

Is Russia's Economic Growth Pro-Poor?

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Introduction

From 1998 until the global financial crisis of 2008, which stemmed from the financial crisis in the U.S., Russia enjoyed a decade of continuous economic growth. Although the 1998 financial crisis damaged the Russian economy, the subsequent large depreciation in the rouble and the dramatic rise in oil and gas prices stimulated a recovery. This period of economic growth, the first seen since the collapse of the Soviet Union, saw a substantial reduction in poverty. The poverty rate in 1995 and 2000 was 24.8% and 29.1%, respectively, but dropped to 15.3% in 2006 (Goskomstat 1999; Rosstat 2007a). This dramatic decrease was possible because poverty in Russia is shallow: the consumption (or income) levels of most of the poor are close to the poverty line. However, while Russia witnessed economic growth and poverty reduction, inequality still remained high. The Gini index in 1998 and 2002 was 0.401 and 0.397, respectively; it reached 0.410 in 2006.

Using data from a large sample of developed and developing countries over the last four decades, Dollar and Kraay (2002) empirically showed that growth in the average income of the poor increased or decreased at the same rate as the growth in overall income. They emphasised that standard growth-enhancing policies, focusing on low inflation and fiscal discipline, effectively reduce poverty. This conclusion remains highly contentious: Kakwani et al. (2000) criticised the Dollar and Kraay study from a theoretical viewpoint and highlighted the importance of government policies aimed at pro-poor growth.

This study examines whether economic growth is pro-poor in Russia, using regional data from Rosstat (the Federal State Statistical Service of Russia) for 1995–2006. Although there have been only a few studies on income convergence in Russia, some studies have highlighted the slow convergence rate in the country (Yemtsov 2005; Lugovoi et al. 2007; Kholodilin et al. 2008). A significantly low convergence rate can cause a differential impact of economic growth on regional poverty. This study is one of the first attempts to address this issue (Takeda 2004a; 2004b; 2006). If Russian economic growth does not benefit the poorer regions much more, that is, if the growth is not found to be pro-poor, the government will need to seriously consider formulating economic policies directly aimed at pro-poor growth. This study aims to shed light on the significance of

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pro-poor growth policies in Russia.

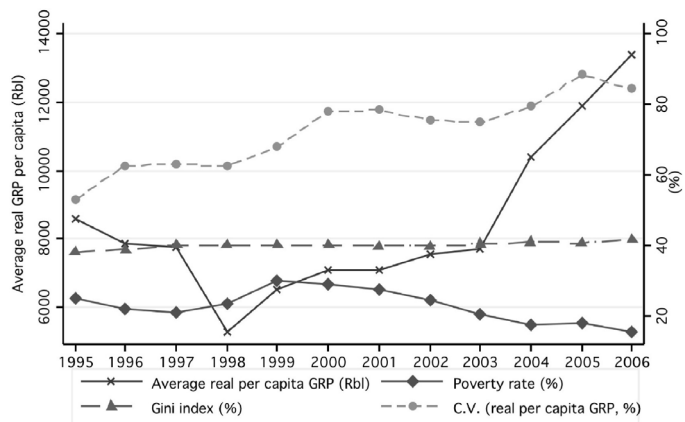
Section 2 briefly discusses the trends in Russian socio-economic indicators. In addition, we examine the relationship between the regional poverty rate and gross regional product (GRP). Section 3 discusses the data and methodology employed; Section 4 mainly describes the empirical results on the elasticity of the poverty rate with respect to GRP; and Section 5 presents the conclusions.

Economic Growth, Poverty, and Inequality in Russia

Russia, along with the other transitional countries of Eastern and Southern Europe, faced a transformational recession in the 1990s and suffered a recession that lasted longer than that for the others. However, the country enjoyed continuous economic growth after the 1998 financial crisis (Figure 1). Although the contagion of the Asian financial crisis hit the Russian economy in August 1998, the devaluation of the rouble because of the crisis ultimately led to a recovery in production by domestic industries and initiated economic growth in Russia. In Figure 1, for the sake of convenience in obtaining estimates in the subsequent sections, the average real per capita GRP is presented as an indicator of economic growth instead of the real per capita gross domestic product (GDP). The real per capita GRP is deflated by an annual consumer price index (CPI) at the regional level. On 1 January 1998, the rouble was officially denominated, with one new rouble equalling 1,000 old roubles. In this study, we use the year 1995 as the base year to measure the real value; the 1995 price is indicated in new roubles. The average real per capita GRP in 2002 was 7,542.5 roubles, while that in 1995 and 1998 was 8,598.7 and 5,273.2, respectively². According to the estimate of the European Bank for Reconstruction and Development (EBRD), Russia had recovered 90% of its 1989 GDP by 2006.

Inequality dramatically increased after the collapse of the U.S.S.R. and still remains high (Figure 1). The Gini coefficient is a measure of the concentration of income distribution; it ranges from 0 (perfectly equal distribution) to 1 (perfectly unequal distribution). Here, the Gini coefficient is

Figure 1 Socio-economic indicators in Russia 1995-2006



Sources: Average real per capita GRP and C.V. for real per capita GRP are calculated by the author on the base of Rosstat's data. Poverty rate and Gini coefficient are estimated by Rosstat.

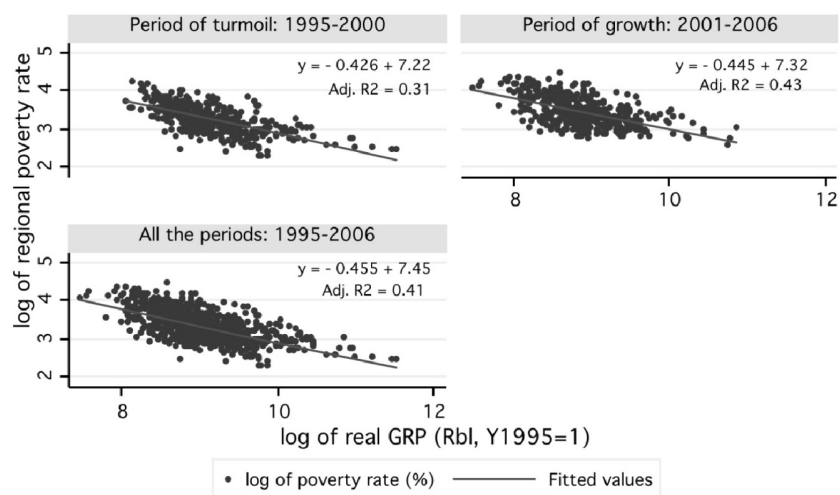
² Kamchatka Oblast, Evreiskaya Autonomous Oblast, Republic of Chechnya, Republic of Ingushetia, Chukotsky Autonomous Region, and other autonomous okrugs are excluded from the analysis. See Section 3.1 for details.

indicated in terms of percentage. Early in the transition period, inequality in income distribution increased significantly overall. The Gini coefficient rapidly increased from 26.0% in 1991 to 40.9% by 1994, and has stood at around 40% ever since. This is as high as that in Latin American countries.

Inequality in the regional economy continuously increased in Russia during the period 1995–2006 (Figure 1). Coefficient of variance (CV) is the ratio of the standard deviation of a variable to its mean. Therefore, the CV for the real per capita GRP is a measure of inequality between regions. Here, it is indicated in terms of percentage. The CV for the GRP increased during the 1995–2006 period. The CV in 2005 was 88.5, while in 1995, it was 52.9. Moreover, it should be noted that the CV increases more rapidly when economic growth is high. This could suggest that the economic growth in Russia was not pro-poor.

Although the poverty rate increased after the collapse of the U.S.S.R., it dramatically decreased during the economic boom following the 1998 financial crisis. The poverty rate is defined as the proportion of the population with incomes below the official poverty line. In 1999, the poverty rate at the national level reached 29.9%, but decreased to 20.8% in 1997 (Figure 1). In the course of economic development, however, the poverty rate rapidly decreased to 15.3% in 2006. As expected, economic growth had a positive effect on poverty in Russia.

Figure 2 Regional poverty and real per capita GRP 1995-2006



Source: Author's estimations on the base of Rosstat's data. Rosstat, Regiony Rossii (various years).

Figure 2 shows the relationship between the regional poverty rate (logarithm) and the real per capita GRP (logarithm). With reference to the estimates shown in the subsequent sections, the 1995–2006 period is divided into two shorter ones: the period of turmoil (1995–2000) and the period of continuous economic growth (2001–2006). We observe a negative relationship between poverty and real per capita GRP in these periods. The equations shown in all the panels of Figure 2 are estimated with no control variables, using pooled data from 888 observations (in 74 oblasts

over 12 years). The elasticity of poverty to growth is -0.426 for 1995–2000 and -0.445 for 2001–2006. It seems that an increase of one percentage point in the real per capita GRP could be more effective in reducing the poverty rate in the period of economic growth. Moreover, it could suggest that the economic growth in 2001–2006 was pro-poor. In the subsequent sections, from the regional perspective, we conduct a more thorough examination of whether the economic growth in Russia can be considered pro-poor.

Data and Methodology

Data

In this study, we use Rosstat's official data at the regional level (Rosstat 2007b; Goskomstat 2002b). As of January 2009, the Russian Federation has 83 regions that include oblasts, krai, autonomous okrugs, republics, and cities of federal subordinations. As mentioned previously, the real value is measured on the basis of the 1995 denominated value, using an annual CPI at the regional level. Following Lugovoi et al. (2007) and Kholodilin et al. (2008), apart from autonomous okrugs within oblasts, the Republic of Chechnya, Republic of Ingushetia, Republic of Kalmykia, and Chukotsky Autonomous Okrug are excluded from the analysis; this is because the data on the GRP of the Republic of Chechnya in 1995–2004 are not available and the data on the remaining three regions are unreliable. In addition, Kamchatka Oblast and Evreiskaya Autonomous Oblast are excluded from the analysis because of the lack of data on their regional poverty rates. We thus have 74 regions for the analysis. To compare the estimates for the periods of the turmoil and of continuous economic growth, the 1995–2006 period is used for the analysis.

Methodology

In order to examine how poverty reduction varies in the periods of the turmoil and of continuous economic growth, we estimate the elasticity of regional poverty to real per capita GRP in the two periods. The basic model is as follows:

$$\ln P_{it} = \beta_0 + \beta^{GRP} \ln GRP_{it} + \beta^{Period} Period_t + \mu_i + \varepsilon_{it} \quad (1)$$

where P_{it} is the regional poverty rate in region i ($i = 1, \dots, N$) at year t ($t = 1, \dots, T$); GRP_{it} is the real per capita GRP in region i at year t ; $Period_t$ is a dummy variable for the period of the turmoil (1 if the year ranges from 1995 to 2000); μ_i is an unobserved individual effect for region i ; and ε_{it} is an error term. We assume that ε_{it} is an AR(1) error term:

$$\varepsilon_{it} = \rho \varepsilon_{i,t-1} + \eta_{it} \quad (2)$$

The autoregression coefficient is significantly different from zero (Table 1). Therefore, in this study we estimate the models with an AR(1) error term.

To analyse the impact of policies on poverty reduction, we add the variables of social policy and a macroeconomic stabilisation policy, namely, low inflation policy, to the basic model. The expenditure of socio-cultural measures consists of the sum of expenditures on education, health

care and social policy. Data of the share of social policy only are available for 2000–2006, although those of socio-cultural measures are available for 1995–1998 and 2000–2006. Therefore, we use the share of socio-cultural measures in a consolidated budget as the proxy of social policy. In this study, the share of socio-cultural measures in 1999, which is not available in the statistical sources of Rosstat, is calculated as the means of its share in a consolidated budget in 1998 and 2000.

We obtain an augmented model, adapting that proposed by Ravallion and Datt (2002):

$$\ln P_{it} = \beta_0 + \beta^{GRP} \ln GRP_{it} + \beta^{Socpol} \ln Socpol_{it} + \beta^{Inf} \ln Inf_{it} + \sum_k \beta_i^{FO(k)} FO_{(k)i} + \beta^{Period} Period_t + \mu_i + \varepsilon_{it} \quad (3)$$

where $Socpol_{it}$ is the share of socio-cultural measures in a consolidated budget in region i at year t ; Inf_{it} is an inflation rate in region i at year t ; FO_k indicates the dummy variables for federal regions (federal'nyi okrug) to which region i belongs ($k = 1, \dots, K$). The Russian Federation has seven federal regions: Centre, North West, South, Volga, Ural, Siberia, and Far East. We found differences in the poverty rates—statistically significant at 1%—amongst the federal regions. Thus, we control the dummies for federal regions in the model.

In order to consider the regimes of the poorer and the richer regions, we also use a regional dummy as follows:

$$\ln P_{it} = \beta_0 + \beta^{GRP} \ln GRP_{it} + \beta^{Socpol} \ln Socpol_{it} + \beta^{Inf} \ln Inf_{it} + \beta^{HPR} HPR_{it} + \beta^{Period} Period_t + \mu_i + \varepsilon_{it} \quad (4)$$

where HPR_{it} is a dummy variable for the regions with higher poverty. Here, we define regions with higher poverty (HPR) as those in which the poverty rate in 1995 was above the 5th quintile of its distribution (Appendix 1). The others are defined as regions with lower poverty (LPR).

Following Ravallion and Datt (2002), in order to improve the model's goodness of fit, we use the two-year moving average of $\ln GRP_{it}$ and the lagged value of $\ln Socpol_{it}$ in the models. Moreover, the selection of these values assumes that it takes time for growth and social policy to have an effect on poverty.

Empirical Results

Poverty elasticity without consideration of regimes

The estimation results of Equations 3 and 4 are shown in Table 1³. According to the Hausman tests, the FE model gives us an efficient and consistent estimator. Thus, we obtain a statistically significant estimate of -0.94 for the elasticity of poverty to growth ($p < 0.01$). Accordingly, we can confirm an adverse relationship between poverty and economic growth. However, comparing the estimate of -0.53 obtained by Ravallion and Chen (1997) for Eastern Europe and Central Asia, the estimate of -0.94 by the FE models seems to be too large, while those of -0.71 and

³ Summary statistics are shown in Appendix 1.

Table 1 Regression of Poverty for Russia in 1996-2006

	Regional dummy: Federal district			Regional dummy: Higher poverty regions		
	Fixed effect (FE) Coef.	t-value	Random effect (RE) z-value	Fixed effect (FE) Coef.	t-value	Random effect (RE) z-value
Log of real per capita GRP (current + lagged)	-0.94 ***	-19.25	-0.71 ***	-0.94 ***	-19.25	-0.63 ***
Log of share of social policy (lagged)	-0.21 ***	-4.99	-0.14 ***	-0.21 ***	-4.99	-0.15 ***
Log of Inflation (current)	-0.05 ***	-5.01	-0.02 **	-0.05 ***	-5.01	-0.01
Year dummy (vs. 1995-2000)	0.03	1.22	0.03	0.03	1.22	0.04 **
Federal okrug (vs. Far East)						
Center			-0.57 ***			
North West			-0.39 ***			
South			-0.61 ***			
Volga			-0.44 ***			
Ural			-0.26 **			
Siberia			-0.22 **			
Dummy of poverty regions (vs. higher poverty region)						
Constant	12.72 ***	99.44	10.71 ***	12.72 ***	99.44	0.12 *
Number of observations	740		814	740		814
Number of groups	74		74	74		74
Within R-sq.	0.475		0.518	0.475		0.510
Between R-sq	0.486		0.660	0.486		0.536
Overall R-sq	0.450		0.562	0.450		0.472
sigma_u	0.322		0.112	0.322		0.153
sigma_e	0.139		0.146	0.139		0.149
rho	0.722		0.722	0.722		0.722
Modified Bhargava et al.						
Durbin-Watson Statistic	0.636			0.636		
Hausman test (prob>chi2)	0.000 ***			0.000 ***		

Notes:

- 1) *** is significant at 1% level; ** is significant at 5% level; * is significant at 10% level.
- 2) Fixed effect and random effect models are linear models with AR(1) disturbance.

Table 2 Regression of Poverty for Russia by Period

	1995 - 2000				2001 - 2006							
	Regional dummy: F.O.		Regional dummy: HPR		Regional dummy: F.O.		Regional dummy: HPR					
	Fixed effect (FE)	Random effect (RE)	Fixed effect (FE)	Random Effect (RE)	Fixed effect (FE)	Random effect (RE)	Fixed effect (FE)	Random effect (RE)				
	Coef.	z-value	Coef.	z-value	Coef.	t-value	Coef.	z-value				
Log of real per capita GRP (current + lagged)	-0.60 ***	-6.42 ***	-0.67 ***	-14.44 ***	-0.52 ***	-10.9 ***	-0.70 ***	-9.92 ***	-0.65 ***	-17.06 ***	-0.56 ***	-14.34 ***
Log of share of social policy (lagged)	-0.59 ***	-7.39 ***	-0.03	-0.71	-0.03	-0.53	-0.06	-1.03	-0.17 ***	-2.75	-0.20 ***	-3.17
Log of Inflation (current)	-0.07	-4.95	-0.03 **	-2.37	-0.02	-1.18	0.02	0.77	0.26 ***	9.03	0.28 ***	9.49
Federal okrug (vs. Far East)												
Center			-0.55 ***	-0.69					-0.48 ***	-5.54		
North West			-0.41 ***	-4.23					-0.34 ***	-3.72		
South			-0.48 ***	-4.53					-0.61 ***	-6.14		
Volga			-0.37 ***	-3.95					-0.43 ***	-4.80		
Ural			-0.19	-1.58					-0.36 ***	-3.14		
Siberia			-0.16 *	-1.72					-0.24 ***	-2.63		
Dummy of poverty regions (vs. higher poverty region)												
Constant	11.45 ***	30.69	10.00 ***	19.33	0.24 ***	3.68	9.71 ***	41.34	9.59 ***	19.58	0.08	1.38
Number of observations	296		370		370		370		444		444	
Number of groups	74		74		74		74		74		74	
Within R-sq.	0.428		0.404		0.400		0.302		0.756		0.750	
Between R-sq	0.345		0.652		0.544		0.430		0.591		0.482	
Overall R-sq	0.331		0.556		0.461		0.415		0.627		0.545	
sigma_u	0.265		0.116		0.146		0.274		0.138		0.164	
sigma_e	0.161		0.178		0.185		0.095		0.119		0.124	
rho	0.526		0.526		0.526		0.637		0.637		0.637	
Modified Bhargava et al.												
Durbin-Watson Statistic	1.023						0.845					
Hausman test (prob>chi2)	0.000 ***				0.000 ***		0.000 ***				0.000 ***	

Notes:

1) *** is significant at 1% level; ** is significant at 5% level; * is significant at 10% level.

2) Fixed effect and random effect models are linear models with AR(1) disturbance.

–0.63 by the RE models in our study are close to their estimate⁴. This could suggest that the models should be applied separately to each of the two periods (the period of the turmoil and that of continuous economic growth), each of the regions (such as the poorer regions and the richer regions), or both of the regimes.

Estimation by regimes of periods

To examine the elasticity of poverty to growth in the periods of turmoil and positive economic growth, we separately re-estimated the augmented equations (Equations 3 and 4) for the periods (Table 2)⁵. The specification tests show that the estimates by the FE model are efficient and consistent. Here, we obtain –0.60 for 1995–2000 and –0.70 for 2001–2006. These estimates are much closer to that obtained by Ravallion and Chen (1997). In Russia, the elasticity of poverty to growth slightly increases in 2001–2006, that is, in the period of rapid economic growth. Growth is effective in reducing poverty in both the periods. In addition, poverty responds more sensitively to economic growth in the period of an economic boom.

The estimate for social policy in the period of turmoil by the FE model is statistically significant at the 1% level, while its estimate in the period of continuous economic growth is statistically not significant. Considering the estimates by the RE models as well as the FE models, for the reduction of poverty, the role of social policy is more important and effective in the period of turmoil than in that of economic growth. The results of the estimates could suggest that during the period of turmoil, social policy reduced the poverty that had increased owing to a decrease in growth. Moreover, the estimates for inflation by the FE model are not statistically significant in both periods. The estimates for inflation by the RE models, however, are positive and statistically significant. This could indicate that a low inflation policy as a measure for poverty reduction could be effective in the period of economic growth, while it is not during the period of turmoil.

Estimation by regimes of periods and regions

Does elasticity of poverty to growth vary among the higher poverty regions (HPR) and the lower poverty regions (LPR)? In the analysis, the HPR comprise 15 regions, including Dagestan Republic, Kurgan Oblast, Buriatiya Republic, Tuba Republic, and Chita Oblast (Appendix 2)⁶. The average poverty rate for the HPR in 1995 was 49.8%, while that for the LPR in 1995 was 25.9%. For the HPR and the LPR, the specification tests show that efficient and consistent estimators are provided by the FE models (Table 3)⁷. For both the HPR and LPR, the estimated elasticity of pov-

⁴ Ravallion and Chen (1997) estimated the elasticity of poverty to income (or expenditure) growth using national household surveys of developing and transitional countries (67 countries). Their datasets included at least two surveys during the period since the 1980s. As for Russia, the survey years were 1988 and 1993. Ravallion and Chen (1997) use the models with a white-noise error. In their study, the pooled OLS showed the efficient and consistent estimate of the elasticity of poverty.

⁵ According to the Chow test, we can reject at the 1% level the hypothesis that a model without regimes of periods is appropriate.

⁶ For a definition of the poorer and richer regions, see Section 3.2.

⁷ According to the Chow test, we can reject at the 1% level the hypothesis that a model without regimes of periods and regions is appropriate.

erty to growth increases in the period of continuous economic growth. The elasticity for the HPR is -0.63 during economic growth ($p < 0.05$), while it is -0.52 for the HPR during the period of turmoil ($p < 0.01$). Moreover, the estimates for the LPR are -0.63 for 1995–2000 ($p < 0.01$) and -0.74 for 2001–2006 ($p < 0.01$). These results show that both the HPR and the LPR gain and benefit from rapid economic growth. The growth is good for both the poorer and the richer regions.

Table 3 Regression for Higher and Lower Poverty Regions by Period

Table 3-1 Higher Poverty Regions

	1995-2000				2001-2006			
	Fixed effect (FE)		Random effect (RE)		Fixed effect (FE)		Random effect (RE)	
	Coef.	t-value	Coef.	z-value	Coef.	t-value	Coef.	z-value
Log of real per capita GRP (current + lagged)	-0.52 ***	-3.23	-0.50 ***	-4.92	-0.63 **	-2.65	-0.54 ***	-4.41
Log of share of social policy (lagged)	-0.37 **	-2.69	-0.11	-1.48	-0.01	-0.07	0.02	0.10
Log of Inflation (current)	-0.03	-1.19	0.00	-0.06	0.01	0.17	0.29 ***	3.80
Constant	9.82 ***	14.63	8.54 ***	8.69	8.78 ***	12.46	7.41 ***	5.33
Number of observations	60		75		75		90	
Number of groups	15		15		15		15	
Within R-sq.	0.501		0.400		0.118		0.653	
Between R-sq	0.061		0.178		0.035		0.060	
Overall R-sq	0.123		0.210		0.105		0.277	
sigma_u	0.269		0.203		0.285		0.140	
sigma_e	0.117		0.130		0.128		0.168	
rho	0.448		0.448		0.667		0.667	
Modified Bhargava et al.								
Durbin-Watson Statistic	1.140				0.805			
Hausman test (prob>chi2)	0.002 ***				0.000 ***			

Table 3-2 Lower Poverty Regions

	1995-2000				2001-2006			
	Fixed effect (FE)		Random effect (RE)		Fixed effect (FE)		Random effect (RE)	
	Coef.	t-value	Coef.	z-value	Coef.	t-value	Coef.	z-value
Log of real per capita GRP (current + lagged)	-0.63 ***	-5.81	-0.51 ***	-9.76	-0.74 ***	-10.63	-0.56 ***	-14.30
Log of share of social policy (lagged)	-0.67 ***	-6.96	0.00	-0.06	-0.08	-1.26	-0.25 ***	-3.88
Log of Inflation (current)	-0.08 ***	-4.89	-0.02	-1.21	0.03	0.91	0.27 ***	8.93
Constant	12.03 ***	27.15	8.05 ***	13.96	10.08 ***	40.35	8.62 ***	17.55
Number of observations	236		295		295		354	
Number of groups	59		59		59		59	
Within R-sq.	0.434		0.418		0.403		0.795	
Between R-sq	0.297		0.322		0.421		0.441	
Overall R-sq	0.275		0.285		0.415		0.544	
sigma_u	0.243		0.130		0.279		0.167	
sigma_e	0.169		0.196		0.085		0.110	
rho	0.526		0.526		0.609		0.609	
Modified Bhargava et al.								
Durbin-Watson Statistic	1.038				0.914			
Hausman test (prob>chi2)	0.000 ***				0.000 ***			

Notes:

- 1) *** is significant at 1% level; ** is significant at 5% level; * is significant at 10% level.
- 2) Fixed effect and random effect models are linear models with AR(1) disturbance.

Figure 3 Is growth rate higher in the HPR than in LPR?

Figure 3-1 GRP and its growth rate in 1995-2000 and 2000-2006

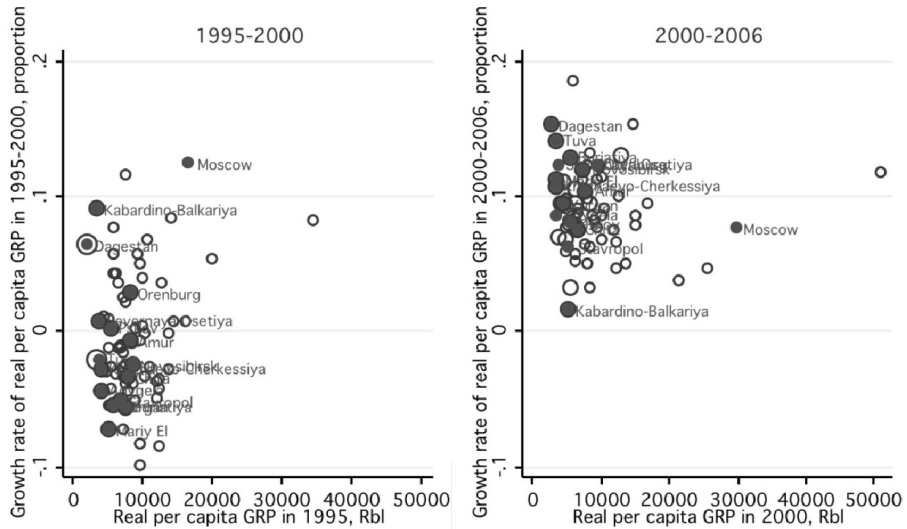
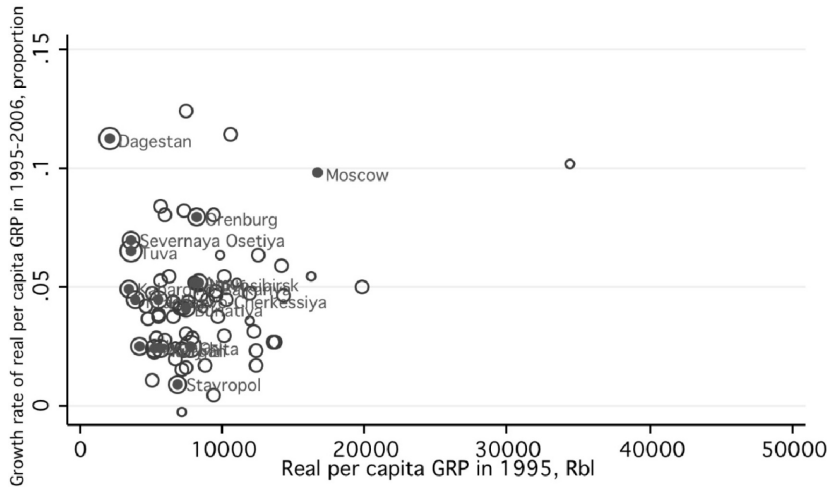


Figure 3-2 GRP and its growth rate in 1995-2006



Note: Weighted by regional poverty ratio

It should be noted, however, that the estimates of the real per capita GRP are always lower in the HPR than in the LPR (Table 3). For 1995–2000, the estimate for the GRP is -0.52 for the HPR and -0.63 for the LPR, while for 2001–2006, the estimate is -0.63 and -0.74 , respectively. Moreover, the growth rate of GRP varies among regions and the HPR doesn't necessarily grow faster than the LPR (Figure 3). These results could suggest that even in the period of continuous economic growth, the HPR did not necessarily benefit from the economic growth any more than the LPR did. In addition, the results of the estimates could also suggest that in the period of turmoil, the HPR suffered less from the recession than the LPR. The conclusion is that growth bene-

fits the richer regions more than it does the poorer regions, and, thus, growth is not pro-poor in Russia.

In both the poorer and richer regions, during the 1990s, social policy could have helped to alleviate the poverty that increased during the turmoil, although a low inflation policy could not help (Table 3). On the contrary, in the course of economic growth, a low inflation policy could have helped to alleviate poverty in both the regions, while the adverse effect of social policy on poverty disappeared in the period⁸. The results of the estimates might suggest that any social policy helps to alleviate poverty during a period of turmoil, while such policies have to be targeted very carefully in the period of economic growth.

Conclusion

This study examined the effect of economic growth on poverty reduction in Russia based on the elasticity of poverty to real per capita GRP, using Russian regional data for 1995–2006. We found that the elasticity of poverty was more sensitive in the period of economic growth (2001–2006), allowing poverty to be substantially reduced. The shallowness of Russian poverty is another reason for the large reductions in poverty during the period.

From a regional viewpoint, we find that Russian economic growth since the 1998 financial crisis has not been pro-poor. The study shows that the elasticity of poverty was more sensitive during the economic growth period in both the poor and rich regions. Thus, growth reduced poverty in both types of regions. From this viewpoint, growth seems to be good for the poor in Russia. However, the study also shows that growth benefited the richer regions (or people) more. As a result, from the regional point of view, we could conclude that the growth has not been pro-poor in Russia. The findings of the study comprehensively explain the Russian peculiarity of shallow poverty with inequality still at a high level and even growing slightly.

The effect of a low inflation policy on poverty reduction in Russia is vague. This might be because hyperinflation in the early 1990s had such a great effect on the well-being of the people that even a low inflation policy could not be effective in alleviating poverty. A low inflation policy, however, could reduce poverty during the period of economic growth. On the other hand, social policy could be effective in reducing poverty only during the period of turmoil and not during that of economic growth. Therefore, the government needs to make a well-designed social policy for periods of economic growth and increase the efficiency of such policy.

As is the general notion, economic growth is necessary for poverty reduction in Russia. However, in this study we find that the growth thus far has not been pro-poor. This suggests that economic growth is not sufficient for poverty reduction. Taking all of these points into consideration, growth-enhancing economic policies such as liberalisation of trade, strongly recommended by Dollar and Kraay (2002), could not be effective in alleviating poverty in Russia. The results of our study suggest that it is necessary to reduce the inequality of distribution within and between

⁸ The estimate for social policy is statistically significant only in the richer regions ($p < 0.01$).

regions. The government could play an important role in this area by formulating pro-poor policies, such as working on the building and development of infrastructure, in order to make economic growth spill over to the poorer regions and thus make economic growth pro-poor.

References

- Baumol, W. J.**, “Productivity Growth, Convergence and Welfare: What the Long Run Data Show,” *American Economic Review*, 76:1072-1085, 1986.
- Dollar, D., and A. Kraay**, “Growth is Good for the Poor,” *Journal of Economic Growth*, 7, 3:195-225, 2002. EBRD, Transition report update 2007.
[<http://www.ebrd.com/pubs/econo/tru07.pdf>.] [accessed 30 June 2009]
- Ertur, C., J. Le Gallo, and C. Baumont**, “The European Regional Convergence Process, 1980-1995: Do Spatial Regimes and Spatial Dependence Matter?” *International Regional Science Review*, 29, 1:1-34, 2006.
- Fischer, S.**, “Globalization and its Challenges,” *American Economic Review*, 93, 2:1-30, 2003.
- Gerry, C. J., E. Nivorozhkin, and J. A. Rigg**, “The Great Divide: ‘Ruralisation’ of Poverty in Russia,” *Cambridge Journal of Economics*, 32, 4:593-607, 2008.
- Goskomstat**, *Sotsial’noe polozhenie i uroven’ zhizni naseleniya Rossii*, Moscow, Russia, 1999.
- Goskomstat**, *Sotsial’noe polozhenie i uroven’ zhizni naseleniya Rossii*, Moscow, Russia, 2002a.
- Goskomstat**, *Regiony Rossii: Sotsial’no-ekonomicheskie pokazateli*, Moscow, Russia, 2002b.
- Hulme, D.**, “Conceptualizing Chronic Poverty,” *World Development*, 31, 3:403-423, 2003.
- Kakwani, N.**, “Growth and Poverty Reduction: An Empirical Analysis,” *Asian Development Bank*, 18, 2:74-84, 2000.
- Kakwani, N., B. Prakash, and H. Son**, “Growth, Inequality and Poverty: An Introduction,” *Asian Development Review*, 18, 2:1-21, 2000.
- Kakwani, N., and H. Son**, “Poverty Equivalent Growth Rate,” *Review of Income and Wealth*, 54, 4:643-655, 2008.
- Kholodilin, K. A., A. Oshchepkov, and B. Siliverstovs**, “The Russian Regional Convergence Process, 1998-2006: Does the Space Matter?” paper presented at the 10th EACES bi-annual conference. Moscow, Russia, August 28-30, 2008.
- Lugovoi, O., V. Dashkeyev, I. Mazayev, D. Fomchenko, and A. Polyakov**, “Analysis of Economic Growth in Regions: Geographical and Institutional Aspect,” *Consortium for Economic Policy Research and Advice*. Moscow, Russia: IET, 2007.
- Ravallion, M., and G. Datt**, “Why Has Economic Growth Been More Pro-poor in Some States of India than Others?” *Journal of Development Economics*, 68:381-400, 2002.
- Ravallion, M., and S. Chen**, “Measuring Pro-poor Growth,” *Economics Letters*, 78:93-99, 2003.
- Ravallion, M., and S. Chen**, “What Can New Survey Data Tell Us About Recent Changes in Distribution and Poverty?” *World Bank Economic Review*, 11, 2:357-382, 1997.
- Rosstat**, *Regiony Rossii: Sotsial’no-ekonomicheskie pokazateli*, Moscow, Russia, 2007a.
- Rosstat**, *Sotsial’noe polozhenie i uroven’ zhizni naseleniya Rossii*, Moscow, Russia, 2007b.
- Shaban, A., ed.**, *Reducing Poverty through Growth and Social Policy Reform in Russia*, Washington, DC: World Bank, 2006.
- Son, H. H., and N. Kakwani**, “Global Estimates of Pro-poor Growth,” *World Development*, 36, 6:1048-1066, 2008.
- Takeda, Y.**, “Determinants of Poverty Alleviation and Impoverishment in Transitional Russia: Urban and Rural Areas,” *Journal of Economics (Keizaigaku Ronsyu)*, 72, 1:30-50, 2006 (in Japanese).
- Takeda, Y.**, “Poverty Dynamics in Russia during the 1990s,” *Slavic Studies*, 51:241-272, 2004a (in Japanese)

Takeda, Y., "Temporary or Chronic Poverty in Russia?" *CIRJE discussion paper series (CIRJE-F-309)*, Graduate School of Economics The University of Tokyo, December 2004, 2004b (in Russian).

Yemtsov, R., "Quo Vadis? Inequality and Poverty Dynamics across Russian Regions," in Kanbur, R. and A. J. Venables, eds. *Spatial Inequality and Development*. New York, NY: Oxford University Press, 348-397, 2005.

Appendix 1 Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Poverty rate, %				
overall	30.4	12.63	9.7	88.8
between		9.26	15.2	60.7
within		8.65	-10.1	66.4
Real GRP (1995 value)				
overall	9950.2	8115.46	1771.6	99936.8
between		7258.83	3584.1	57001.7
within		3717.98	-19107.4	52885.3
Share of social policy to consolidated budget, %				
overall	49.0	9.60	21.9	75.1
between		5.46	32.4	62.5
within		7.92	21.2	71.3
Annual CPI, %				
overall	31.8	36.37	4.3	169.0
between		1.79	27.1	36.1
within		36.32	4.7	166.3
Log of poverty rate				
overall	3.34	0.39	2.272	4.486
between		0.28	2.705	4.079
within		0.27	1.963	4.154
Log of real GRP				
overall	9.03	0.54	7.480	11.512
between		0.49	8.101	10.880
within		0.25	8.346	9.795
Log of share of social policy				
overall	3.87	0.21	3.086	4.318
between		0.12	3.470	4.120
within		0.18	3.129	4.278
Log of annual CPI				
overall	3.05	0.81	1.459	5.130
between		0.06	2.923	3.214
within		0.81	1.525	5.146
Number of observations	888			
Number of groups	74			
Number of periods	12			

Note: Each variable is on the base of regional data.

Appendix 2 Regions with Higher Poverty in 1995

Region	F.O.	Poverty rate, %
Pskov Oblast	North West	42.7
Adygeia Republic	South	46.4
Dagestan Republic	South	71.2
Kabardino-Balkariya Republic	South	42.5
Krachaev-Cherkessiya Republic	South	45.7
Severnaya Osetiya Republic	South	42.8
Stavropol Krai	South	39.6
Mariy El Republic	Volga	43.2
Orenburg Oblast	Volga	49.3
Kurgan Oblast	Ural	50.4
Buriatiya Republic	Siberia	55.2
Tuva Republic	Siberia	73.2
Novosibirsk Oblast	Siberia	39.8
Chita Oblast	Siberia	66.5
Amur Oblast	Far East	37.9

Note: Regions with higher poverty is defined as a region in which poverty rate is above the 5th percentile of its distribution.