45.6	43.4	43.2	-19.8	68.6
Share of grain crops in the total cropland, %	53.6	53.4	53.4	56.0	57.4		

Source: Annual Russian Statistics. Official publication. 2006, 2011.

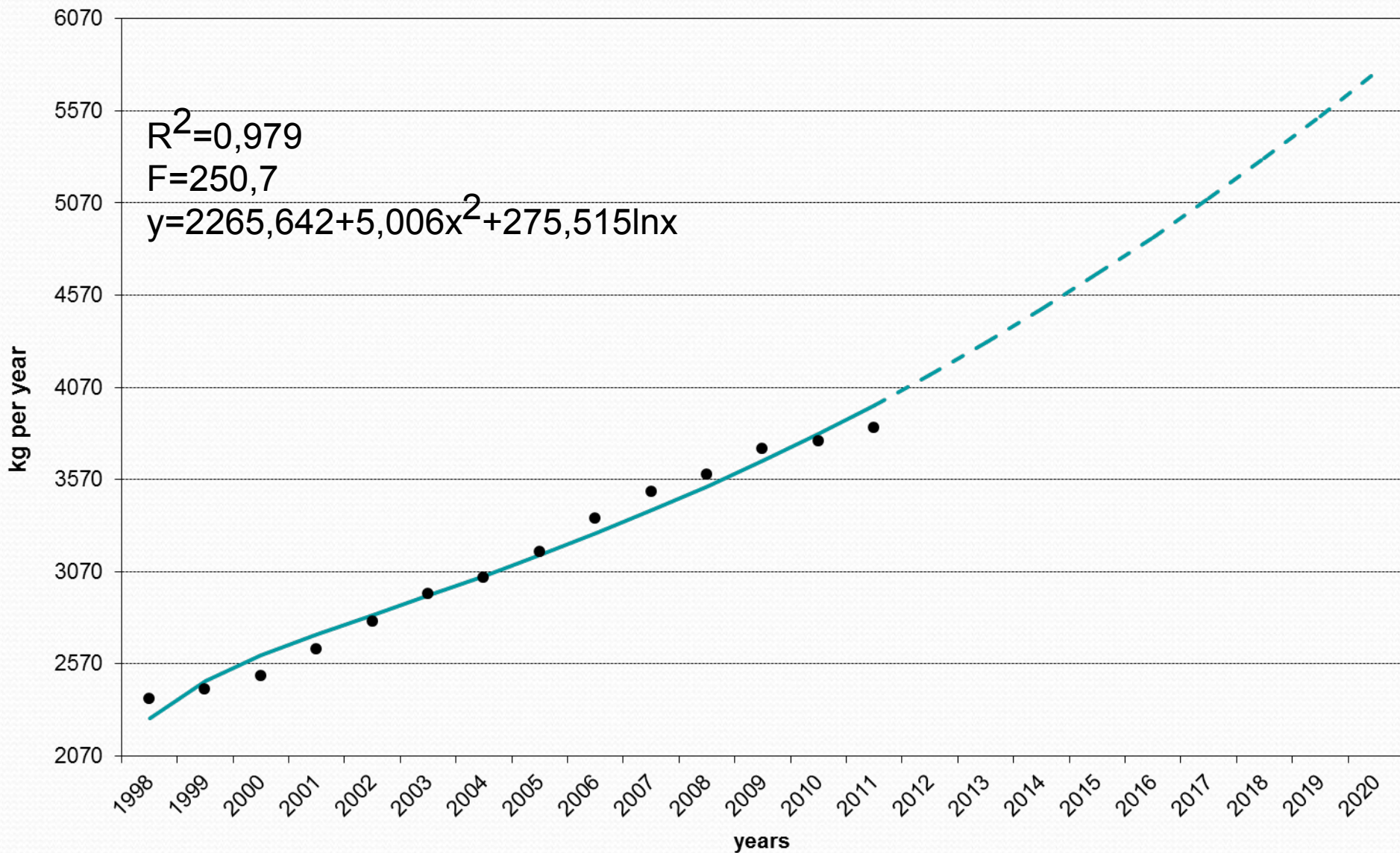
Russian Grain Export Volumes Under Different Export Price Scenarios/Time Horizons



Increase of Grain Yields



Increase in Milk Yields



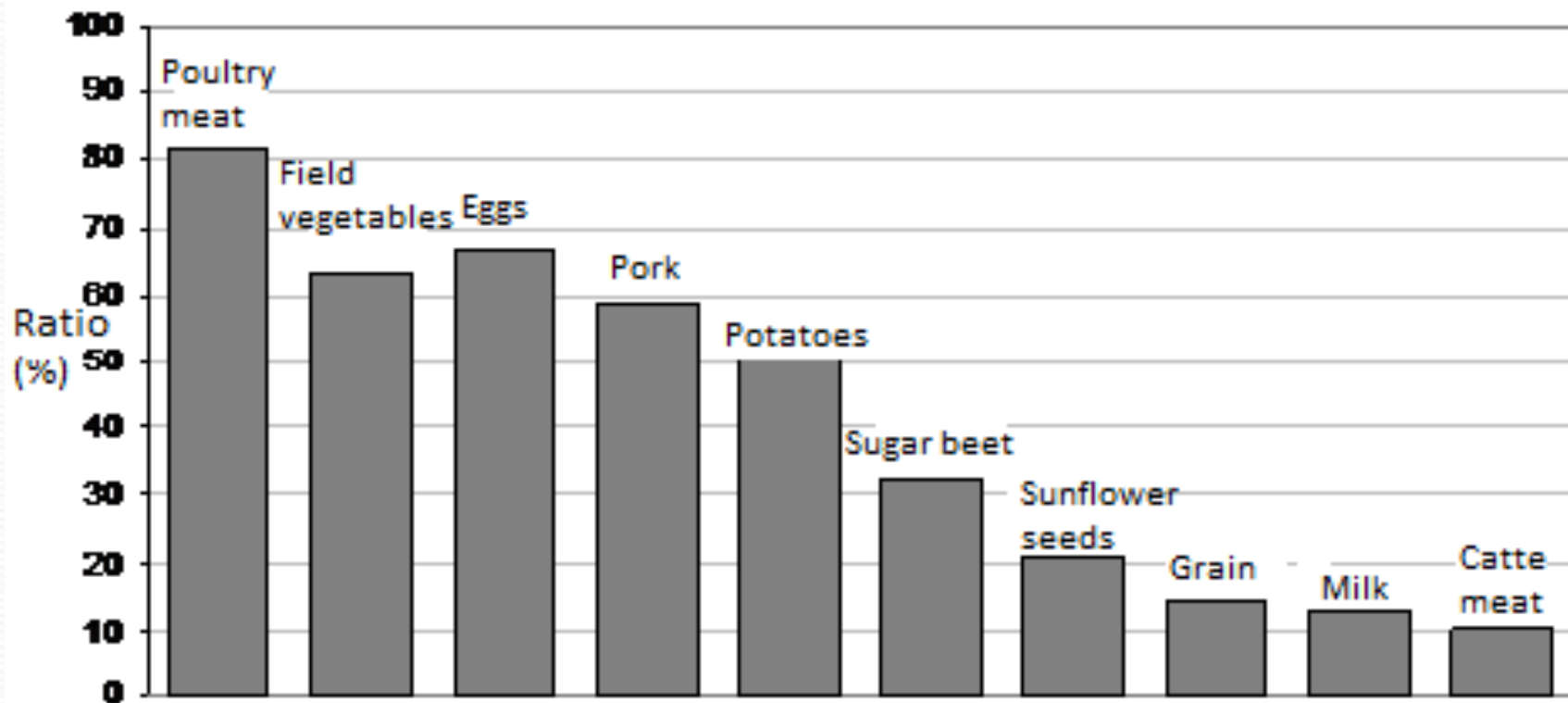
Comparative Analysis of Productivity in Different Countries

Crop yield and productivity in Russia vs. developed world economies (the average for 2007-2009)

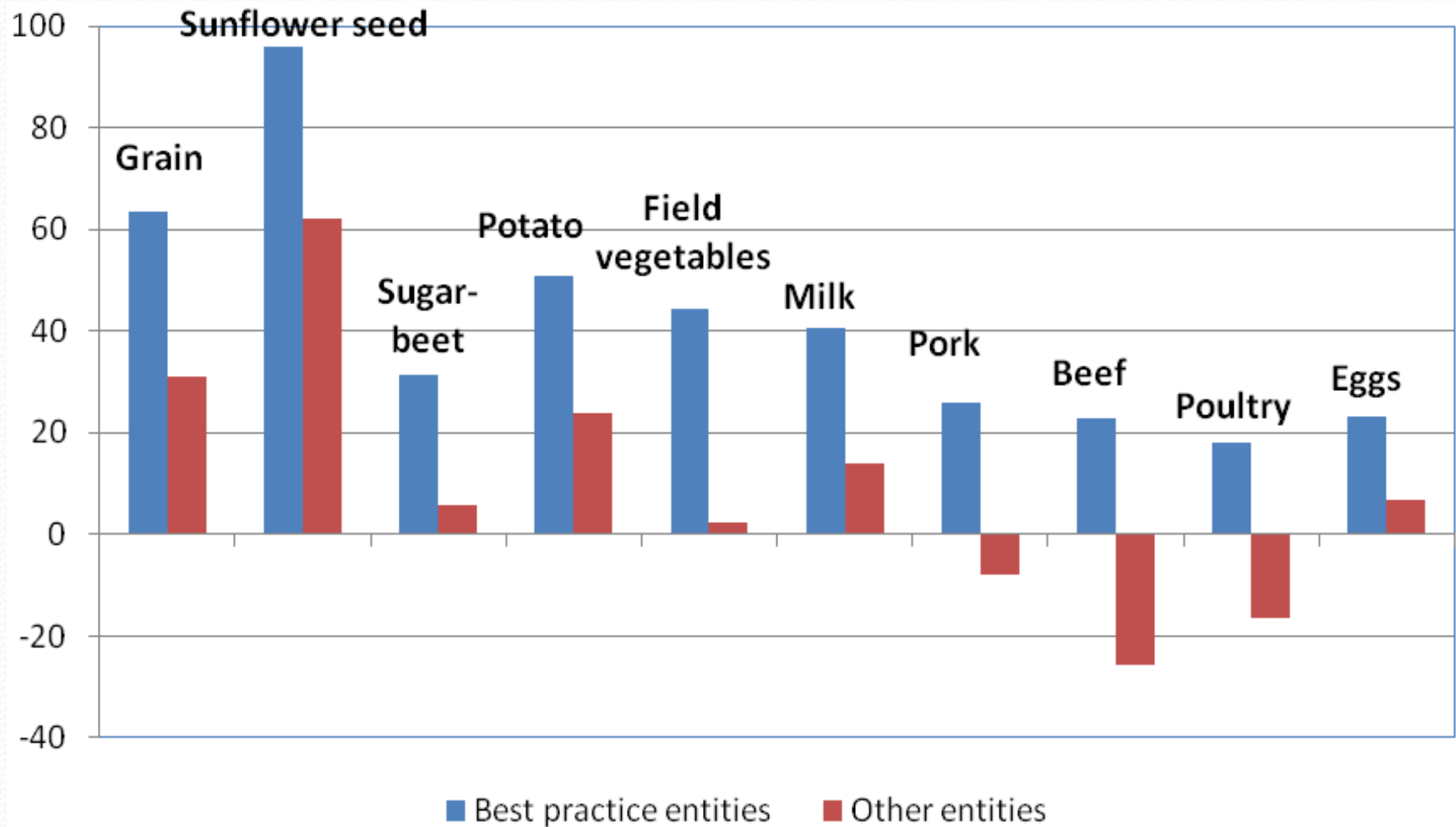
	Russia	Countries of European Community	USA	Canada
1. Crop yield per one harvested hectare				
Grain and pulse crops	22.1	48.2	67.7	30.4
Sugar beet	325.7	582.0	601.7	551.7
Sunflower	11.7	18.4	15.7	16.1
Potatoes	137.7	273.7	450.3	313.3
2.Productivity				
Milk yield per cow, in kilograms	3, 611	6, 026	9, 049	7, 858

Technical and Technological Modernization of Agriculture

Share of the best agricultural entities in commercial production of large and medium size agricultural enterprises (2006-2008)



Production Profitability Levels of the Best Agricultural Producers and Other Large and Medium-size Agricultural Enterprises



Comparison with Best-practice Entities

(2006 - 2008, crop yields - hwt/ha, milk yields – kg/year, weight gains - gr/head per day, egg laying rate – eggs/year)

Production	Best-practice entities	Other entities	Best practice vs other entities, %
Grain	37.8	20.0	189.2
Sunflower	17.3	11.7	147.6
Sugar-beet	365.6	302.2	121.0
Potatoes	258.7	164.0	157.7
Field Vegetables	400.8	154.6	259.3
Milk	6307.5	3738.6	168.7
Meat:			
beef	619.9	421.7	147.0
pork	450.9	285.7	157.8
poultry	45.1	18.1	249.7
Eggs	314.4	274.8	114.4

Main Conclusions

- Russia has successfully passed the twenty-year period of agrarian reform: crop and livestock yields have grown, ineffective entities have gone bankrupt, new owners run their business more efficiently. Farm entities demonstrate growth of key performance indicators. Labour efficiency growth at farm enterprises has been particularly fast.
- Small and medium-sized agricultural entities have higher efficiency rates of land/assets/labour use. The hypothesis that the future of Russian Agriculture shall be determined by large agro-holdings has not been confirmed by practice.

Main Conclusions

- Unfortunately, the increasing effectiveness of the agrarian sector has not brought about higher living standards and employment rates of rural population. On the contrary, due to higher labour efficiency and technology the demand for labour in agriculture has decreased, while non-agricultural spheres have not developed enough to offer sufficient number of jobs. To some extent this problem was mitigated by depopulation and migration to cities.

Main Conclusions

- The gap in living standards of city and rural population has increased. If this trend is not stopped by means of improving the government rural development policy combined with the increase of funding, many Russian rural areas shall become entirely depopulated and left out of economic control.

Main Conclusions

- Russia's potential to contribute to the global food security is quite high, especially in grain and sunflower seed production, and, according to some forecasts, in poultry production. However, grain production is more likely to be increased by improving yields of the already cultivated areas, rather than by involving abandoned agricultural lands into agricultural circulation.