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**MACROECONOMY OF THE RUSSIAN REGIONS –
NEIGHBORING WITH THE NEW EUROPEAN UNION**

Abstract

In the paper is presented the comparative analysis of macroeconomic indicators of six regions of the Russian Federation neighboring with six countries of the New European Union (EU). The basic line of investigation:

- Interregional comparisons of gross regional products (GRP) by production and by final use;
- Estimation of regional net export;
- Evaluations of finance flows in the system “region – national economy – global economy”, including outflows from regions to abroad of Russia;
- Differentiation of regions by GRP per capita and the econometric analysis of the differentiation factors;
- Changes of GRP in 1996-2001 (divergence or convergence?).

Comparison GRP of Russian regions and GDP of neighboring EC countries (in accordance with methodology of international comparisons) is carried out for the first time.

The following tasks of research are formulated.

1. Introduction

Expansion of the European Union (EU) on the east creates a new geopolitical and economic situation for the Russian Northwest. The direct neighbors of Russia here are five countries - members of EU (Finland and from 2004 - Estonia, Latvia, Lithuania, Poland), and Norway also. Six regions (Murmansk oblast, Republic of Karelia, Leningrad oblast, St. Petersburg, Pskov oblast and Kaliningrad oblast) - subjects of Russian Federation - are bordering with these six countries. At the same time Kaliningrad oblast being *exclave* of Russia becomes *enclave* of EU.



The individual characteristics of six Russian regions, listed above, are analyzed in the paper by the following topics:

- Estimation of economic potential, level of economic development and determining their factors;
- Regional features of economic trends;
- Trade and financial relations of examined regions in national and world economy;
- Economic comparisons of neighboring European countries and Russian regions.

This paper continues researches of the authors by macroeconomic analysis of regional development stated on 38-41 Congresses of ERSА [1-4].

2. Economic development and economic potential of regions

The population of six examined regions by data of the last census in the Russian Federation (October, 2002) is 9 666 600, it is equal 6,66% of total population of Russia (exactly the $\frac{1}{15}$ part). At the same time 48,3% of total population of six regions live in St. Petersburg (table 1).

Gross regional product by SNA UN'93 is calculated for subjects of Russian Federation since 1994. Share of examined regions in total GRP of Russia is in interval 6,2-6,8% for the period of estimations (maximum share was achieved in 1999 and minimum - 1997). The following analysis was conducted for 1999, as the results of international comparisons of GDP there are exactly for this year (see table 4).

Table 1.

Constant population of regions (on October, 2002)

	thousands people	% of sum	rank in Russia
Murmansk oblast	893,3	9,2	61
Republic of Karelia	716,7	7,4	67
Leningrad oblast	1671,1	17,3	27
St. Petersburg	4669,4	48,3	4
Pskov oblast	760,9	7,9	64
Kaliningrad oblast	955,2	9,9	57
Total	9666,6	100,0	?

Total GRP of six regions is 6,8% of total Russian GRP, it is just a little more than share of regions of this group in the total population; by the way St. Petersburg produce 53,8% of GRP of six regions (table 2). GRP of St. Petersburg occupies the 4th rank in Russia (for 88 subjects of Russian Federation).

Table 2.

Production of GRP for 1999

	Volume of GRP		GRP per capita	
	% of sum	rank in Russia	% to Russian average	rank in Russia
Murmansk oblast	14,9	26	148,6	9
Republic of Karelia	7,2	51	92,3	24
Leningrad oblast	14,6	28	86,1	30
St. Petersburg	53,4	4	112,3	17
Pskov oblast	4,2	69	52,0	66
Kaliningrad oblast	5,8	61	60,0	57
Total	100,0	?	100,0	?

GRP per capita of Murmansk oblast and St. Petersburg exceed average Russian level (the 9 rank and the 17 rank correspondently) and GRP per capita by six regions as a whole is equal the average Russian level. The distinctions between six regions amount to 2,9 times, Pskov oblast is in the group of most less developed regions and Kaliningrad oblast is the depressive region.

The differentiation of Russian regions by GRP per capita is the result of long-term socio-economic processes and features of transition period. In the 1990th years the group of Russian regions, exported raw materials and concentrated the production of financial and trade services, was received additional competitive benefits.¹

These competitive benefits among examined regions is used to a greatest extent by St. Petersburg (export via sea port, development of financial sector and other market services) and Murmansk oblast (export via sea port including own mineral and metals). The raw material export is increasing for the last years in Karelia, especially in Finland. At the same time the lagging Pskov oblast is characteristic a weak external economic activity and conservative structure of GRP. The economy of Kaliningrad oblast is at structural crisis.

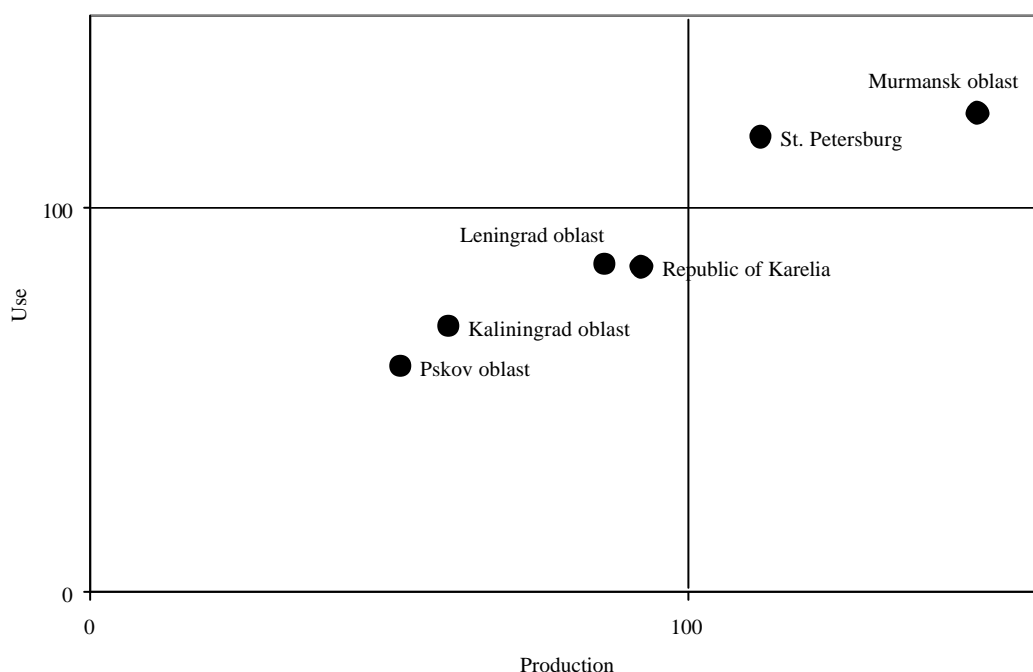


Fig. 1. Production and use of GRP per capita for 1999 (in % to Russian average).

The production of GRP in all six regions exceeds its internal use. However it does not essential influence on amount of used GRP per capita (fig. 1). Murmansk oblast and St.

Petersburg keep their advantages, and the rest four regions are not overcome their lag to average level.

Table 3.

Rank of regions by level of economic potential and efficiency of its use

	Economic potential	Use efficiency of potential
Murmansk oblast	4	40
Republic of Karelia	25	35
Leningrad oblast	17	41
St. Petersburg	2	77
Pskov oblast	39	66
Kaliningrad oblast	12	71

The estimation of economic potential was carried out by the methodology elaborated of Council for the Study of Productive Forces. The integral estimate is defined as the weighed sum of supply estimations of regions by natural resources, labor force, fixed capital, production and social infrastructure. The second rank by the level of economic potential between 88 regions is taken St. Petersburg, the fourth rank – Murmansk oblast, the twelfth – Kaliningrad oblast, the rest regions – in the top part of list (table 3.). However the position of examined regions is much worse by economic potential efficiency. The conclusion is arising from this fact, that accelerated development of six regions (especially St. Petersburg, Kaliningrad oblast and Murmansk oblast) is topical and real task.

Table 4.

Growth rate of GRP (in comparable prices)

	in % to previous year				2001/1997	2001/1998
	1998	1999	2000	2001		
GDP of Russia	95,1	105,4	109,0	105,0	114,7	120,6
Murmansk oblast	96,1	106,1	104,2	101,6	107,9	112,3
Republic of Karelia	92,8	110,9	108,3	102,8	114,6	123,5
Leningrad oblast	93,7	113,7	112,8	108,5	130,4	139,2
St. Petersburg	94,7	106,2	110,5	104,5	116,1	122,6
Pskov oblast	92,6	117,6	105,9	100,2	115,6	124,8
Kaliningrad oblast	90,5	106,8	115,2	103,4	115,1	127,2

The general economic growth in Russia, sustainable continued since 1999, involved all examined regions. There was no case of decreasing of GRP for 1999-2001 (table 4). Growth rate of GRP exceeded the Russian average level in five from six regions. The

most high growth rates of GRP were in Leningrad, Kaliningrad and Pskov oblast. Hence there are the convergence criterions in examined group of regions.

3. Trade and finance balances of regions

Difference between produced and used GRP theoretically is equal net export of goods and services (international and interregional trade balance).

The unique estimation method of redistribution of GRP, using present statistical database, in the system “region – country - world” is the estimation of balance between produced and used GRP. The uniqueness of such method is explained by lack of complete and reliable calculations both interregional trade exchange by goods and services and foreign trade exchange of regions.

According to our estimations, all six examined regions have positive balance of produced and used GRP (positive net export of goods and services) in 1999, including regions with economic development below the average. This phenomenon is typical for Russia now. It is explained a positive foreign trade balance (17,5% of final use of GDP). The most part of Russian regions participates in formation of this balance. The results of this could be reinforcement lag for less developed regions, because restricting possibilities for “overtaking” growth of investments and final consumption. Export growth positively influences incomes on enterprises and households and employment in region, but unprofitable for regional budget, because export taxes are flowing in federal budget only. Moreover, the flow-out of capital from the region and country correlates with export.

On two most developed regions from six examined – Murmansk oblast and St. Petersburg – falls the greater part of balance (70%) (table 5). The relative value of trade balance (% to GRP) is high in two regions with average level of development also (Republic of Karelia and Leningrad oblast). Two most less developed regions (Pskov oblast and Kaliningrad oblast) have insignificant positive trade balance (both absolute and relative). Thus, there is the direct relation between absolute trade balance and GRP per capita for examined group of regions.

Table 5.

Balance produced and used GRP of regions for 1999

	Million rub.	In % to produced GRP
Murmansk oblast	11987,5	28,5
Republic of Karelia	4402,4	21,8
Leningrad oblast	6378,9	15,5
St. Petersburg	15107,3	10,0
Pskov oblast	423,1	3,5
Kaliningrad oblast	285,6	1,8
Total	38584,9	13,7

There are various finance flows in the system “region – country - world” parallel with trade flows. The question is emerged: if trade balance (positive or negative) were formed in the region as the result of interregional and international exchange, then how it influences on finance flows, incoming and outgoing from region?

The relationships between trade and finance flows are examined by means of balance of payment at national level. There is not such tool for regions in Russia yet. For the last period a lot of researches were conducted concerning finance flows between “centre” and regions, especially, inter-budget relationship. However, these researches were not related finance flows and trade flows.

Our methodological approach consists, that it is necessary simultaneously to move from two directions: specification of incoming and outgoing trade flows and expansion of finance flows estimations (not only state and local public finance). So far only the first steps were done to realize this approach.

In the paper, by the example of six regions, trade balances are compared with finance flows by three channels:

- Funds, transferred to federal budget and received from it;
- Funds, transferred to State off-budget funds and received from these funds;
- Difference between private monetary incomes and expenditures in region.

The main results are represented in table 6.

Regions are differed by correlation of funds, transferred to federal budget (for the most part - federal taxes), and funds, received from federal budget (transfers, grants and subsidies, investments etc.). Regions, having positive balance of relationships with federal balance, could be called *the donors* of federal budget, and regions with negative balance of relationships with federal balance - *the recipient* of federal budget.

Four from six regions are donors of federal budget. The first of all is St. Petersburg, transferring to federal budget 33,1 billion rubles (net payment), it is equal 92% of total net payments to federal budget of six examined regions.

Table 6.

Redistribution of financial funds and trade balance of regions for 1999, in mln. rub.

	Difference between funds transferred to Federal budget and received from it	Difference between funds transferred to State off-budget funds and received from these funds	Difference between monetary incomes and expenditures of population	Sum of three columns	
				mln. rub.	% to balance of produced and used GRP
Murmansk oblast	1827,9	1377,3	4891,3	8096,5	67,5
Republic of Karelia	-509,0	321,0	3766,7	3578,7	81,3
Leningrad oblast	1878,9	-122,3	1852,1	3608,7	56,6
St. Petersburg	33090,0	744,0	-18712,5	15121,5	100,1
Pskov oblast	-1232,2	-803,9	1229,6	-806,5	-190,6
Kaliningrad oblast	811,9	63,5	-2052,1	-	-412,0
				1176,7	
Total	35867,5	1579,6	-9024,8	28422,3	73,7

The finance scheme, existing now, supposes that the part of single social tax, accumulating in region, is “centralized” in State off-budget funds; and received funds is distributed among regions for provision of specific social funds (pension, social insurance, essential medical insurance etc.). Murmansk oblast, St. Petersburg Republic of Karelia ? Kaliningrad oblast are the donors of State off-budget funds for 1999. They transferred to State off-budget funds (minus received money from these funds) 2,5 billion rubles.

Statistics not calculates direct data about migration of money, receiving by households. However, statistics of monetary incomes use makes possible to estimate the quantity of private incomes movement by indirection. The item “exceeding private incomes above expenditures” reflects potential migration of money, parallel with change the amount of

private cash savings. If private incomes greatly exceed expenditures then most probably that the greater part of this difference is consumed abroad the region².

The exceeding private incomes above expenditures is equal 1,9% for Russia as a whole. Russian phenomenon, consisting in the exceeding private incomes above expenditures, is characteristic for “rich” and for “most poor” regions (for example, Pskov oblast). Vice versa, the exceeding private expenditures above incomes – uncommon case, it is typical only for regions - national and interregional service centre (such as St. Petersburg), recreation zones and zones of market entry (including Kaliningrad oblast). These regions are accumulating funds from other regions for purchasing goods, services, foreign currencies and bank deposits.

The algebraic sum of three finance flows is compared with balance of GRP in table 6. The main result - concordance of directions of (net) trade balance and finance flows by four from six regions (excluding two less developed regions – Pskov oblast and Kaliningrad oblast). It means, that regions don't use a part of its finance potential for internal economic and social needs.

The sum of three finance flows as a whole “interprets” balance of GRP for six regions on 73,7%.

Conducted analysis of real and potential finance flows is included only the part of existing finance funds channels in the system “region – country – world”. The main nonregistering channel – own funds of enterprises. There is some information about these flows in consolidated finance balance-sheet of regions; however, contents of balance item demand methodological specification.

In the future, it is necessary to find info-methodological possibilities for estimation of lack of convergence between finance and trade flows in time, as well as regional holdings, influence of non-resident activity etc. The final target of the future research — construction of the *balance of payments for regions*, correlated with regional accounts and national balance of payment.

4. Comparisons of GRP of Russian regions and GDP of neighboring European countries

The proper economic comparisons of countries and regions are supposed the measurement of purchasing power distinctions to national currencies and single currency inside the country.

The most objective among existent international comparison methods of GDP is comparison by *the parity of purchasing power* (PPP). International comparisons of GDP by PPP are carried out in UN Program of International Comparisons. The last research was implemented to 1999 for 43 countries, including Russia and all European countries [8].

Table 7.

GDP by parity of purchasing power for 1999

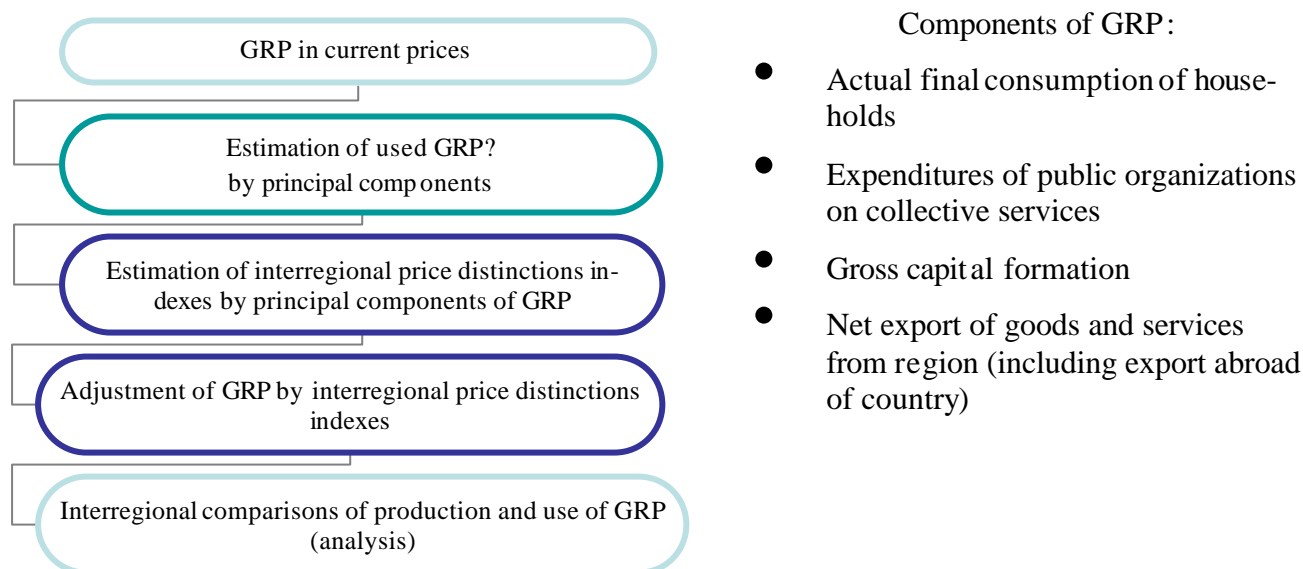
	GDP, mln. US\$	GDP per capita, US\$	How many times GDP per capita more than Russian
Norway	129,5	29025	4,78
Finland	120,9	23413	3,86
Estonia	12,3	8519	1,40
Latvia	15,8	6624	1,09
Lithuania	28,1	7595	1,25
Poland	348,2	9008	1,48
Russia	887,7	6067	1,00

PPP is equal 5,41 rub./US\$ for Russia, it is less than average annual exchange rate in 1999 (24,62 rub./US\$) in 4.55 times. Data for neighboring European countries are cited in table 7.

All comparable European countries exceed average Russian GRP per capita by PPP. Evidently, only advanced Russian regions can compete with some European countries by this indicator.

The basic methodological approach of international comparisons of GDP should be used to interregional comparisons of GRP. In this case, PPP of region is determined as amount of nominal rubles, having the same level of purchasing power, as one ruble in average conditions (i.e. in the case of average prices on some standard goods basket). Estimation of regional PPP is especially important for Russia, as goods and services prices are differed for regions in many times.

Adjustment of GRP for Russian regions was made by the following methodological scheme:



The estimation methodology of interregional price distinctions and results of conducted correction of produced and used of GRP are described in [6]. Results of corrections for six examined regions are in the table 8.

Table 8.

Indexes of comparable level of prices by components of final use of GRP and correction indexes for GRP for 1999

	Indexes of comparable level of prices (Russia = 1,00)			Correction indexes for GRP	
	Actual final consumption of households	Expenditures of public organizations on collective services	Gross capital formation	Use GRP	Produced GRP
Murmansk oblast	1,3017	2,1787	1,1629	0,8279	0,8770
Republic of Karelia	0,9768	1,5906	1,0333	1,0628	1,0492
Leningrad oblast	0,9524	1,0133	0,9148	1,1265	1,1069
St. Petersburg	1,0916	1,0204	1,1094	0,9711	0,9740
Pskov oblast	0,8725	0,9909	1,0561	1,1958	1,1889
Kaliningrad oblast	0,9787	1,0086	1,0398	1,0840	1,0825

Conducted correction changes GRP per capita and ratio of these indicators to average Russian level (table 9). An advantage of leading regions have decreasing - Murmansk oblast and St. Petersburg; the rest regions have increasing. The gap between regions by

GRP per capita has been decreased: by produced GRP – from 2,86 to 2,11, by used GRP – from 2,11 to 1,64.

Table 9.

Production and use of adjusted GRP per capita for 1999, in % to Russian average.

	Production	Use
Murmansk oblast	130,3	103,3
Republic of Karelia	96,8	90,2
Leningrad oblast	95,4	96,3
St. Petersburg	109,4	115,3
Pskov oblast	61,9	70,5
Kaliningrad oblast	65,0	75,1

GRP of Russian regions (in rubles) were recalculated by PPP (5.41 rub. For 1 US\$) for the comparisons GRP of Russian regions and GDP of other countries.

Table 10.

GRP per capita by parity of purchasing power for 1999, US\$

	By methodology of adjustment of GRP (PPP = 5,41 rub./US\$)	With adjustment coefficient (1,1468)
Murmansk oblast	6864	7871
Republic of Karelia	5100	5849
Leningrad oblast	5022	5759
St. Petersburg	5760	6606
Pskov oblast	3258	3736
Kaliningrad oblast	3421	3923

Moreover, taking into consideration that in 1999 the total GRP (for all regions of Russia) was on 12,8% less than GDP of Russia (because of undistributed part of “federal” services). Therefore adjustment coefficient should be used for international comparison of GRP; its average level is 1,1468 ($1:0,872=1,1468$). Apparently, this coefficient must be bigger for examined regions, because the enlarged share of “federal” activities, such as custom and frontier services, servicing of military bases etc., is typical for these regions. However the average adjustment coefficient is taken into calculations for reliability of results (table 10).

Table 11.

Comparison of GDP per capita of European countries and GRP of regions of the Russian Federation by parity of purchasing power (with adjustment coefficient), times

Regions of Russia EU countries	Murmansk oblast	Republic of Karelia	Leningrad oblast	St. Petersburg	Pskov oblast	Kaliningrad oblast
Norway	3,7	5,0	5,0	4,4	7,8	7,4
Finland	3,0	4,0	4,1	3,5	6,2	6,0
Estonia	1,1	1,5	1,5	1,3	2,3	2,2
Latvia	0,8	1,1	1,2	1,0	1,8	1,7
Lithuania	0,96	1,3	1,3	1,15	2,0	1,9
Poland	1,1	1,5	1,6	1,4	2,7	2,3

Comparison the table 7 and 10 and constructed on theirs base the table 11 allows to draw a conclusion that the examined European countries, especially, Norway and Finland, essentially exceed neighboring Russian regions by the economic development. Only Murmansk oblast takes the lead over Latvia and Lithuania, and St. Petersburg practically is not backward Latvia. It is appropriate mention here, that Republics of Baltic exceeded all other union republics in the USSR and most part of Russian regions.

It is our opinion that the comparison of GRP and GDP can be useful for researching of prospects of transboundary economic relationships of Russian regions and European countries including in the context of expansion policy of the European Union.

Footnotes

1. The correlation coefficient of GRP per capita in ruble (y) and export per capita in US\$ (x_E) for all regions of Russia for 2000 is equal 0,918. Linear regression is:

$$y = 17964 + 36,56 x_E$$

(12,32) (20,34)

$$R^2 = 0,843, \quad F = 413,6.$$

Regression of GRP per capita index (in % to Russian average) Y to index of export per capita (in % to Russian average) X_E and share of market services in GRP (in %) X_{MS} :

$$Y = 19,13 + 0,5637 X_E + 0,7577 X_{MS}$$

(2,11) (20,92) (2,62)

$$R^2 = 0,856, \quad F = 225,9.$$

Complete analysis is represented in [5].

2. The purchasing of securities and currency are the individual items in the structure of expenditures of personal incomes. Evidently, that the securities in private ownership, especially currency, have interregional and international mobility.

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