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Income Inequality across the regions of Russian Federation (1995 – 2003 years)

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Abstract

The main topics of this paper are to investigate the tendencies on income distribution inequalities inter and across the subjects of Russian Federation (RF) during 1995-2003 years. Three aspects of this problem have been taken under consideration. The first one has been to analyze the range of CINI coefficients and their dynamics through the set of all regions (subjects), composed the Russian Federation. For this the values of GINI coefficient, published by ROSSTAT (GOSKOMSTAT) in yearbooks "Regions of Russia. Social and Economic Indicators" for all subjects at 1995 - 2005 years, have been used. The second one has been to compare the evolution of income structure. It means to compare the share of total income, obtained by five sources: (1) wages (salaries); (2) business (enterprise) activity; (3) social transfers; (4) property; (5) other income's sources. Finally the attention has been focused on the "spatial differentiation". For this total income distribution across the subjects of Russian Federation as well the distributions of its five, indicated above, parts have been calculated. GINI and FUND coefficients have been determined to design the spatial inequality in these income distributions across the regions. The evidence from analyzed data has been argued that: (A) there are clear tendency to rising of income distribution inequality within and inter the regions during the time; (B) the inter regional range of GINI is very high and pointing at wide variety of socio-economic situation through the subjects; (C) there are an enormous and growing up distinctions between cross regional distribution of total income and their five parts, especially for the total income from "property".

Key words: Russia, regions, income distribution, structure of income, spatial inequality, GINI coefficient, FUND coefficient.

I. Introduction

The Poverty and Income Inequality, as well as increasing or very low level of GDP per capita in RF have been the most important and stable problems of socio-economic development in Russia during last fifteen years. More then eighty subjects (regions) have been composed The Russian Federation, so to clear understand the contemporary situation and to find out and to formulate the set the optimal decisions concerning the futher development of the Russia as a whole, it needs to investigate the levels and trajectories of social and economical evolution of each regions of Russia Federation. It's also very important to determine the way, how to achieve the Millennium Development Goals by 2015. Income inequality as well as the poverty is the one from the most topically subjects of investigations, political and scientific discussions and publications. The continuous and stable attention to this problem has been determined by two reasons (at least). First of all there is wrong influence of this phenomena on Well-being of population and social stability. Otherwise the clear and constructive answers for the numerous questions about the factors and trends of income inequality within, inter and across the different social group of population and regions of RF have not been found out. The principle question: "Why measure inequality?" formulated by L. Kaplow (2005) sounds very actual.

The main topics of this paper are to investigate the tendencies on income distribution inequalities inter and across the subjects of Russian Federation (RF) during 1995-2003 years. Three aspects of this problem have been taken under consideration. The first one has been to analyze the range of CINI coefficients and their dynamics through the set of all regions (subjects), composed the Russian Federation. For this the values of GINI coefficient, published by ROSSTAT (GOSKOMSTAT) in yearbooks "Regions of Russia. Social and Economic Indicators" for all subjects at 1995 - 2005 years, have been used. The second one has been to compare the evolution of income structure. It means to compare the share of total

income, obtained at average of all people in subjects by five sources: (1) wages (salaries); (2) business (enterprise) activity; (3) social transfers; (4) property; (5) other income's sources. Finally the attention has been focused on the "spatial differentiation". For this total income distribution across the subjects of Russian Federation as well as the distributions of its five, indicated above, parts have been calculated. GINI and FUND coefficients have been determined to design the spatial inequality in these income distributions across the regions. The evidence from analyzed data has been argued that: (A) there are clear tendency to rising of income distribution inequality within and inter the regions of RF during the time; (B) the inter regional range of GINI is very high and pointing at wide variety of socio-economic situation through the subjects; (C) there are an enormous and growing up distinctions between cross regional distribution of total income and their five parts, especially for the total income from "property".

Table 1. Dynamics of GINI coefficient (per cent) in RF, US, Finland, Canada and China

Year *	Russian Federation	United States	Finland *	Canada	China
1990	26.9	42.7	38.9	-	35.7
1991	32.4	44.9	39.5	41.5	37.3
1992	54.2	43.2	41.9	28.3	36.3
1993	50.0	45.1	45.3	33.6	32.0
1994	44.6	45.3	46.1	33.9	33.0
1995	47.1	44.8	46.0	34.3	45.2
1996	50.1	45.0	46.4	34.9	39.0
1997	39.3	45.5	46.9	35.2	33.0
1998	39.8	45.3	46.7	35.5	40.3
1999	48.4	45.5	47.2	35.9	-
2000	45.3	45.7	47.2	36.5	39.0
2001	52.1	46.3	46.6		-
2002	49.1	46.2	46.2		-
2003	49.1	46.4	46.4		44.9

* Source: World Income Inequality Database V 2.0a June 2005. If for some country there are two or more estimations of CINI, the highest from them has been taken out for comparison by years.

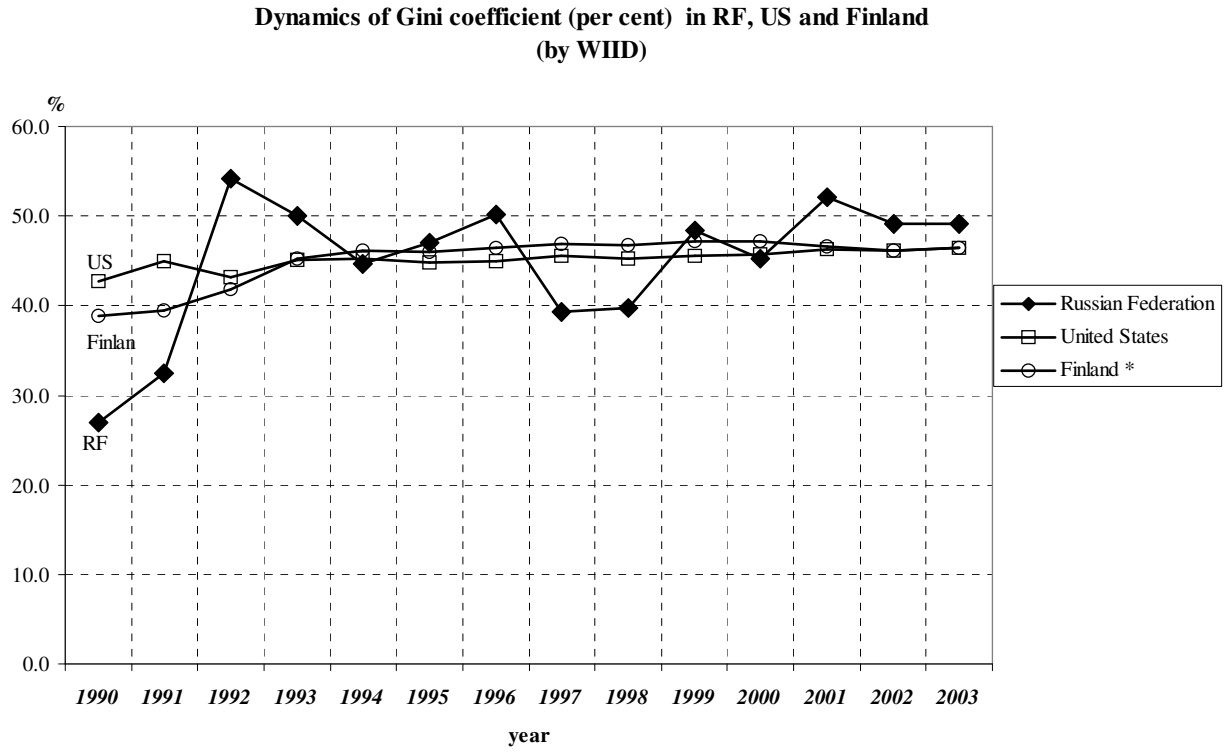

Figure 1.

Income inequality as well as the poverty is the one from the most topically subjects of investigations, political and scientific discussions and publications. To display that not only the level of inequality but another, for this paper – latent factors are very important for explanation and making forecast about farther evaluation of social and economic situation in different country, especially as to concern the poverty, the GINI coefficients have been extracted from WIID (Table 1, Figure 1) for some countries.

Among the five countries the four ones are the Federations, the two of them – developed and the two others – in transition. Finland has been taken place in the Table 1 as the example of the State with stable economy and high levels of living standard, democracy and equity. Obviously that the range in GINI between US and Finland, Canada and China are not very high, but it's well known that at the same time there are the big differences in levels of GDP per capita, poverty, life expectation at birth and other demographic indicators. Otherwise the proposed data has been indicated exactly that the processes of growing up or

decreasing of GINI have been going on slowly into four countries but not in Russia (Figure1). The additional reason to consider more precisely the dynamics of GINI coefficient in Russia and inter and across its subjects has applied by comparison.

As the wide variety of ethics, philosophic, economics and statistical aspects on population inequality by income the scale of income inequality has been also the most debatable issue. There are many approaches to GINI estimation. For illustration three different values of GINI, calculated by various methods, presented below (Table 2). The obvious disparity from these estimations has been shown by data.

Table 2. GINI Coefficient for Income distribution in Russian Federation, percent

Years	***1990***	***1995***	***2000***	***2001***	***2002***	***2003***	***2004***
GINI – HDR RF2004[1]	28.9*	38.7	39.9	39.6	39.8	40.2	-
GINI – WIID [2]	25.9	47.1	43.2	42.2	49.1	-	-
GINI – Rosstat [3]	-	38.0	37.6	37.4	37.12	37.36	40.7

**1992 year*

Sources:

1. Human Development report. RF, 2004. – VES MIR Publishers, Moscow, 2004. p. 49.
2. "UNU-WIDER World Income Inequality Database, Version 2.0a, June 2005". – UNU/WIDER, 2005. ***http://www.wider.unu.edu/wiid/wiid.htm***
3. Regions of Russia. Social and Economic Indicators Yearbooks. – M.: ROSSTAT (GOSKOMSTAT), 1995 – 2005.

It's easy to see that the values of GINI coefficients estimated by ROSSTAT have been the lowest among another ones for all years. Of course there are many questions for discussion about the different approaches to GINI calculation. But for consideration of dynamics and differentiations of inequality on income distribution within and through subjects of Russian Federation we have got the only GINI estimations prepared by ROSSTAT.

II. GINI coefficients: Dynamics and differentiation through Subjects of Russian Federation

The sheet of GINI coefficients for 76 regions of RF 1995, 2000 – 2004 years has been placed in APPENDIX I, Table AI. Some Figures have been done also in it for illustration of tendencies in GINI dynamics.

Table 3. Statistics of ranges of GINI coefficients by regions of RF *

	GINI - 1995	GINI - 2000	GINI - 2001	GINI - 2002	GINI - 2003	GINI - 2004	Ratio G-2000 / G-1995), percent	Ratio G-2004 / G-2000, percent
Russian Federation	38.0	37.6	37.4	37.1	37.4	40.7	98.9	108.2
Sakhalin region- MIN	22.2	29.2	30.4	33.2	35.1	37.7	131.3	129.1
Omsk region- MEDIAN	29.0	29.3	30.8	33.8	36.0	39.6	101.2	135.1
Tyumen region – MAX **	41.1	42.2	41.1	41.6	41.8	45.0	102.8	106.5
The City of Moscow - Outlier	52.0	56.4	56.0	55.5	54.0	57.8	108.5	102.4

* The Subjects of RF sorted by GINI in ascending in 1995.
** Maximum GINI has been determined for all regions, excluding The City of Moscow.

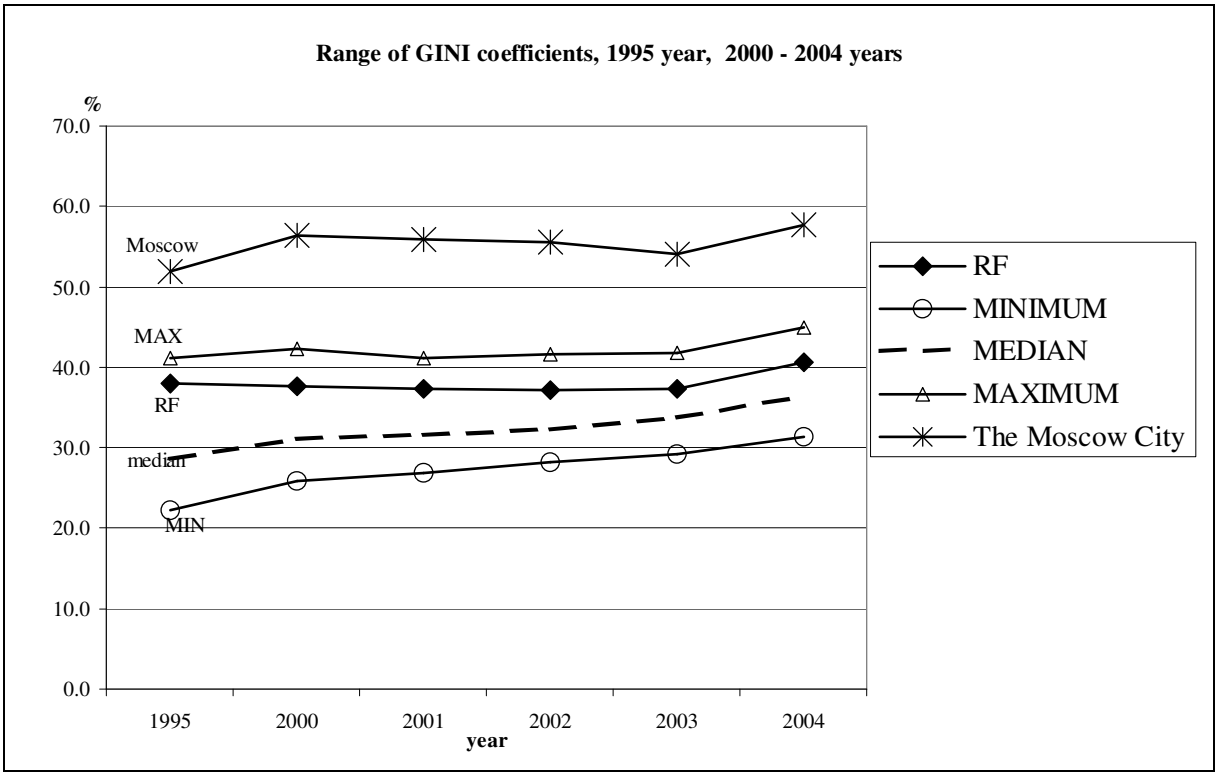

Figure 2.

Table 3 has been contained some short extraction from the Table AI. The data has been displayed the dynamics of main descriptive statistics of range of GINI coefficient through the considered period of time: Minimum, Median and Maximum values of GINI.

The evidence from Table 3 and Figure 2 (and well as the data placed in Appendix I) have been indicated clearly that GINI coefficient has been demonstrated stable tendencies for growing up through all subjects and during the time. The rate of increasing has been especially high in the regions with comparatively low GINI in 1995. It needs to emphasize that values of GINI have made "the big jump" during 2003 – 2004. As to concern The City of Moscow – it has been the Outlier all the time. It's the important conclusion from of analysis, because the influence of The City of Moscow has been very significant to average estimations of statistical indicators for Russian Federation as a whole. Its weight is very high, so for futher investigations would be more correctly to analyze separately the Capital of FR and the all other Subjects of RF.

The estimations of GINI coefficients have been based on income distribution by quintiles (20%) of population ranged from the poorest to the wealthiest. To display why the values of GINI across the subjects of RF so differ, the examples of the income distributions by quantities in RF and in the three regions have been given in Table 4.

Table 4. Income distribution by quintile in 1995 and 2004 years, percent

	1st (lowest income0	**2nd**	**3rd**	**4th**	**5th |(highest income)**	**Total income**
RF - 1995	5.5	10.2	15.0	22.4	46.9	100
RF - 2004	5.4	10.2	15.1	22.7	46.6	100
Sakhalin region - 1995	10.1	14.7	18.5	22.9	33.8	100
Sakhalin region - 2004	6.2	11.0	15.8	22.9	44.1	100
Tyumen region - 1995	4.7	9.2	14.3	22.3	49.5	100
Tyumen region - 2004	4.5	9.0	14.1	22.2	50.2	100
The City of Moscow - 1995	3.0	5.5	9.2	23.1	59.2	100
The City of Moscow - 2004	2.7	5.4	9.9	20.1	61.9	100

The data above could dispose to make the three simple and obvious conclusions by regarding them. The First one is: the shares of 4th quintile have been the most stable and income redistribution has effected on the poorest and wealthiest groups of population. Why? The second one is: The City of Moscow has been demonstrated the enormous and rising inequality in income distribution: the sixty percent of population have had got less then twenty percent of total income. The Third conclusion might point out that income distribution in Russian Federation (at average) has been stable during last ten years. But it's not really true. The average estimations of varieties of social-economic indicators for Federations have hidden away the real gap in Well-being across the regions and social groups of population.

III. Inequality of Spatial Income Distribution (Spatial Inequality).

GINI coefficient is one from the most important and useful indicators of inequality of population distribution by income. In previous section this aspect pf income inequality has been observed. But for understanding the processes of social-economic transformation of RF it needs to take for consideration another aspect of income inequality named "spatial" or "horizontal spatial inequality", or "cross-regional distribution" in publications (see Bibliography).

In this sector of the paper the subjects of RF have been the objects of analyses. The regional indicators have been taken on consideration: number of population, total monetary income of population in region and the total income structure. The attention has beennfocused on the distribution of Total Monetary Income (***TMI***) across the regions of Russian Federation. There are two main goals - to measure and to display the disparity between distribution of population by regions and the distribution of TMI across the subjects of RF. The territory of RF is very large and the density of population is very different. If the distribution of TMI by regions is the same as the one of population, it could say about equality in it. If there are some

distinctions between the spatial distributions, it should be pointed out and estimated. To make it up some approach has been proposed and done in the paper.

To compare the distributions mentioned above the consistency of steps has been executed for each year of considered in paper period of timee. Below the logical algorithm of calculation has been presented.

- ✓ The subjects of RF have been ranged by income per capita in descending.
- ✓ The range of regions has been divided for ten groups (7 – 8 subjects in each 10% groups).
- ✓ For each of regions, for each deciles group of regions and for Russia as a whole the ***TMI*** have been estimated. For this the statistical information about income per capita and numbers of population have been used.
- ✓ The spatial distribution of population by territory of RF has been calculated.
- ✓ The analogical spatial distributions of ***TMI*** by regions and summarized by groups ***TMI*** have been determined also.
- ✓ Finally, GINI coefficient and FUND for Spatial Distribution of population and ***TMI*** across ten groups of regions have been calculated and compared.

Income Structure. In Russian Federation monetary income of population has been formed from different kind of sources. Official statistics published by ROSSTAT have given away the information describing the distribution of Total monetary income by five types of sources for all regions and RF (at average for year). These five components have been composed the 100% of Total Monetary Income of population. They have beeb listed below:

1. wages (salaries) (further –*TMI-1*),
2. business (enterprise) activity (*TMI-2*),
3. social transfers (*TMI-3),*
4. property (*TMI-4*),

5. other incomes (*TMP-5*).

The comparative studying of income structure in regions of RF as well as their dynamics has been the separate statistical and economical part of investigation on level, tendencies and factors of income inequality within and across the regions of Russian Federation. For illustration of the varieties of income structure some data has been taken into Appendix III. “Other incomes” has been dominated in income structure of The City of Moscow In contrast to RF (at average) and the two other regions. One of them, Republic of Kalmykia, has had the lowest share of total income from wages, the others (Magadan Region) - the highest one. Remember that in The City of Moscow GINI coefficient has been the highest during last ten years.

To present the algorithm of GINI and FUND’s coefficients more precisely the formal description of variables has been displayed below.

Initial statistical variables.

The objects of investigation have been the 76 regions of Russian Federation. They have been included the 99.5% population in Russia. The following initial variables have been used in analysis.

The time series have been composed by the nine points, 1995 to 2003 years, so

$\{t_l : t_1 = 1995,\ldots,t_9 = 2003, \quad l = 1,\ldots,9\}$

$P_j(t_l)-$ numbers of population in region j, $\quad j = 1,\ldots,76$;

$inc_j(t_l)-$ income per capita (rubles at month) in region j at time t_l;

$\mathrm{A}_j(t_l) = \{\alpha_j^1(t_l), \alpha_j^2(t_l), \alpha_j^3(t_l), \alpha_j^4(t_l), \alpha_j^5(t_l)\} = \{\alpha_j^k(t_l), \quad k = 1,\ldots,5\}$ – vector of the five components of the total monetary income (*TMI*) in region j. Obviously that

$0 \le \alpha_j^k(t_l) \le 1, \quad k = 1,\ldots,5; \quad \sum_{k=1}^{5} \alpha_j^k(t_l) = 1.$

The five components of vector $A_j(t_l)$ have been indicated the shares in *TMI* the monetary incomes from the listed above five sources:

1. $\alpha_j^1(t_l)$ – wages (salaries) (further –*TMI-1*),
2. $\alpha_j^2(t_j)$ – business (enterprise) activity (*TMI-2*),
3. $\alpha_j^3(t_j)$ – social transfers (*TMI-3),*
4. $\alpha_j^4(t_j)$ – property (*TMI-4*),
5. $\alpha_j^5(t_l)$ – other incomes (*TMP-5*).

Spatial Income Distribution calculation.

(a) Using the describing above initial statistical variables, the values of Total Monetary Incomes (*TMI*) and values of each from their five components has been calculated:

$INC_j(t_l) = P_j(t_l) * inc_j(t_l)$ – *TMI* in regions j, j, $j = 1,\ldots,76$

$INC(t_l) = \sum_{j=1}^{76} INC_j(t_l)$ *TMI* in Russia.

$INC_j^k(t_l) = INC_j(t_l) * \alpha_j^k(t_l)$ – values of *TMI-k* in regions , j, $j = 1,\ldots,76$

$INC^k(t_l) = \sum_{j=1}^{76} INC_j^k(t_l)$ values of *TMI-k* in Russia, $k = 1,\ldots,5$

(b) Then the Distribution of ***TMI*** and their five components across the regions of Russia has been estimated:

$$B^{/}(t_l) = \{\beta_1(t_1),\ldots,\beta_j(t_l),\ldots,\beta_{79}(t_l)\}^{\backslash} = \{\beta_j(t_l): j = 1,\ldots,76\}^{\backslash}$$

The components of vector- column of ***TMI*** distribution across 76 regions of Russia has beeb determined as:

$$\beta_j(t_l) = {}^{INC_j(t_l)}\!\!\diagup\!\!_{INC(t_l)}, \quad 0 \le \beta_j(t_l) \le 1, \quad \sum_{j=1}^{76} \beta_j(t_l) = 1$$

By analogy the distributions of each five ***TMI*** components by the regions of Russia have been determined:

$$\mathrm{B}^{/k}(t_l)=\left\{\beta_1^k(t_1),\ldots,\beta_j^k(t_l),\ldots,\beta_{76}^k(t_l)\right\}^{\vee}=\left\{\beta_j^k(t_l):\ j=1,\ldots,76;\quad k=1,\ldots.5\right\}^{\vee}$$

$$\beta_j^k(t_l)=INC_j^k(t_l)\Big/INC^k(t_l),\qquad 0\le\beta_j^k(t_l)\le 1,\quad \sum_{j=1}^{76}\beta_j^k(t_l)=1,\quad k=1,\ldots.5$$

(c) At the third step of analysis all regions have been ranged by $inc_j(t_l)-$ income per capita (from the poorest to the wealthiest). Ten groups of regions have been composed by rank. The distributions of $INC(t_l)$ and $INC^k(t_l)$ across the groups have been considered. The results of analysis have been displayed below.

Spatial FUND and GINI coefficients during the time

The FUND and GINI coefficients have been displayed in Tables 5 and 6. FUND coefficient has been estimated as ration of the Total monetary income, summarized by regions in wealthiest group, to TMI, summarized in the poorest ones. FUND coefficient, calculated by spatial population distribution has been stable. At the same time Fund coefficients calculated for TMI and its components have been points out to the significant divergence in spatial distribution of different parts of total income. Especially it's concern the differences in spatial distributions of incomes obtained from "property" and "other incomes". It needs to underline that "other incomes" has been included the income from "shady economy". The comparative analysis FUND coefficients dynamic has been indicated that enormous concentration of income from property ***(TMI-4)*** into the richest group of regions. But ant the same time this concentration has not been followed by increasing of business (enterprise) activity ***(TMI-2)***.

The same result of analyzing argued by comparison dynamics of FOUND with dynamics of GINI coefficients (Table 6.). These conclusions have been confirmed by Lorenz curves also (Appendix III. Table AIII - 3). In conclusion it could say that more questions have been found out from the results of investigation of spatial income distribution across regions

of RF then the answers have been obtained. One of the question could be formulated as: " What and how the institutional rules have influenced for economic activity of populations and why the existing rules have been leaded to enormous redistribution total monetary income and its components across the regions of Russian Federation?"

Table 5. Dynamics of FUND coefficient*

Years	***Population***	***TMI***	***TMI-1***	***TMI-2***	***TMI-3***	***TMI-4***	***TMI-5***
1995	2.4	15.1	12.4	11.6	4.1	19.4	34.5
1996	2.2	14.7	10.8	13.4	4.3	36.1	32.9
1997	1.7	10.6	7.5	10.1	2.6	50.3	24.8
1998	1.9	13.1	8.5	13.4	4.5	64.6	28.2
1999	2.2	15.7	10.8	13.8	5.0	107.8	30.9
2000	1.9	13.8	10.5	12.8	7.3	66.7	22.3
2001	2.0	13.9	12.6	8.9	8.0	90.3	18.7
2002	2.1	14.2	12.5	8.2	8.2	68.5	23.0
2003	2.3	15.5	15.0	8.0	7.6	62.5	22.5

Table 6. GINI coefficient for the Spatial Distribution of Total Monetary Income and its five components (percent)

Years	*TMI*	*TMI-1*	*TMI-2*	*TMI-3*	*TMI-4*	*TMI-5*
1995	27.70	22.73	20.44	6.92	31.97	49.28
1996	28.42	22.59	25.32	8.95	39.06	47.84
1997	28.40	23.24	28.18	4.69	51.17	43.86
1998	30.13	23.68	28.16	11.47	53.81	44.21
1999	30.00	23.94	24.52	9.61	56.89	42.24
2000	30.35	24.40	29.75	18.08	56.61	40.88
2001	30.03	26.19	24.13	19.27	57.21	38.86
2002	27.76	25.62	23.48	19.14	52.20	41.47
2003	28.62	24.89	20.00	14.39	49.94	39.36

At the end of this section of paper the list of stable seven the most richest region of Russia, composed the wealthiest group, has been listed: Tyumen Region, The City of Moscow, Republic O. Sakha (Yakutia), Chukotka Autonomous Oblast, Kamchatka Region, Magadan Region, Murmansk Region, Komi Republic. At the last time Sakhalin Region has been added to them.

Summery and Conclusions

The evidence from analyzed data about income distribution in Russian Federation across the subjects in last ten years (1995 – 2004) has been argued that: (A) there are clear tendency to rising of income distribution inequality within and inter the regions of RF during the time; (B) the inter regional range of GINI is very high and pointing at wide variety of socio-economic situation through the subjects; (C) there are an enormous and growing up distinctions between cross regional distribution of Total Monetary Income and its five components, especially from "property".

The results of comparative analysis have pointed out that The City of Moscow has been the Outlier at all the considered period of time. It's the important conclusion from of analysis, because the influence of The City of Moscow has been very significant to average estimations of statistical indicators for Russian Federation as a whole. Its weight is very high, so for futher investigations would be more correctly to analyze separately the Capital of FR and the all other Subjects of RF.

The evidence from investigation of spatial Total Income Distribution has displayed the wrong processes of its redistribution across the subjects of RF. Especially it could say about the redistribution from ***property*** and its enormous concentration into the richest group of regions.

The futher analysis will be focused on consideration of regions into multy dimensional space of socio-economic indicators. Federal and regional institutional factors of transitions will be also taken out for investigation.

ENDNOTES

1 See, for example, the publication of World Bank and UNDP "Human Development Reports", 1995-2004.

2 Comparative statistical analysis of the total income distributions across the subjects of Russian Federation during the ten years, 1995 to 2004 has been the separate and very important part of my common work. The data about income structure for some regions has been placed into Tables 5 and 6 only to display a wide variety of situations across

the regions of RF and to argue the necessity to deep research the tendencies of ranging the regions by different social – economic indicators.

3 Estimations of GINI coefficients have been based on the distributions of total income by 20% group of population, ranked by income per capita in it. These distributions have been published by ROSSTAT: Regions of Russia. Social and Economic Indicators. Yearbook. – M.: ROSSTAT, 1995 – 2005 years.

4 This work continues the previous publications. See, for example: (1) I. Guerassimova. The population Incomes in regions of Russian Federation. Comparative statistical Analysis. / WP-2000/088.– Moscow, CEMI RAS, 43pp. (rus). (2) I. Guerassimova, A. Kovalenko. Statistical analysis of income per capita average values in regions of Russian Federation. 1996-1999 years. / WP-2001/128.– Moscow, CEMI RAS, 81 pp. (rus). (3) I. Gerasimova. Dynamics of the distribution of GDP and Total Monetary Income across the regions of Russian Federation in 1995-2001 years (spatial approach). – Moscow, "Voprosi statistiki", 2004 (5). (4) I. Gerasimova. Inequality in economic development and income inequality across regions of Russian Federation. – Actual Social and Economic Problems of Russian Regions. – Ed. by Valery L. Makarov./ Moscow, CEMI RAS, 2005.

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Appendix I. Dynamics of GINI across the Regions of Russian Federation: 1995, 2000 – 2004 years

Table A1. GINI coefficient in subjects of RF: 1995, 2000 –2004 years. *

The regions of the Russian Federation	number of regions by range	GINI** - 1995	GINI - 2000	GINI - 2001	GINI - 2002	GINI - 2003	GINI - 2004	Ratio (GINI-2000) / (GINI1-1995), percent	Ratio (GINI-2004) / (GINI1-2000), percent
The Russian Federation		38.0	37.6	37.4	37.1	37.4	40.7	98.9	108.2
Sakhalin region	*1*	22.2	29.2	30.4	33.2	35.1	37.7	131.3	129.1
Vladimir region	*2*	23.8	27.4	27.2	28.1	29.6	31.4	115.2	114.8
Republic of Mordovia	*3*	23.8	32.0	31.7	31.0	31.6	33.6	134.5	105.0
Chuvashi Republic	*4*	23.8	28.4	28.5	28.8	30.7	33.6	119.2	118.5
Kirov region	*5*	24.0	26.7	27.5	28.6	30.0	32.4	111.5	121.3
Republic of Marij El	*6*	24.1	33.6	35.0	32.4	33.8	35.8	139.5	106.5
Leningrad region	*7*	25.3	25.8	26.8	28.5	29.3	32.1	102.1	124.2
Ivanovo region	*8*	25.6	28.7	28.5	28.7	30.4	32.4	112.4	112.8
Moscow region	*9*	25.6	30.2	30.8	32.2	33.6	36.8	118.2	121.9
Arkhangelsk region	*10*	25.7	27.4	29.4	31.4	33.1	35.9	106.5	131.2
Ryazan region	*11*	25.8	29.4	30.1	31.0	32.2	33.9	113.8	115.5
Kaliningrad region	*12*	26.2	28.6	28.7	30.0	30.5	33.0	109.3	115.2
Primorsky territory	*13*	26.4	29.5	30.0	31.6	31.8	35.1	111.8	119.1
Republic of Karelia	*14*	26.5	28.0	31.1	31.0	31.8	34.5	105.7	123.2
Republic of Kalmykia	*15*	26.5	33.4	34.3	34.7	34.9	36.5	126.1	109.3
Astrakhan region	*16*	26.5	29.0	29.7	31.6	33.8	37.0	109.5	127.6
Volgograd region	*17*	26.5	28.0	29.0	30.7	33.1	36.8	105.7	131.4
Penza region	*18*	26.5	28.6	29.0	29.0	30.4	32.6	108.2	113.8
Saratov region	*19*	26.6	28.3	29.4	30.0	32.0	34.3	106.6	121.1
Udmurtian Republic	*20*	26.8	26.5	27.8	28.8	29.3	32.6	98.7	123.1
Orenburg region	*21*	26.8	27.8	28.5	29.8	31.4	34.9	103.7	125.4
Lipetzk region	*22*	27.0	33.0	33.5	33.8	34.6	37.3	122.1	113.2

Kurgan region	*23*	27.0	35.1	34.2	35.0	36.1	38.2	129.9	108.9
Tver region	*24*	27.1	28.4	28.5	28.5	29.1	31.5	104.6	111.1
Republic of Khakasia	*25*	27.1	28.0	31.7	32.4	33.4	35.8	103.2	127.9
Bryansk region	*26*	27.2	29.5	29.1	30.8	32.7	35.5	108.4	120.4
Khabarovsk territory	*27*	27.6	31.2	31.8	33.5	35.4	38.1	113.0	122.1
Kursk region	*28*	27.7	30.1	31.2	31.4	32.7	34.8	108.5	115.7
Novgorod region	*29*	28.2	31.6	32.2	32.9	33.6	35.4	112.0	111.9
Republic of North Ossetia	*30*	28.2	31.7	32.4	30.7	34.1	36.1	112.3	113.8
Pskov region	*31*	28.3	28.0	27.8	29.5	31.4	34.2	99.0	122.1
Kabardino-Balkarian Republic	*32*	28.3	31.1	30.8	30.8	30.7	34.4	109.9	110.7
Rostov region	*33*	28.3	31.8	32.8	34.1	34.7	37.9	112.6	119.0
Karachaevo-Chercessian Republic	*34*	28.3	33.1	34.3	32.8	33.0	35.4	116.9	106.9
Ulyanovsk region	*35*	28.4	32.9	33.8	33.6	34.2	36.4	115.9	110.7
Smolensk region	*36*	28.6	30.6	30.4	31.4	32.4	35.0	107.3	114.2
Yaroslavl region	*37*	28.6	30.2	30.6	31.8	33.6	36.8	105.4	121.9
Tula region	*38*	28.7	26.5	27.7	29.1	29.7	32.6	92.3	123.1
Omsk region	*39*	29.0	29.3	30.8	33.8	36.0	39.6	101.2	135.1
Nizhni Novgorod region	*40*	29.4	31.4	31.1	32.1	32.2	35.0	106.8	111.6
Novosibirsk region	*41*	29.4	31.0	31.1	32.7	34.3	37.6	105.6	121.3
Republic of Komi	*42*	29.6	35.8	38.0	38.3	39.7	42.7	121.0	119.4
Vologda region	*43*	29.6	27.8	28.4	31.0	33.8	36.6	93.9	131.5
Murmansk region	*44*	29.7	33.8	33.4	34.0	34.7	37.1	114.0	109.6
Tambov region	*45*	29.7	32.9	34.1	33.8	35.0	37.6	110.6	114.4
Samara region	*46*	30.0	39.1	39.1	39.4	40.0	43.0	130.3	110.0
Voronezh region	*47*	30.3	31.4	32.6	33.1	35.1	37.8	103.4	120.5
Sverdlovsk region	*48*	30.4	31.1	31.0	33.2	35.4	39.9	102.4	128.4
Belgorod region	*49*	31.1	28.0	29.1	31.8	32.6	35.2	90.1	125.7
Chelyabinsk region	*50*	31.1	31.7	32.1	32.8	33.8	36.5	102.1	115.1

Republic of Bashkortostan	*51*	31.2	32.4	34.0	34.3	36.5	39.9	103.8	123.0
Republic of Tatarstan	*52*	31.6	34.6	34.2	34.9	36.1	39.1	109.5	112.9
Republic of Sakha (Yakutia)	*53*	31.8	32.1	32.6	33.6	36.0	38.6	100.8	120.3
Altai territory	*54*	32.2	33.6	34.0	33.8	34.3	37.0	104.3	110.1
Perm region	*55*	32.4	35.4	36.1	37.0	38.4	41.5	109.5	117.1
Republic of Adygeya	*56*	32.5	31.7	32.1	31.1	31.7	34.0	97.7	107.2
Republic of Altai	*57*	33.5	28.3	31.4	29.8	30.4	32.5	84.6	114.8
Tomsk region	*58*	33.5	31.5	32.7	34.3	34.9	37.8	94.0	120.1
Irkutsk region	*59*	34.2	37.2	36.8	37.2	37.9	40.8	108.9	109.6
Stavropol territory	*60*	34.6	31.4	31.4	31.8	33.1	36.1	90.5	115.1
Kamchatka region	*61*	34.9	31.4	31.8	32.8	34.1	36.5	89.9	116.4
Magadan region	*62*	34.9	27.0	27.4	30.5	35.7	38.4	77.4	142.2
Kaluga region	*63*	35.4	29.0	27.7	29.4	30.6	33.1	82.0	114.1
Kostroma region	*64*	35.4	30.4	31.5	31.7	32.4	34.8	85.9	114.6
Oryol region	*65*	35.4	32.8	33.6	33.5	34.1	37.1	92.6	113.2
The City of Sankt-Petersburg	*66*	35.4	32.0	31.7	32.4	36.1	41.0	90.5	128.1
Krasnodar territory	*67*	35.4	36.2	35.1	35.1	36.0	38.4	102.5	106.0
Kemerovo region	*68*	35.4	33.2	33.4	34.3	35.4	39.3	94.0	118.2
Republic of Buryatia	*69*	38.8	37.2	37.0	37.2	37.4	39.1	95.8	105.1
Amur region	*70*	39.7	30.2	30.4	32.0	32.4	35.1	76.1	116.2
Republic of Tuva	*71*	40.2	31.2	31.7	32.4	32.9	35.5	77.5	113.8
Krasnoyarsk territory	*72*	40.6	36.6	36.5	37.0	37.4	40.2	90.1	109.8
Tyumen region	*73*	41.1	42.2	41.1	41.6	41.8	45.0	102.8	106.5
Chita region	*74*	41.2	32.8	32.6	30.0	34.3	37.0	79.6	112.9
The City of Moscow	*75*	52.0	56.4	56.0	55.5	54.0	57.8	108.5	102.4
Republic of Dagestan	*76*		34.3	35.6	33.4	33.1	36.4		106.1

* The regions have been ranged by GINI in 1995 year from lowest to highest values.
** GINI coefficients have been based on income distribution by quintiles (20%) of population ranged from the poorest to the wealthiest

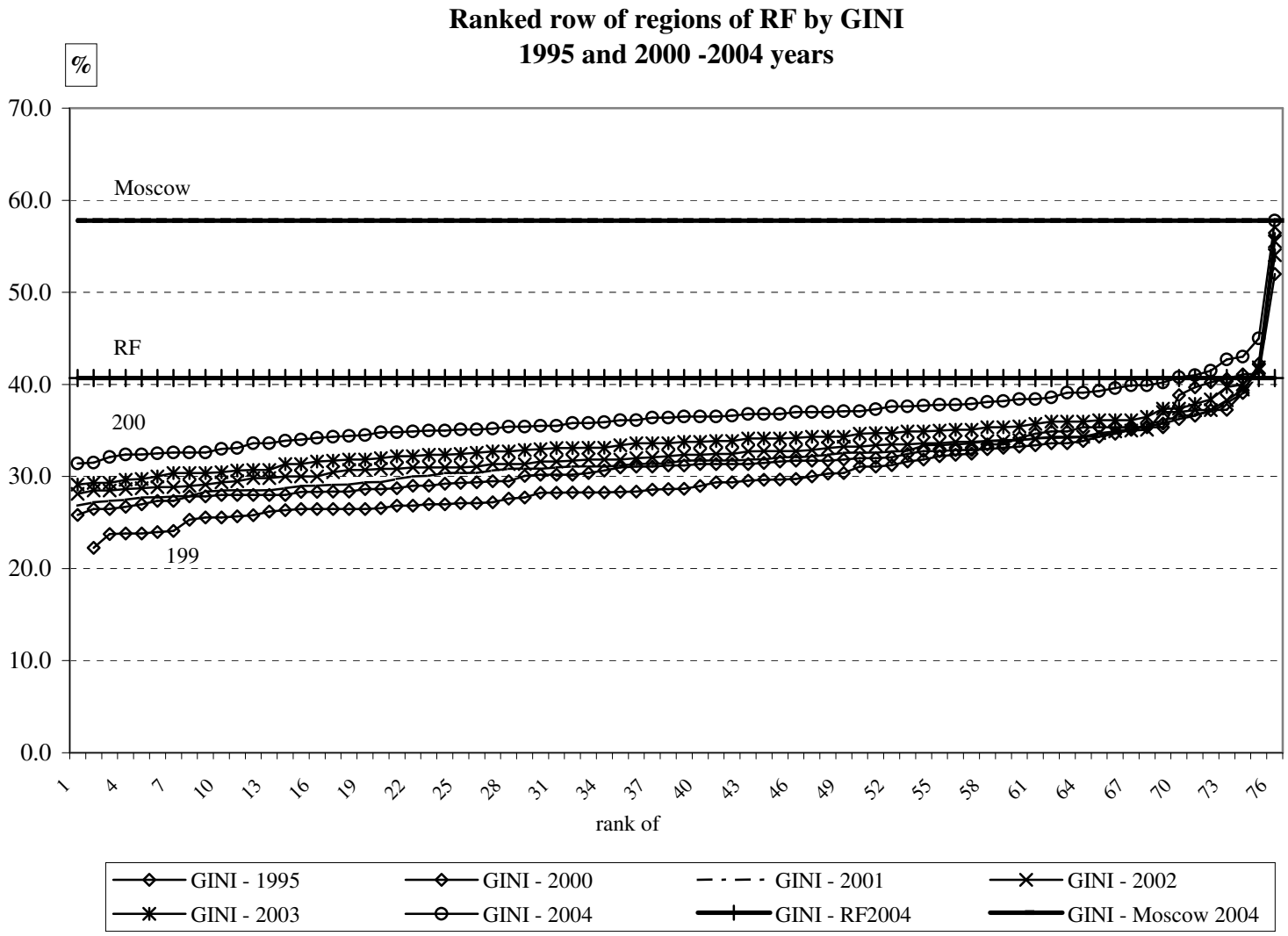

Ranked row of regions of RF by GINI
1995 and 2000 -2004 years
%
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Moscow
RF
200
199
1
4
7
10
13
16
19
22
25
28
31
34
37
40
43
46
49
52
55
58
61
64
67
70
73
76
rank of
GINI - 1995
GINI - 2000
GINI - 2001
GINI - 2002
GINI - 2003
GINI - 2004
GINI - RF2004
GINI - Moscow 2004

Figure AI-1

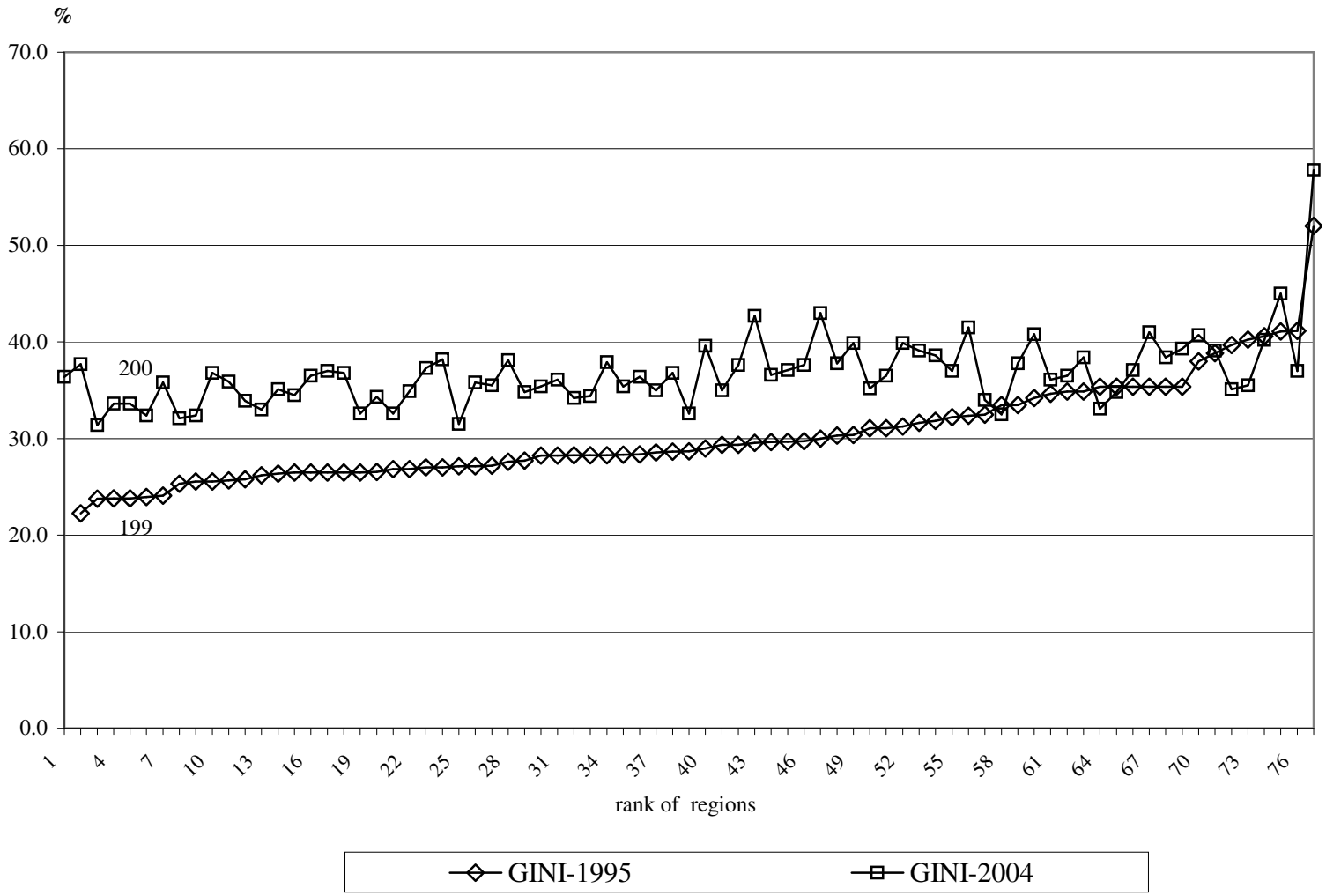
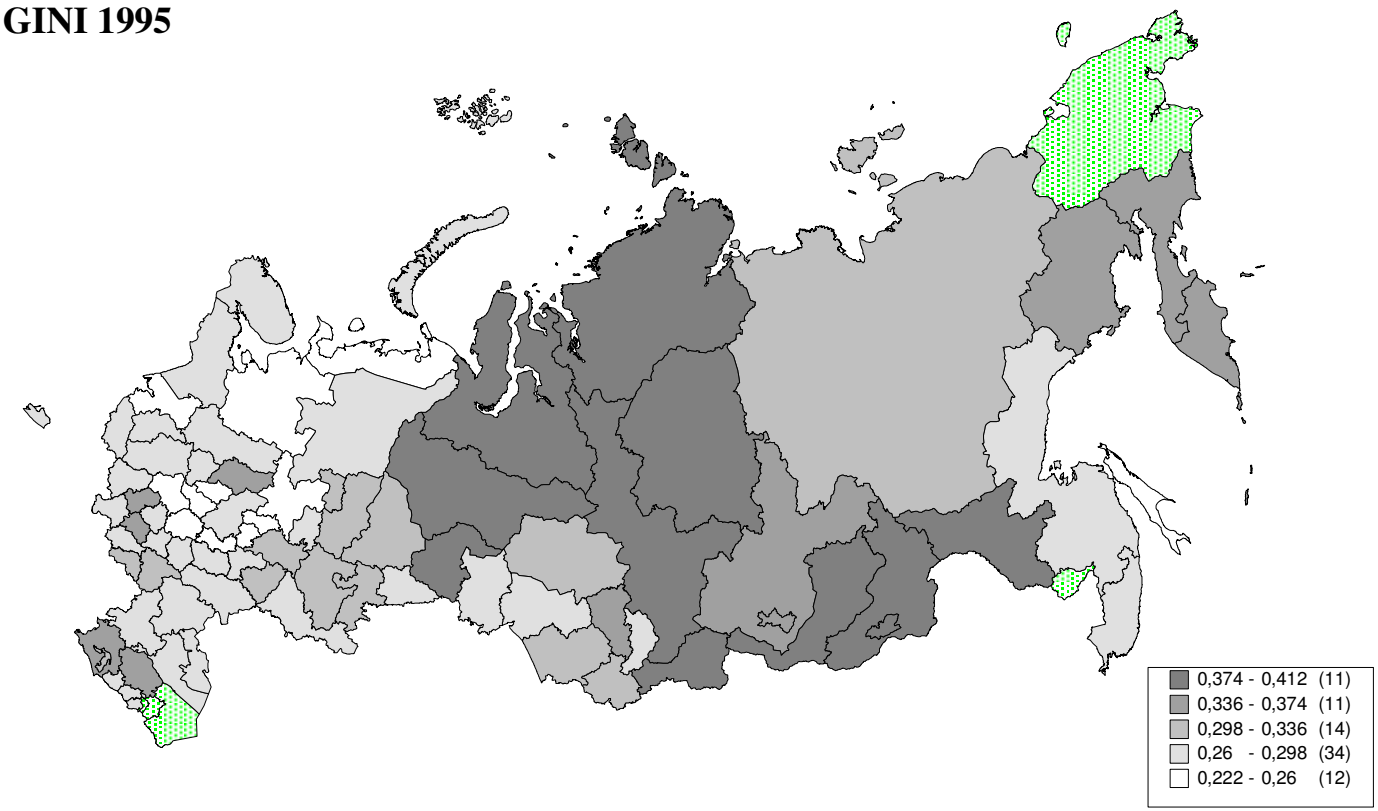

Comparison of GINI in Regions of RF in 1995 and 2004 years. (Regions ranked by GINI-1995)
%
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
200
199
1
4
7
10
13
16
19
22
25
28
31
34
37
40
43
46
49
52
55
58
61
64
67
70
73
76
rank of regions
GINI-1995
GINI-2004

Figure AI-2.

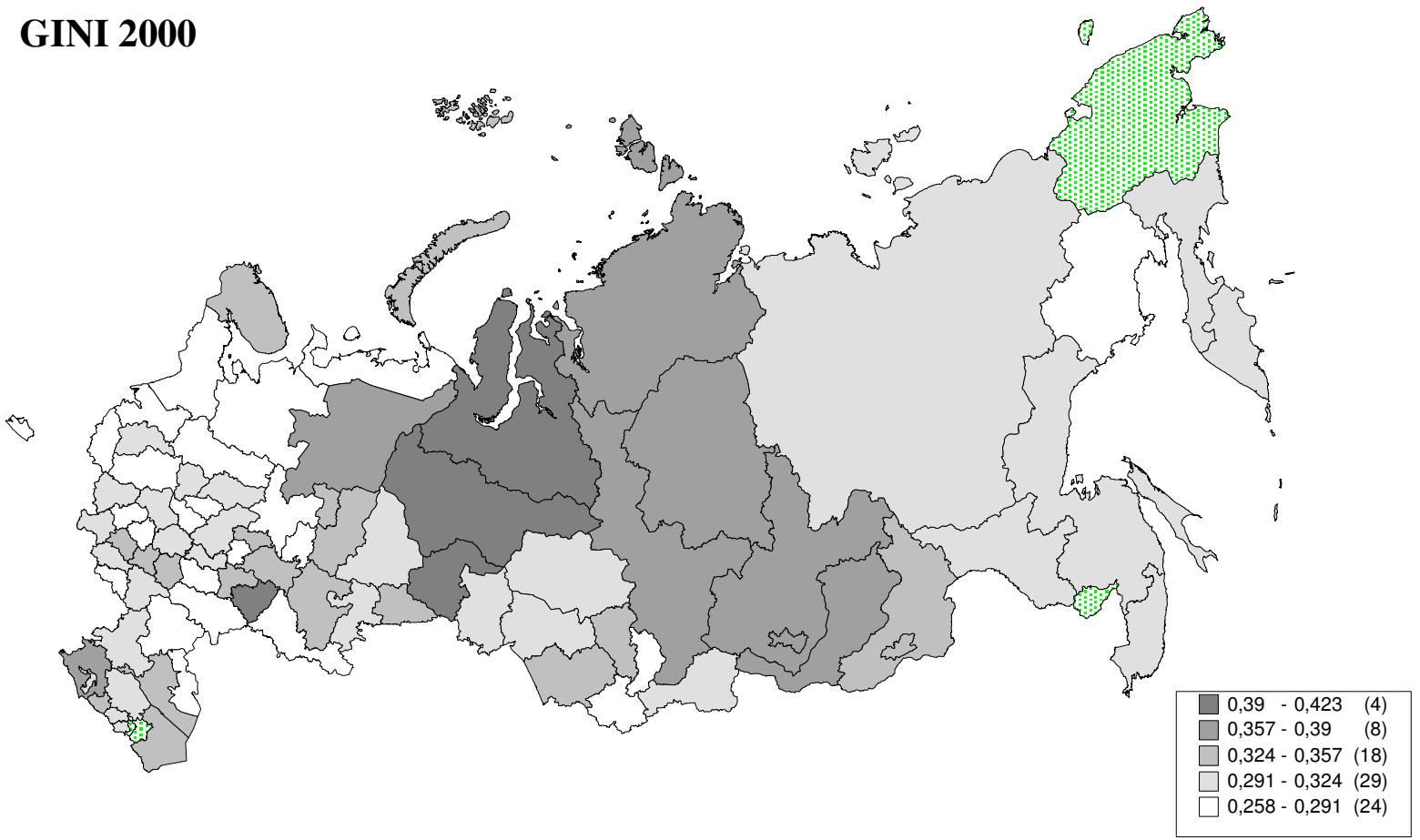
Key for MAPS GINI coefficients for Regions of Russian Federation 1995, 2000-2004 гг.

1995 0,374-0,412 (11) 0,336-0,374 (11) 0,298-0,336 (14) 0,26-0,298 (34) 0,222-0,26 (12)	**2002** 0,389-0,416 (4) 0,362-0,389 (9) 0,335-0,362 (15) 0,308-0,335 (35) 0,281-0,308 (20)
2000 0,39-0,423 (4) 0,357-0,39 (8) 0,324-0,357 (18) 0,291-0,324 (29) 0,258-0,291 (24)	**2003** 0,395-0,419 (5) 0,369-0,395 (8) 0,343-0,369 (22) 0,317-0,343 (32) 0,291-0,317 (16)
2001 0,384-0,411 (4) 0,355-0,384 (10) 0,326-0,355 (16) 0,297-0,326 (32) 0,268-0,297 (21)	**2004** 0,419-0,45 (5) 0,39-0,419 (13) 0,361-0,39 (28) 0,332-0,361 (28) 0,303-0,332 (11)

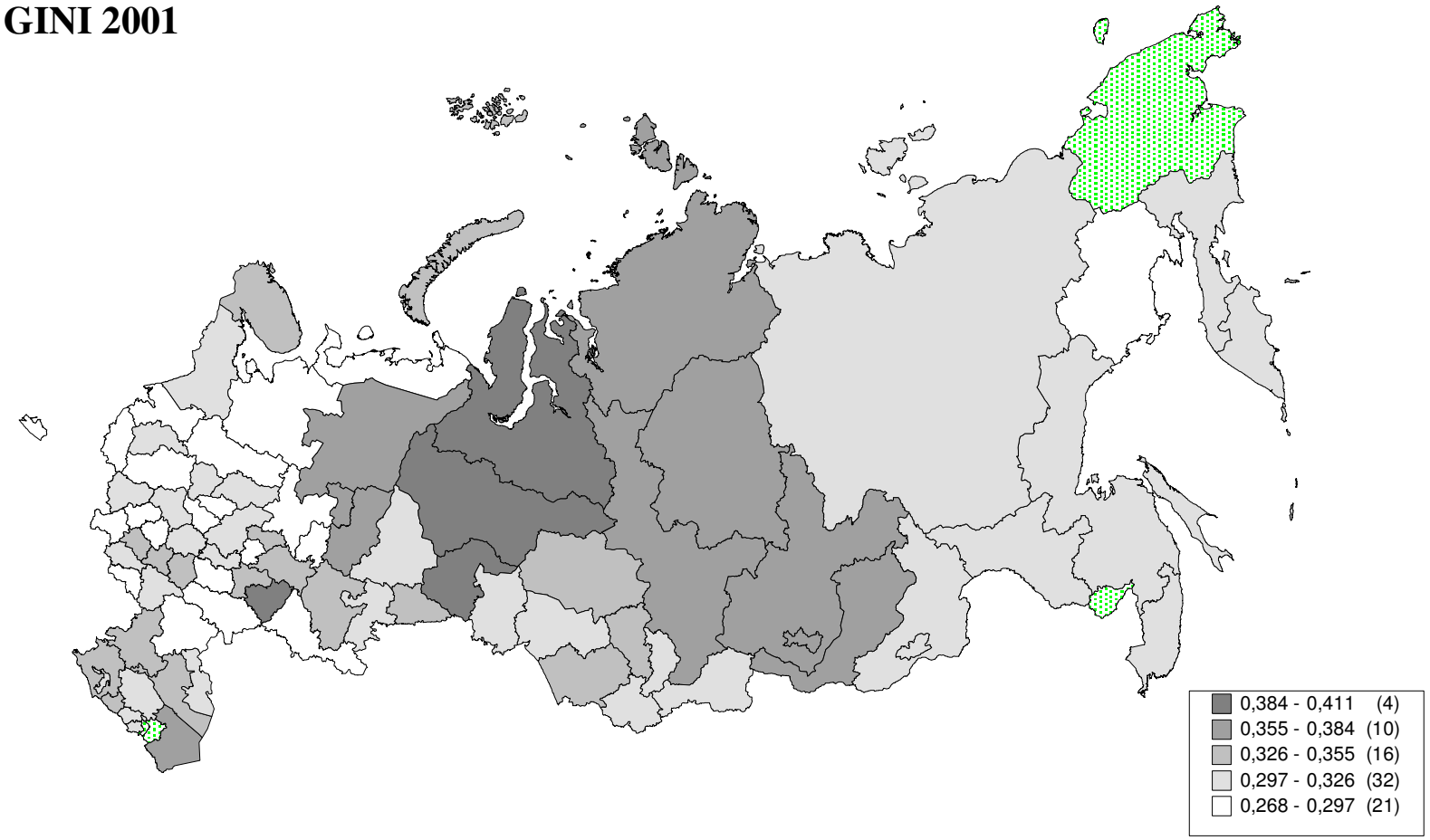
Appendix II. Maps of GINI across the regions of Russian Federation: 1995. 2000 – 2004 years



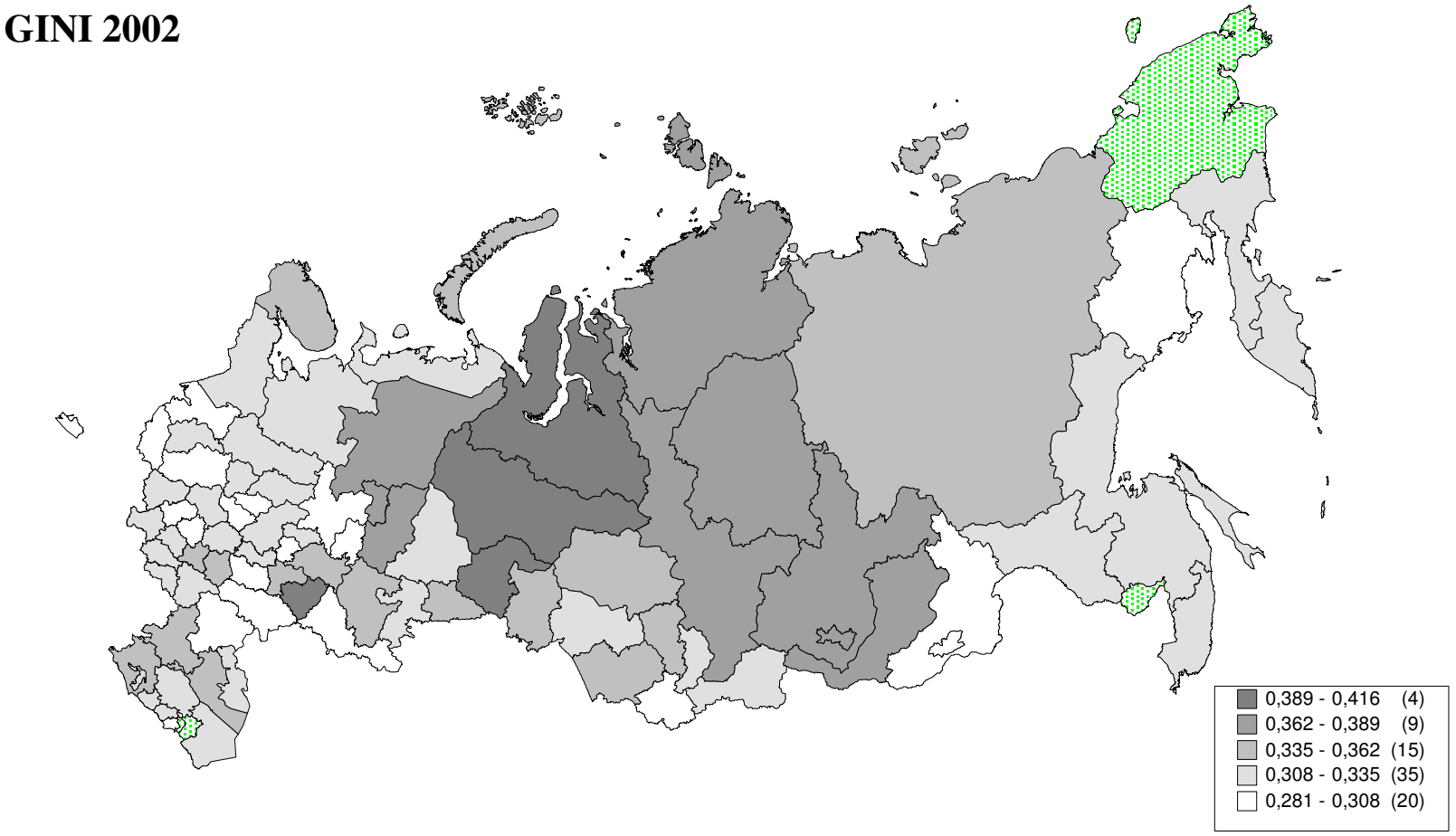
Appendix II. Maps of GINI across the regions of Russian Federation: 1995. 2000 – 2004 years



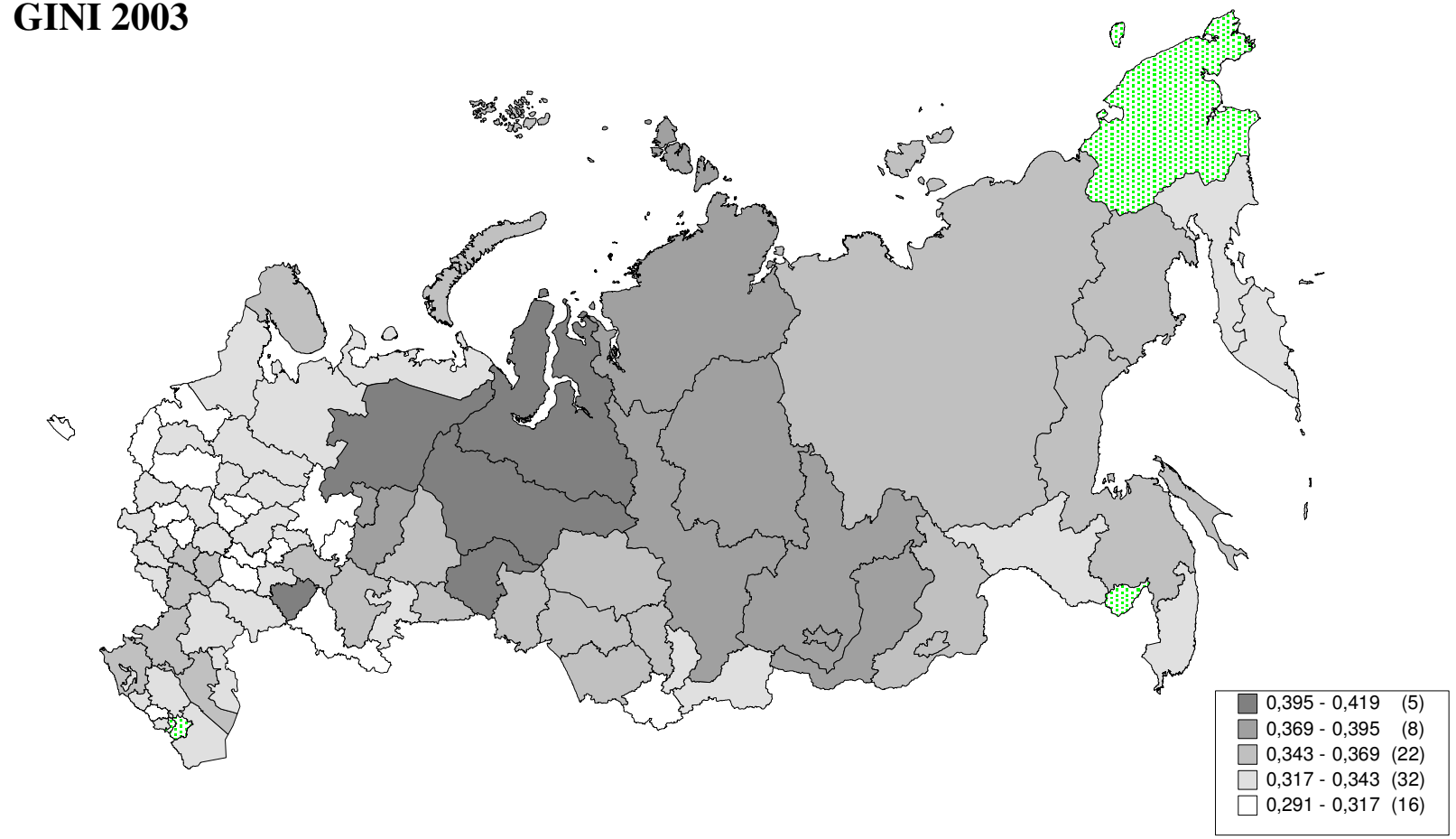
Appendix II. Maps of GINI across the regions of Russian Federation: 1995. 2000 – 2004 years



Appendix II. Maps of GINI across the regions of Russian Federation: 1995. 2000 – 2004 years



Appendix II. Maps of GINI across the regions of Russian Federation: 1995. 2000 – 2004 years



Appendix II. Maps of GINI across the regions of Russian Federation: 1995. 2000 – 2004 years

Appendix III. Income Structure in Russian Federation: 1995, 2000 – 2004 years

Table AIII-1a. Dynamics of Income Structure in Russian Federation, 1990 to 2004 years

Type of income	Distribution of total income, percent			
	1990	**1995**	**2003**	**2004**
Inc1 – wages (salaries)	74.1	37.8	39.4	40.5
Inc2 - business (enterprise) activity	-	16.4	12.0	11.7
Inc3 - social transfers	14.7	13.1	14.1	12.9
Inc4 - property	2.5	6.5	7.8	8.3
Inc5 - other incomes	8.7	26.2	26.7	26.6
total income	100	100	100	100

Table AIII-1b. Dynamics of Income Structure in The City of Moscow, 1990 to 2004 years

Type of income	Distribution of total income, percent			
	1990	**1995**	**2003**	**2004**
Inc1 – wages (salaries)	74.4	17.5	25.1	25.7
Inc2 - business (enterprise) activity	-	14.4	9.5	8.7
Inc3 - social transfers	11.	4.7	10.4	8.5
Inc4 – property	3.2	7.0	13.1	15.7
Inc5 - other incomes	11.4	56.4	41.9	41.4
total income	100	100	100	100

Table AIII-1c. Dynamics of Income Structure in Republic of Kalmykia, 1990 to 2004 years

Type of income	Distribution of total income, percent			
	1990	1995	2003	2004
Inc1 – wages (salaries)	57.5	38.1	43.5	47.9
Inc2 - business (enterprise) activity	-	12.7	6.3	7.9
Inc3 - social transfers	8.7	20.8	23.7	22.5
Inc4 – property	1.2	4.6	8.7	4.3
Inc5 - other incomes	32.6	23.8	17.8	17.4
total income	100	100	100	100

Table AIII-1d. Dynamics of Income Structure in Magadan Region, 1990 to 2004 years

Type of income	Distribution of total income, percent			
	1990	1995	2003	2004
Inc1 – wages (salaries)	85.9	53.9	55.8	63.5
Inc2 - business (enterprise) activity	-	13.8	4.8	5.1
Inc3 - social transfers	7.9	8.3	11.6	12.3
Inc4 – property	1.3	5.2	5.8	5.9
Inc5 - other incomes	4.9	18.8	22.0	13.2
total income	100	100	100	100

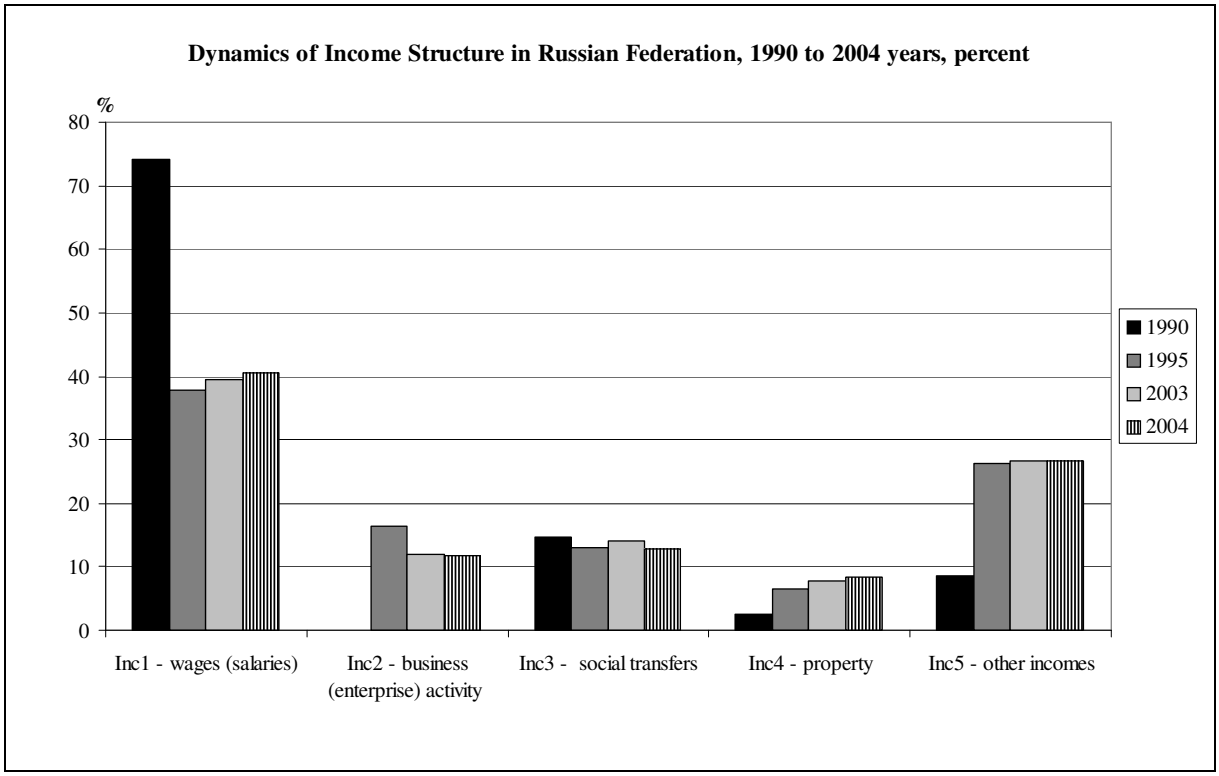


Figure AIII 1-1a.

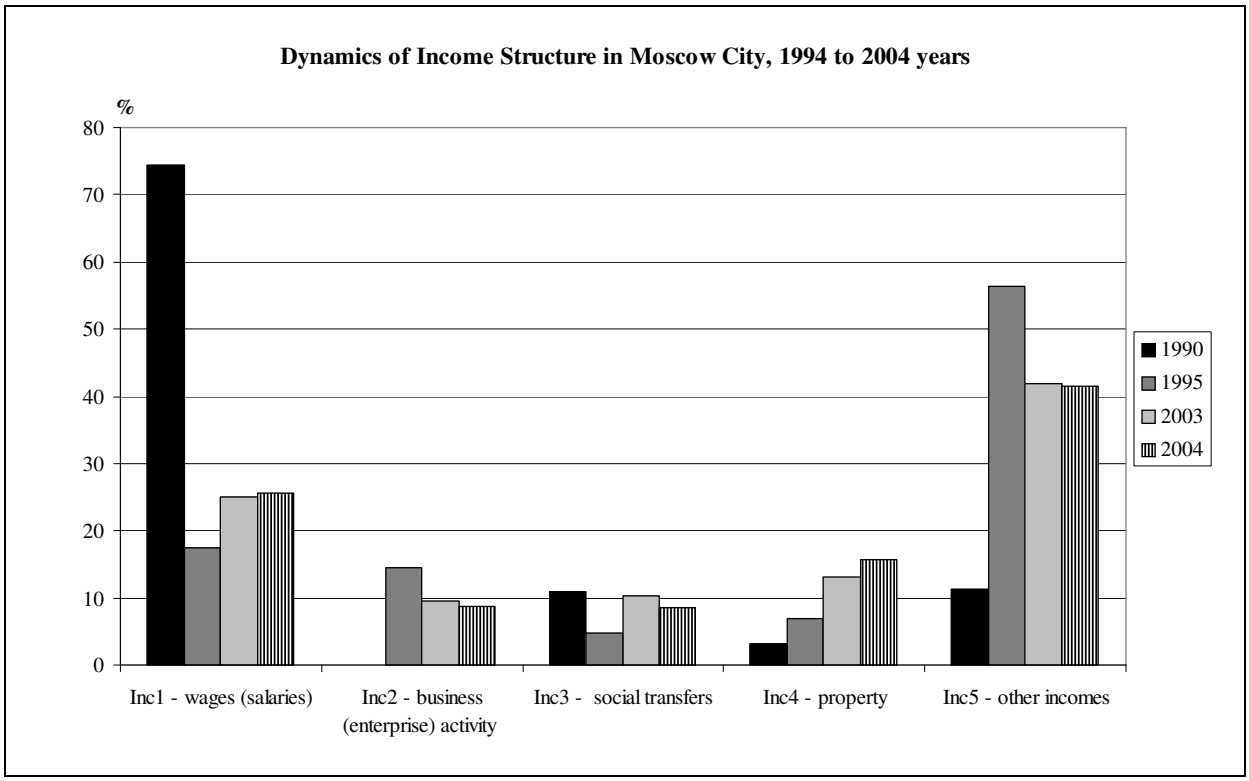


Figure AIII 1-1b

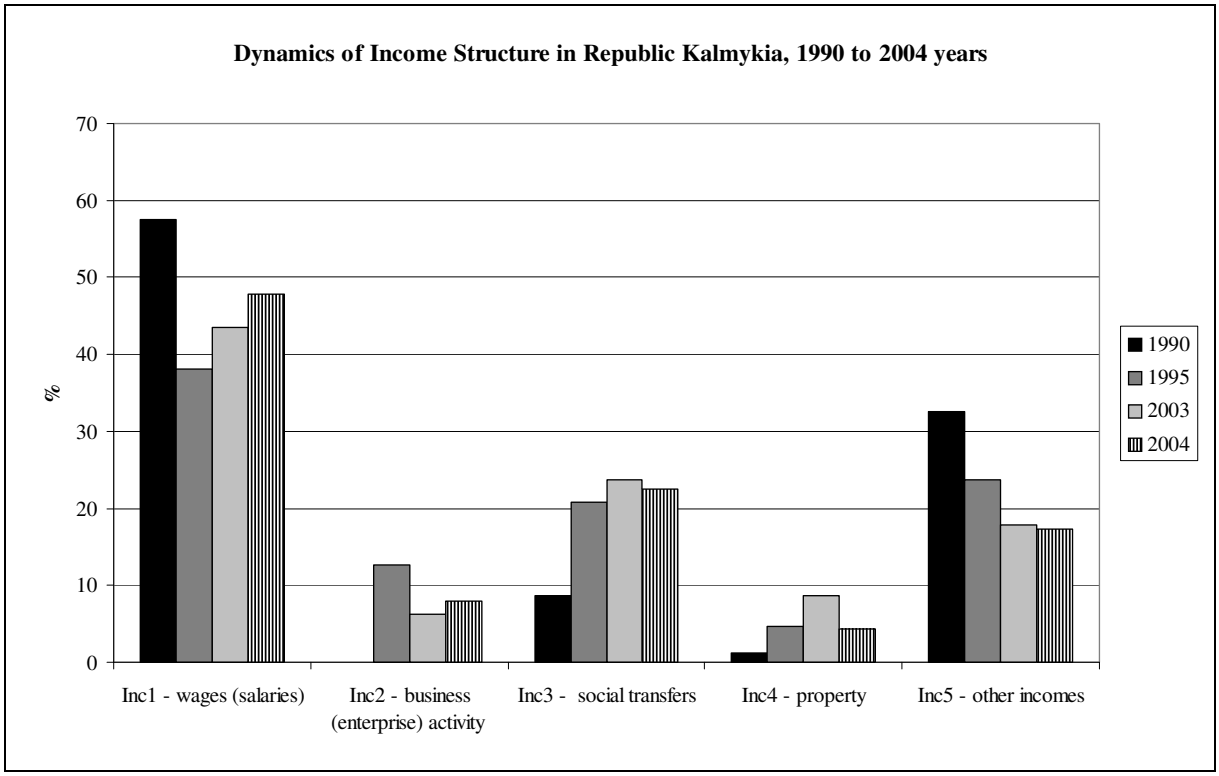


Figure AIII 1-1c

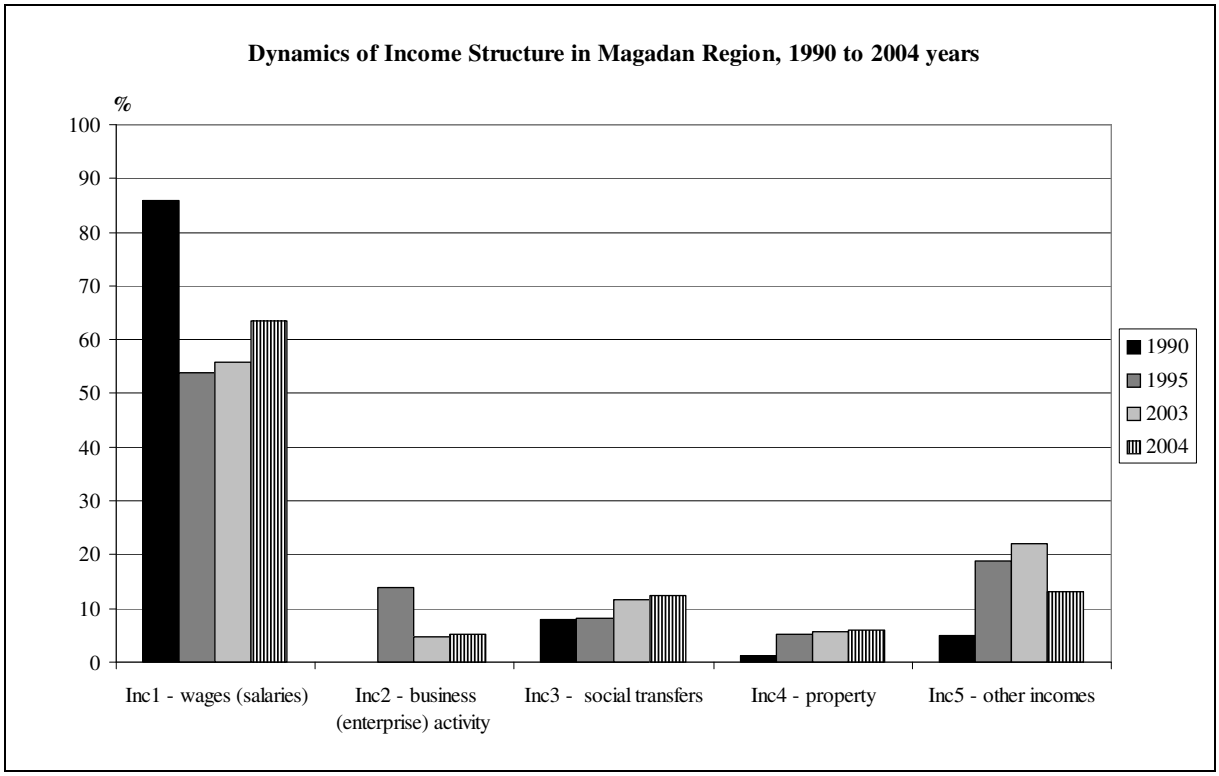
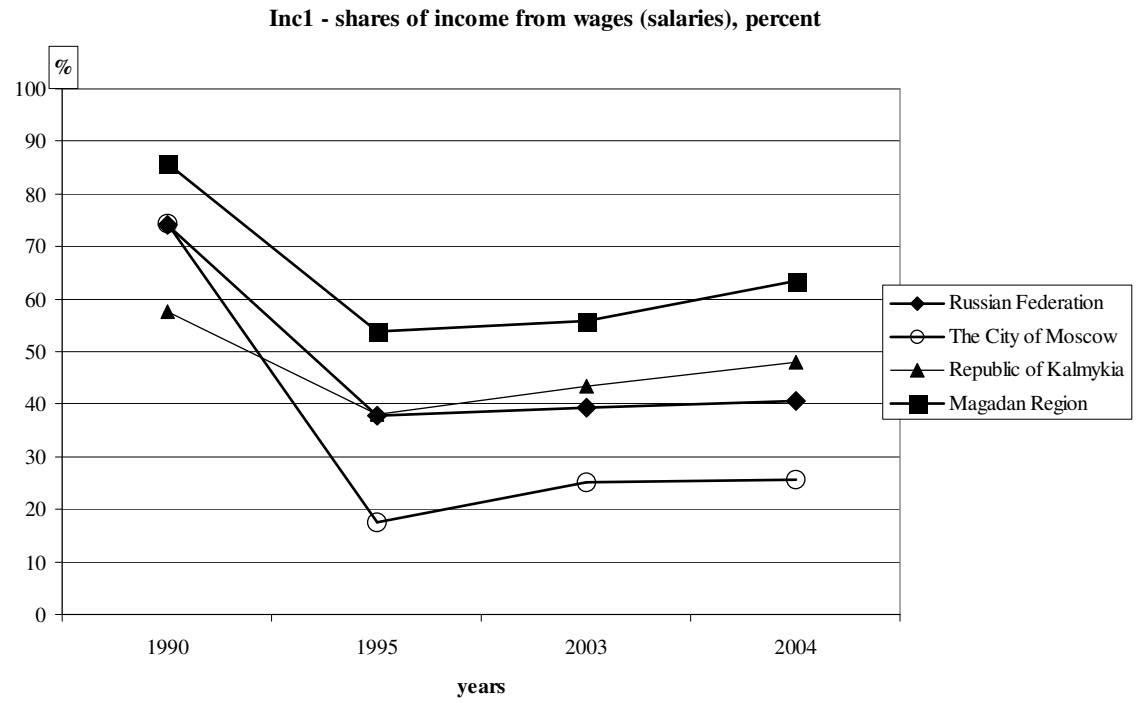
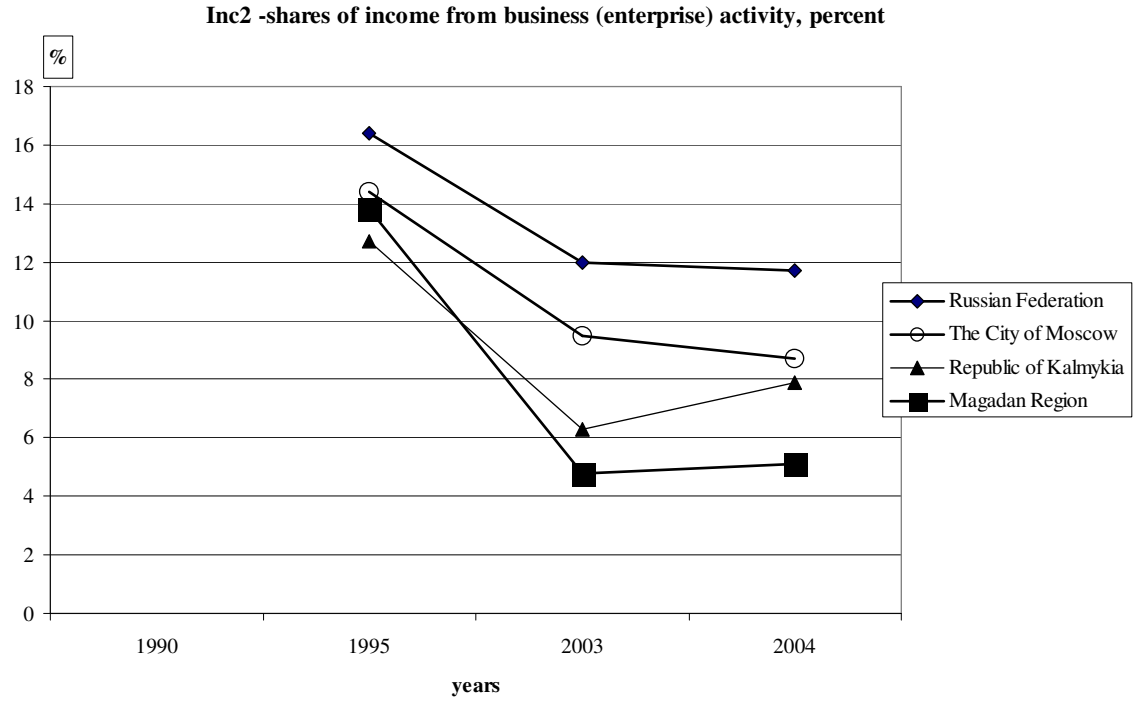


Figure AIII 1-1d

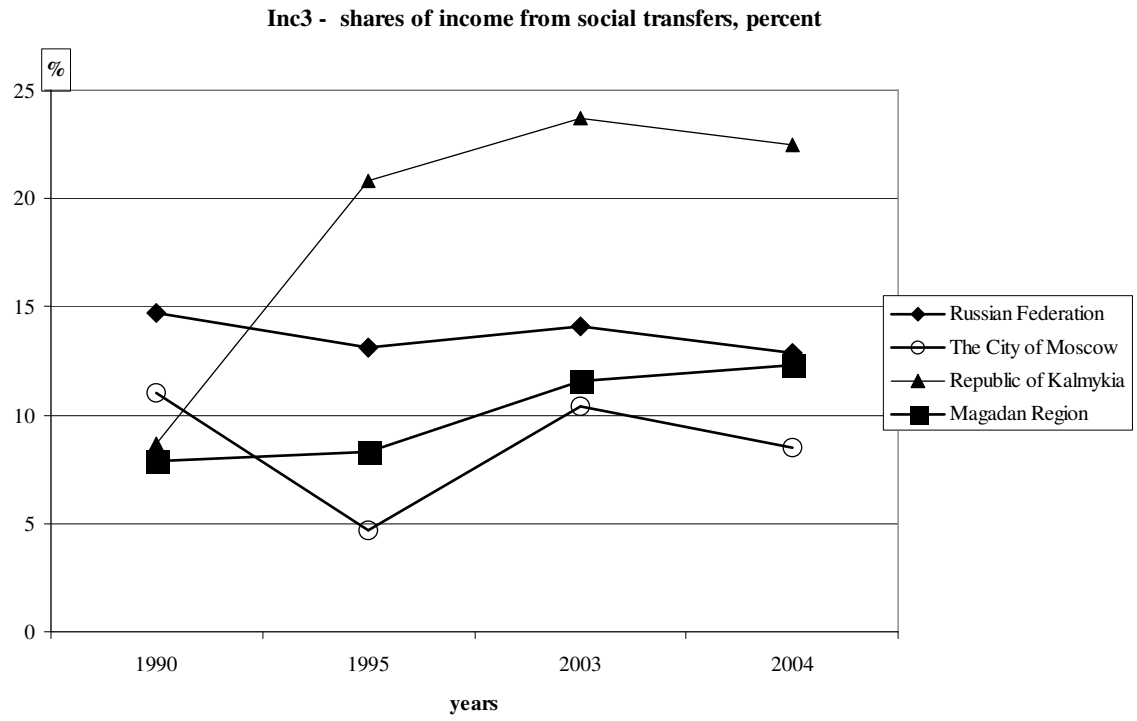
Table AIII 2. Dynamics the Components of Total Income in Russian Federation and in the Subject of RF, 1990 to 2004 years

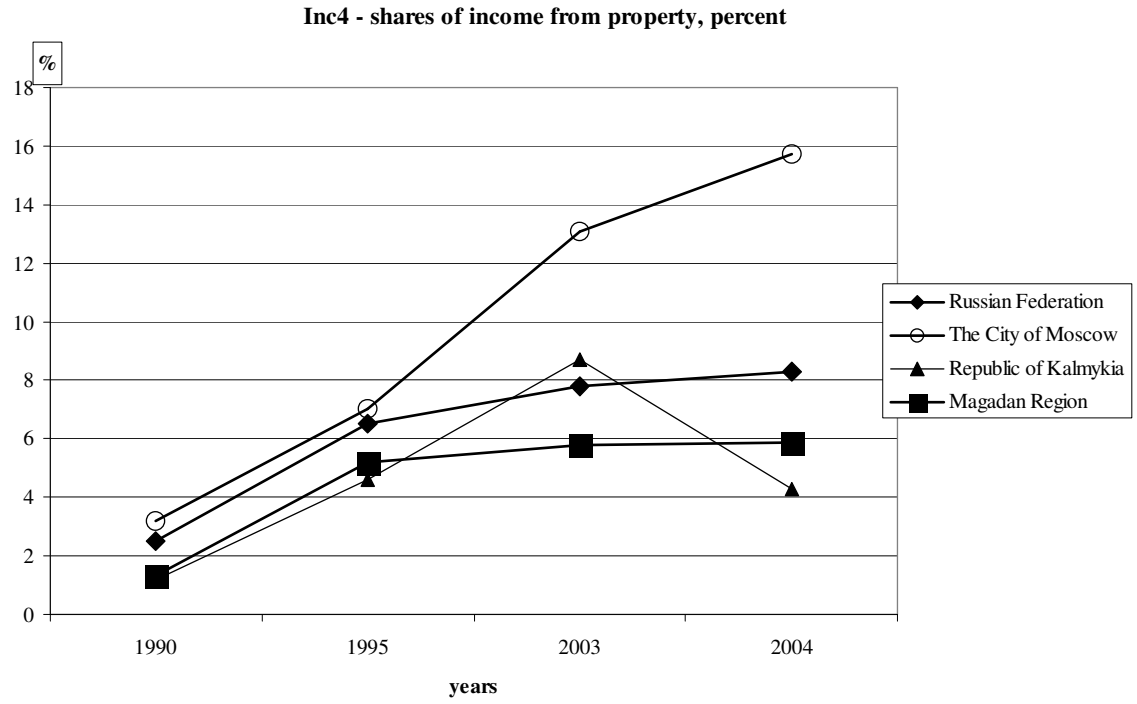
Inc1 - share of income from wages (salaries), percent				
	1990	***1995***	***2003***	***2004***
Russian Federation	74.1	37.8	39.4	40.5
The City of Moscow	74.4	17.5	25.1	25.7
Republic of Kalmykia	57.5	38.1	43.5	47.9
Magadan Region	85.9	53.9	55.8	63.5
Inc2 -share of income from business (enterprise) activity, percent				
	1990	***1995***	***2003***	***2004***
Russian Federation	-	16.4	12.0	11.7
The City of Moscow	-	14.4	9.5	8.7
Republic of Kalmykia	-	12.7	6.3	7.9
Magadan Region	-	13.8	4.8	5.1
Inc3 - share of income from social transfers, percent				
	1990	***1995***	***2003***	***2004***
Russian Federation	14.7	13.1	14.1	12.9
The City of Moscow	11.0	4.7	10.4	8.5
Republic of Kalmykia	8.7	20.8	23.7	22.5
Magadan Region	7.9	8.3	11.6	12.3
Inc4 – share of income from property, percent				
	1990	***1995***	***2003***	***2004***
Russian Federation	2.5	6.5	7.8	8.3
The City of Moscow	3.2	7.0	13.1	15.7
Republic of Kalmykia	1.2	4.6	8.7	4.3
Magadan Region	1.3	5.2	5.8	5.9
Inc5 - share of other income, percent				
	1990	***1995***	***2003***	***2004***
Russian Federation	8.7	26.2	26.7	26.6
The City of Moscow	11.4	56.4	41.9	41.4
Republic of Kalmykia	4.9	18.8	22	13.2
Magadan Region	32.6	23.8	17.8	17.4





Figures AIII 2: Inc1, Inc2





Figures AIII- 2: Inc3, Inc4

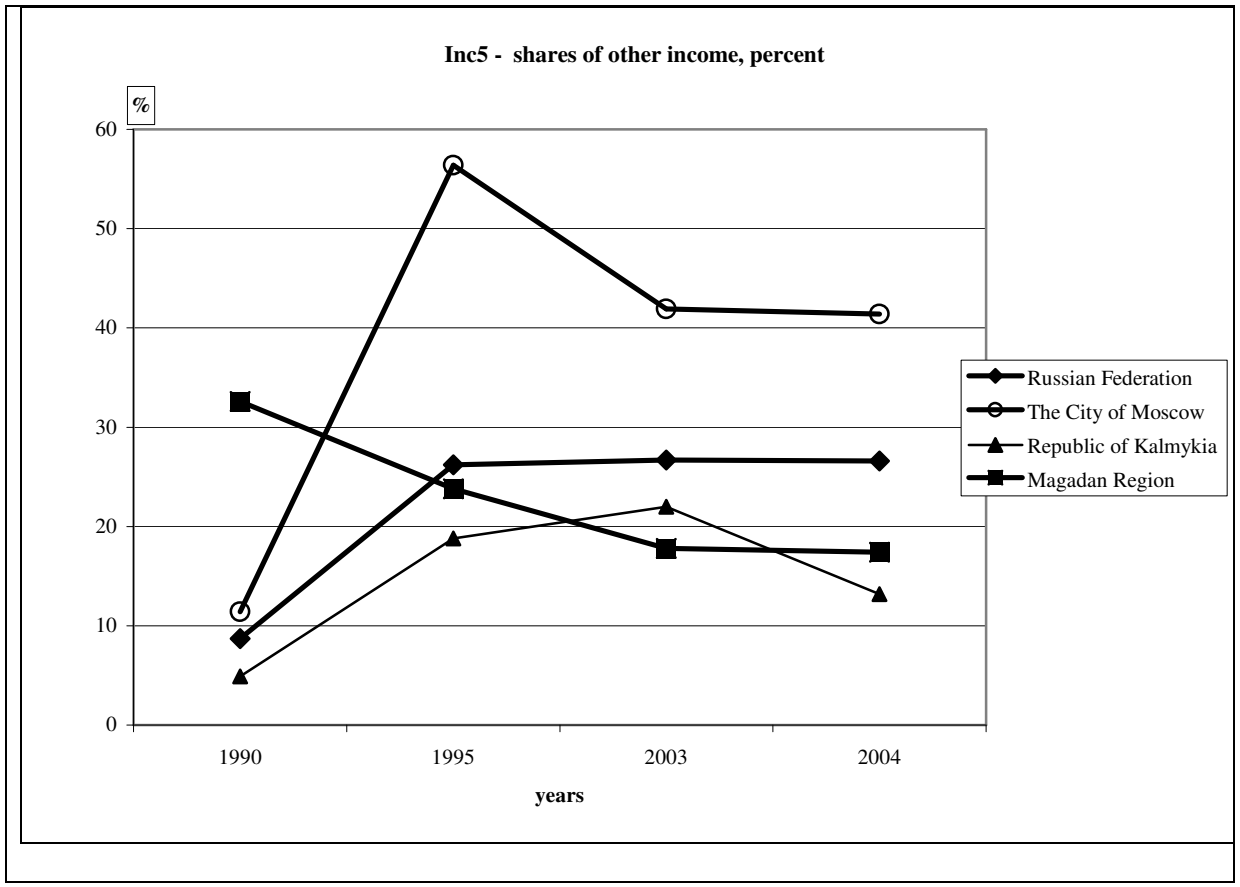


Figure AIII 2:Inc5

Lorenz curves for spatial Total Income Distribution by regions of RF, 1995-2003