

## Regional Sources of Federal Expenditure and the Pattern of Revenue Sharing in Post-Soviet Russia<sup>1</sup>

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This paper investigates the inflows of tax receipts from Russia's regions to the federal budget and subsequent federal revenue sharing with the regions.<sup>2</sup> Previous research only took account of transfers from federal to regional budgets.<sup>3</sup> The inclusion of regional tax transferred to Moscow allows us to ultimately study the relationship between net regional tax revenues and regional GDP. Our goal is to track flows of tax revenues among regions from their generation and distribution to their final budgetary uses. This paper presents a preliminary assessment of these interregional financial flows.

In the first section, we revise and update prior data on transfers from federal to regional budgets and clarify current trends. In the second section, we consider the relationship between regional budget revenues and GRP. Finally, the pattern of regional tax outflows and inflows from the federal budget is pinpointed with cluster and principal component analysis. It shows that rich regions provide most of the financial support for federal outlays and poor regions receive some compensatory financial assistance.

### *Transfers from federal to regional budgets*

There are two published sources of data on transfers from federal to regional budgets. One is obtained from the official annual federal budget showing planned expenditures (Table 1). The other is taken from various reports made by the Ministry of Finance and the State Committee on Statistics of the Russian Federation (Goskomstat Rossii), recording actual regional budgetary revenues (Table 2)

From Table 1 we can see that the Fund for Financial Support of Regions (FFPR) has accounted for the bulk of regional financial support since 1995. This fund was created in 1994 to reduce regional inequality.<sup>4</sup> Its shares in total financial support have been around 80 per cent 1997-2000.

Financial support for regions as a share of federal total expenditure decreased from 13.2 per cent in 1996 to around 8 per cent in 1999-2000, probably due to two changes in federal budget law. First, in 1998 the FFPR was set at 14 per cent of total federal

**Table 1: Planned financial support earmarked for regional budgets**

Type of Support	1993	1994	1995	1996	1997	1998	1999	2000
	(in millions of new rubles)			(in millions of new rubles)				
Total expenditure of the federal budget	18,725.1	194,495.3	248,344.3	435,750.0	529,765.2	499,945.2	575,046.6	855,073.0
Financial support for regions <sup>a</sup>	1,576.7	26,967.0	28,499.5	57,625.1	66,971.8	51,703.8	43,444.4	69,148.6
Federal fund for financial support of regions (FFPR) <sup>b</sup>	---	11,866.6	14,858.1	39,337.0	52,929.4	39,183.8	33,725.8	57,350.9
Grants to "closed cities"	---	583.2	1,043.2	1,932.3	2,735.0	2,586.1	2,007.8	6070.6
Grants to Sochi health resort	---	---	43.6	195.2	355.2	140.0	238.0	300.0
Grants to Leninsk city for rental of Baikonur space center	---	---	1,61.0	719.9	582.2	413.9	353.1	590.9
Subventions to Moscow city for capital functions	70.0	2,774.7	1,999.2	2,660.0	2,400.0	1,000.0	---	---
Federal programs for regional development	415.1	---	844.2	2,475.4	2,290.0	2,300.0	1,508.3	2,200.0
Compensation for electricity rates in the Far Eastern regions	---	---	850.0	---	1,300.0	1,200.0	1,000.0	---
State support to the Far Northern regions for product delivery	266.0	6,467.0	4,380.2	3,000.0	3,500.0	2,640.0	3,000.0	---
Expenditure for social facilities and housing transferred to regions	---	5,275.5	4,320.0	6,805.3	880.0	---	---	---
Other	825.5	0.0	0.0	500.0	0.0	2,240.0	1,611.4	2,636.2
	(in % of total expenditure)			(in % of total expenditure)				
Total expenditure of the federal budget	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Financial support for regions <sup>a</sup>	8.4	13.9	11.5	13.2	12.6	10.3	7.6	8.1
Federal fund for financial support of regions (FFPR) <sup>b</sup>	---	6.1	6.0	9.0	10.0	7.8	5.9	6.7
Grants to "closed cities"	---	0.3	0.4	0.4	0.5	0.5	0.3	0.7
Grants to Sochi health resort	---	---	0.0	0.0	0.1	0.0	0.0	0.0
Grants to Leninsk city for rental of Baikonur space center	---	---	0.1	0.2	0.1	0.1	0.1	0.1
Subventions to Moscow city for capital functions	0.4	1.4	0.8	0.6	0.5	0.2	---	---
Federal programs for regional development	2.2	---	0.3	0.6	0.4	0.5	0.3	0.3
Compensation for electricity rates in the Far Eastern regions	---	---	0.3	---	0.2	0.2	0.2	---
State support to the Far Northern regions for product delivery	1.4	3.3	1.8	0.7	0.7	0.5	0.5	---
Expenditure for social facilities and housing transferred to regions	---	2.7	1.7	1.6	0.2	---	---	---
Other	4.4	0.0	0.0	0.1	0.0	0.4	0.3	0.3

Notes:

<sup>a</sup> Since 1994 "Financial support to budgets on other level" was provided in the federal budget law. This item also includes "State support to Far Northern regions for the delivery of products", which were shown separately from the above-mentioned item in 1994 and 1996-1997. For 1993, related items are chosen, due to lack of the comprehensive item corresponding to the years that followed 1994.

<sup>b</sup> In 2000 "Compensation for electricity rates in the Far Eastern regions" and "State support to the Far Northern regions for delivery of products" are included in this fund.

Sources: Compiled by author from *Vedomosti S'ezda Narodnykh Deputatov RF i Verkhovnogo Soveta RF* No. 22 (1993), pp. 1302-1326 and *Vedomosti Federal'nogo Sbornie Zakonodatel'stva RF*, No. 10 (1994), pp. 1525-1553; No. 14 (1995), pp. 2189-2256; No. 1 (1996), pp. 193-226; No. 9 (1997), pp. 1698-1817; No. 13 (1998), pp. 2706-2861; No. 9 (1999), pp. 1687-1880; No. 1 (2000), pp. 12-255

**Table 2: Actual revenues of regional budgets**

Source	1992	1993	1994	1995	1996	1997	1998
	(in millions of new rubles)						
Total revenue of regional budgets	2,672.3	30,129.4	115,674.5	241,000.0	322,900.0	414,925.8	397,743.3
Profit tax	920.9	11,350.7	31,829.7	76,100.0	64,200.0	69,040.5	61,495.0
Personal income tax	431.3	4,394.5	17,440.4	33,300.0	51,500.0	73,370.3	71,134.0
Value Added Taxes (VAT)	498.2	4,008.2	10,231.9	23,900.0	42,100.0	53,815.8	51,763.1
Other tax and non-tax revenues	493.1	4,748.5	27,383.1	67,600.00	111,500.0	153,795.2	145,799.3
Financial support from the federal budget	315.0	5,423.8	26,899.2	29,200.0	46,300.0	49,980.1	43,209.7
Transfers	---	---	5,675.6	19,400.0	23,300.0	32,947.5	29,667.2
FFPR	---	---	2,252.2	14,300.0	15,200.0	23,164.9	26,309.6
FFPR offset against VAT	---	---	3,423.5	5,100.0	8,100.0	9,782.5	3,357.5
Grants to "closed cities"	---	---	585.1	900.0	2,100.0	3,457.2	3,179.3
Subventions	142.5	1,124.2	2,621.6	2,000.0	2,700.0	2,400.0	563.5
Short-term loans	17.3	76.8	103.0	---	---	---	---
Mutual settlements	155.2	4,222.8	17,914.0	6,900.0	18,200.0	11,175.4	9,799.8
Other revenues	13.9	203.6	1,890.1	10,900.0	7,300.0	14,923.8	24,342.3
GDP	19,005.5	171,519.5	610,745.2	1,540,492.8	2,145,655.5	2,521,941.5	2,684,538.6
	(in % of total revenue)						
Total revenue of regional budgets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Profit tax	34.5	37.7	27.5	31.6	19.9	16.6	15.5
Personal income tax	16.1	14.6	15.1	13.8	15.9	17.7	17.9
VAT	18.6	13.3	8.8	9.9	13.0	13.0	13.0

**Table 2 (continued)**

Source	1992	1993	1994	1995	1996	1997	1998
	(in % of total revenue)						
Other tax and non-tax revenues	18.5	15.8	23.7	28.0	34.5	37.1	36.7
Financial support from the federal budget	11.8	18.0	23.3	12.1	14.3	12.0	10.9
Transfers	---	---	4.9	8.0	7.2	7.9	7.5
FFPR	---	---	1.9	5.9	4.7	5.6	6.6
FFPR offset against VAT	---	---	3.0	2.1	2.5	2.4	0.8
Grants to "closed cities"	---	---	0.5	0.4	0.7	0.8	0.8
Subventions	5.3	3.7	2.3	0.8	0.8	0.6	0.1
Short-term loans	0.6	0.3	0.1	---	---	---	---
Mutual settlements	5.8	14.0	15.5	2.9	5.6	2.7	2.5
Other revenues	0.5	0.7	1.6	4.5	2.3	3.6	6.1
	(in % of GDP)						
GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total revenue of regional budgets	14.1	17.6	18.9	15.6	15.0	16.5	14.8
Profit tax	4.8	6.6	5.2	4.9	3.0	2.7	2.3
Personal income tax	2.3	2.6	2.9	2.2	2.4	2.9	2.6
VAT	2.6	2.3	1.7	1.6	2.0	2.1	1.9
Other tax and non-tax revenues	2.6	2.8	4.5	4.4	5.2	6.1	5.4
Financial support from the federal budget	1.7	3.2	4.4	1.9	2.2	2.0	1.6
Transfers	---	---	0.9	1.3	1.1	1.3	1.1
FFPR	---	---	0.4	0.9	0.7	0.9	1.0

**Table 2 (continued)**

Source	1992	1993	1994	1995	1996	1997	1998
	(in % of GDP)						
FFPR offset against VAT	---	---	0.6	0.3	0.4	0.4	0.1
Grants to "closed cities"	---	---	0.1	0.1	0.1	0.1	0.1
Subventions	0.7	0.7	0.4	0.1	0.1	0.1	0.0
Short-term loans	0.1	0.0	0.0	---	---	---	---
Mutual settlements	0.8	2.5	2.9	0.4	0.8	0.4	0.4
Other revenues	0.1	0.1	0.3	0.7	0.3	0.6	0.9

Sources: For 1992-1994, data was obtained from unpublished reports of consolidated budget execution (Ministerstvo Finansov Rossiiskoi Federatsii, *Mesiachnyi otchet ob ispolnenii biudzheta v Rossiiskoi Federatsii na 1-oe ianvaria 1993 goda* (1993); *Godovoi otchet ob ispolnenii biudzheta v Rossiiskoi Federatsii*, reports for the years 1993 and 1994; *Otchet ob ispolnenii biudzheta sub'ektov Rossiiskoi Federatsii za 1994 god*, (1995); For 1995 and 1996, tax revenue data was obtained from *Rossiiskoi statisticheskii ezhegodnik (RSE)* (1997), pp. 520; (1999), pp. 492, and data on financial support from *Tekushchie tendentsii v denezhno-kreditnoi sfere* No. 3 (1997), pp. 20; For 1997 and 1998, tax revenue was obtained from regional budget execution reports (Ministerstvo Finansov Rossiiskoi Federatsii, *Svodnyi mesiachnyi otchet ob ispolnenii mestnykh biudzheta*, unpublished reports for the years 1998 and 1999); GDP data was obtained from *Natsional'nye scheta Rossii v 1991-1998 godakh* (Moscow: Goskomstat Rossii, 1999), pp. 27.

budget revenues, excluding import duties, instead of 15 per cent as it was in 1996 and 1997. Second, in 1999 other taxes levied by the State Customs Committee (which included value added taxes (VAT) and excise taxes), were excluded from the sources for the FFPR.<sup>5</sup>

Table 2 presents data on regional budgetary revenues compiled from three sources, which could be inconsistent.<sup>6</sup> Moreover the data in Table 2 are not easily reconciled with the statistics in Table 1.<sup>7</sup>

Nonetheless, it demonstrates:

- (1) As was pointed out in Table 1, the FFPR has accounted for the largest part of regional financial support; 65-70 per cent in the period 1997-1998.
- (2) If mutual settlements are disregarded,<sup>8</sup> the level of financial support as shares of regional budgetary revenue and GDP has been almost unchanged since 1994: 8-9 per cent of total regional revenue and 1.2-1.5 per cent of GDP.

(3) The difference between planned and actual FFPR transfers has been significant ( Cf. Table 2 with Table 1). During the period 1996-1998 planned FFPR were only 60-75 per cent fulfilled because of pervasive tax revenue deficits.

(4) "FFPR offset against VAT" in Table 2 amounted to approximately 30 per cent of all transfers in 1995-1997, but decreased to only 11 per cent in 1998.<sup>9</sup> The reason for this decrease is not clear.

Table 2 shows that total financial support amounted to only 11 per cent of regional budget revenues and less than two per cent of GDP in 1998. But this was not necessarily too low, as sometimes suggested in the Russian and Western literature,<sup>10</sup> because the size of transfers depends on the amount of retained regional tax receipts. Indeed the Ministry of Finance is proposing to increase VAT profit retention rates while reducing transfers from the center, in order to concentrate transfers in a small number of regions.<sup>11</sup>

With respect to the statistics on transfers from federal to regional budgets, we concentrate on the FFPR because the data are consistent and other forms of transfers are ambiguous. The data on the distribution of FFPR are summarized in Table 3.<sup>12</sup> The rules for distributing the FFPR among regions were set in 1994 and although numerous revisions have taken place from year to year, the basic scheme has not changed. Regions are eligible to receive FFPR, if their per capita regional tax revenues are below the country's average, or lack revenues to cover current expenditures.<sup>13</sup>

As shown in Table 3, nine resource-endowed and/or industrial regions, namely, Moscow, Lipetsk, Tatarstan, Samara, the Bashkir Republic, Sverdlovsk, Khanty-Mansiisk Autonomous Okrug, Yamalo-Nenets Autonomous Okrug, and Krasnoiarisk Krai did not receive FFPR from 1994-1998. Generally speaking, the Northern, Northwestern, Urals and East Siberian economic regions receive small amounts of FFPR. These transfers can be treated as donations, but only if they are not offset by retained regional tax receipts as sometimes happens.

The ten largest recipients of FFPR from 1994-1998 were Kemerovo, Altai Krai, Dagestan, Rostov, Krasnodar Krai, Stavropol', the Buriat Republic, Amur, Saratov and Omsk. Because per capita regional tax revenues in the regions of the North Caucasus are generally low and current expenditures in the regions of West

**Table 3: Regional distribution of the FFPR (in % of Russian total)**

Region	1994 <sup>a</sup>	1995	1996	1997	1998	1999	2000	Avr.	1994	1995 <sup>c</sup>	1996	1997	1998	Avr.
	(Planned figures)								(Actual figures)					
Karelian Republic	0.2	2.0	1.1	0.8	0.7	1.0	0.7	0.9	0.2	1.0	1.1	0.9	1.0	0.8
Komi Republic	---	0.8	0.2	0.4	---	---	---	0.2	---	0.7	0.3	0.3	0.0	0.3
Arkhangel'sk Oblast	1.0	0.9	0.6	1.0	1.1	1.5	1.8	1.1	1.2	1.0	0.8	0.7	1.1	1.0
Nenets A.O.*	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2
Vologda Oblast	---	0.6	0.2	0.3	0.2	0.2	---	0.2	---	0.6	0.3	---	0.5	0.3
Murmansk Oblast	---	0.3	---	0.8	0.9	0.6	0.5	0.4	---	0.3	0.1	0.6	1.0	0.4
St. Petersburg City	---	---	0.9	0.7	---	---	---	0.2	---	---	0.7	0.5	0.2	0.3
Leningrad Oblast	0.8	0.2	0.5	0.5	0.5	0.3	0.2	0.4	0.4	0.2	0.4	0.5	0.5	0.4
Novgorod Oblast	0.5	0.7	1.2	1.0	0.9	0.6	0.6	0.8	0.2	0.8	1.2	1.1	1.0	0.9
Pskov Oblast	1.1	0.9	1.5	1.1	1.0	1.3	1.6	1.2	1.5	0.9	1.7	1.1	1.2	1.3
Briansk Oblast	1.8	1.6	1.1	0.8	1.0	1.3	2.5	1.4	2.4	1.6	1.4	0.7	1.2	1.5
Vladimir Oblast	0.7	0.5	1.3	1.0	0.9	1.2	1.0	0.9	1.0	0.5	1.4	1.2	0.8	1.0
Ivanovo Oblast	1.3	1.0	2.2	1.6	1.5	1.6	1.9	1.6	0.7	1.0	1.8	2.0	1.5	1.4
Kaluga Oblast	1.1	1.0	0.7	1.1	1.0	1.0	1.0	1.0	1.5	1.0	0.9	1.2	1.0	1.1
Kostroma Oblast	0.5	1.9	1.1	1.6	1.4	0.9	0.7	1.1	0.7	1.8	1.4	1.4	1.6	1.4
Moscow City	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Moscow Oblast	---	3.7	---	3.1	---	---	---	1.0	---	2.8	1.4	2.3	0.4	1.4
Orel Oblast	0.6	1.2	1.3	1.1	1.3	1.2	0.8	1.1	0.3	1.3	1.2	1.6	1.1	1.1
Riazan' Oblast	---	0.1	0.5	0.9	0.8	1.1	0.7	0.6	---	0.1	0.6	0.7	0.8	0.4
Smolensk Oblast	0.6	0.5	0.8	0.6	0.7	0.5	0.9	0.6	0.8	0.5	0.8	0.7	0.8	0.7
Tver' Oblast	1.2	1.2	0.9	0.8	0.8	0.8	1.3	1.0	1.7	1.1	1.0	1.0	0.9	1.2
Tula Oblast	1.2	0.8	0.8	0.6	0.9	0.6	1.1	0.9	1.5	0.8	1.0	0.6	0.8	0.9
Iaroslavl' Oblast	---	---	0.1	0.5	0.4	0.3	---	0.2	---	---	0.0	0.5	0.4	0.2
Mari El Republic	2.0	1.4	1.2	1.0	0.9	1.3	0.9	1.3	2.1	1.5	1.2	1.2	0.9	1.4
Mordovian Republic	1.2	1.0	1.6	1.3	1.3	1.5	1.1	1.3	1.8	1.1	1.5	1.5	0.9	1.4
Chuvash Republic	1.5	1.3	1.4	1.1	1.0	1.3	0.9	1.2	2.0	1.4	1.4	1.2	0.9	1.4
Kirov Oblast	1.3	1.3	2.1	1.6	1.4	0.9	0.8	1.3	2.3	1.2	2.1	1.8	1.8	1.8
Nizhnii Novgorod Oblast	---	---	1.1	0.8	0.7	0.5	---	0.4	---	---	1.2	0.7	0.8	0.5

Table 3 (continued)

Region	1994 <sup>b</sup>	1995	1996	1997	1998	1999	2000	Avr.	1994	1995 <sup>c</sup>	1996	1997	1998	Avr.	
	(Planned figures)								(Actual figures)						
Belgorod Oblast	---	0.1	0.1	0.2	0.2	0.2	0.2	0.2	---	0.1	0.1	0.2	0.2	0.1	
Voronezh Oblast	1.7	1.7	2.0	1.5	1.3	1.7	1.2	1.6	2.9	1.7	2.1	1.7	1.4	2.0	
Kursk Oblast	0.4	0.5	0.8	1.1	1.0	0.6	0.5	0.7	1.2	0.5	0.9	1.1	0.9	0.9	
Lipetsk Oblast	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Tambov Oblast	1.1	1.0	1.3	1.0	0.9	1.3	1.3	1.1	1.6	---	1.0	1.2	1.2	1.0	
Kalmyk Republic	1.4	1.0	1.2	0.9	0.9	0.6	0.4	0.9	1.0	1.0	1.2	1.2	0.7	1.0	
Tatarstan Republic	0.9	0.3	1.1	0.8	---	---	---	0.5	---	---	---	---	---	---	
Astrakhan' Republic	0.9	1.0	2.0	1.5	1.3	0.9	0.7	1.2	0.3	1.0	2.1	1.6	1.5	1.3	
Volgograd Oblast	0.9	0.7	1.0	0.7	0.7	0.9	0.6	0.8	0.7	0.6	1.5	0.5	0.7	0.8	
Penza Oblast	1.6	1.6	1.6	1.2	1.1	1.5	1.6	1.5	2.3	1.5	2.1	1.4	1.1	1.7	
Samara Oblast	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Saratov Oblast	1.8	1.7	2.6	1.9	1.8	1.6	1.1	1.8	2.3	1.6	2.3	2.1	2.3	2.1	
Ul'ianovsk Oblast	---	0.8	0.7	0.9	0.8	0.5	0.4	0.6	---	0.7	0.9	0.8	1.0	0.7	
Adygei Republic	0.5	0.6	0.8	0.7	1.2	1.2	0.8	0.8	0.7	0.6	0.9	1.3	1.2	1.0	
Dagestan Republic	3.5	5.0	4.4	3.4	5.2	7.0	7.6	5.1	3.7	6.7	3.9	3.9	5.0	4.6	
Ingush Republic	0.6	0.5	0.6	0.6	0.8	1.1	1.2	0.8	0.7	0.5	0.6	0.6	1.0	0.7	
Kabardino-Balkar Republic	1.1	1.1	1.5	1.1	3.4	3.1	2.3	1.9	1.4	1.1	1.5	1.6	2.8	1.7	
Karachai-Cherkess Republic	0.6	0.6	0.7	0.5	0.8	1.1	0.9	0.8	0.5	0.6	0.6	0.7	0.8	0.6	
North Ossetian Republic	0.9	1.1	1.4	1.1	1.4	1.9	1.3	1.3	0.7	1.0	1.6	1.2	1.6	1.2	
Chechen Republic	1.6	1.6	1.9	1.4	0.3	0.8	0.9	1.2	---	3.4	1.7	---	---	1.0	
Krasnodar Krai	1.5	1.8	4.2	3.2	2.8	1.8	2.1	2.5	2.0	1.7	3.8	3.9	3.0	2.9	
Stavropol' Krai	2.2	2.6	2.5	2.4	2.4	1.6	2.0	2.2	2.7	2.9	2.8	2.5	2.8	2.7	
Rostov Oblast	2.6	2.6	2.7	2.4	3.1	2.8	3.0	2.7	4.1	2.8	2.4	2.9	2.5	2.9	
Bashkir Republic	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Udmurt Republic	1.0	0.9	1.4	1.5	1.6	1.0	0.7	1.2	1.2	1.0	1.4	1.4	1.5	1.3	
Kurgan Oblast	1.0	1.0	1.4	1.0	0.9	1.2	0.9	1.1	1.5	0.9	1.4	1.1	1.2	1.2	
Orenburg Oblast	0.9	0.9	1.1	0.8	1.0	0.6	0.5	0.8	1.1	0.8	1.3	0.7	0.8	0.9	
Perm' Oblast	---	1.0	---	0.6	---	---	---	0.2	---	0.8	0.2	0.4	0.3	0.4	
Komi-Permiak A.O.	0.5	0.4	0.4	0.3	0.3	0.4	0.7	0.4	0.5	0.4	0.3	0.3	0.3	0.4	

Table 3 (continued)

Region	1994 <sup>a</sup>	1995	1996	1997	1998	1999	2000
	(Planned figures)						
Sverdlovsk Oblast	---	---	---	---	---	---	---
Cheliabinsk Oblast	---	0.3	0.4	0.8	0.7	0.4	---
Altai Republic	1.0	0.7	0.5	0.4	0.3	0.4	0.8
Altai Krai	4.9	4.2	5.4	4.5	5.5	6.2	5.4
Kemerovo Oblast	17.8	8.1	2.0	3.2	4.0	2.9	2.0
Novosibirsk Oblast	3.9	3.0	1.3	1.3	1.1	0.9	1.7
Omsk Oblast	3.8	3.1	0.5	1.6	1.4	0.9	1.1
Tomsk Oblast	0.7	0.9	0.8	1.0	0.9	0.6	0.6
Tiumen' Oblast	0.1	1.1	2.0	1.5	1.4	0.9	---
Khanty-Mansiisk A.O.	---	---	---	---	---	---	---
Jamalo-Nenets A.O.	---	---	---	---	---	---	---
Buriat Republic	2.5	1.9	2.2	1.6	2.6	3.1	2.7
Tyva Republic	1.4	1.0	1.0	0.9	1.5	1.5	1.9
Khakass Republic	0.4	0.5	0.5	0.3	0.3	0.4	0.4
Krasnoirsks Krai	---	---	---	---	---	---	---
Taimyr A.O.	0.6	0.3	0.2	0.2	0.2	0.3	0.5
Evenki A.O.	0.5	0.3	0.3	0.2	0.2	0.3	0.5
Irkutsk Oblast	---	0.9	---	0.6	1.0	0.9	1.1
Ust'-Orda Buriat A.O.	0.7	0.5	0.5	0.4	0.5	0.6	0.8
Chita Oblast	1.6	1.5	1.0	1.2	1.8	2.4	2.6
Aga-Buriat A.O.	0.3	0.2	0.2	0.2	0.3	0.4	0.4
Sakha Republic	---	1.9	5.5	4.1	3.7	3.1	4.6
Evrei A.Obi.	0.4	0.4	0.7	0.7	0.8	0.9	1.0
Chukotka A.O.	2.0	1.4	1.6	1.2	1.2	1.1	1.7
Primorskii Krai	---	1.2	---	4.8	4.3	4.0	3.4
Khabarovsk Krai	0.5	1.7	1.4	2.4	2.1	2.6	2.7
Amur Oblast	0.7	1.6	3.5	2.6	2.3	2.3	2.5
Kamchatka Oblast	2.2	1.3	---	1.3	1.2	1.6	1.7

Avr.	1994	1995 <sup>c</sup>	1996	1997	1998	Avr.
	(Actual figures)					
---	---	---	---	---	---	---
0.4	---	0.2	0.5	0.6	0.7	0.4
0.6	1.7	0.8	0.7	0.6	0.3	0.8
5.2	6.6	4.5	5.3	4.7	5.3	5.3
5.7	13.7	7.8	2.7	2.8	4.1	6.2
1.9	1.5	3.1	1.5	1.3	0.9	1.7
1.8	3.3	2.9	1.0	1.2	1.6	2.0
0.8	0.4	0.9	0.9	1.0	1.0	0.9
1.0	0.1	1.0	1.0	1.7	2.0	1.1
---	---	---	---	---	---	---
---	---	---	---	---	---	---
2.4	2.8	1.9	1.7	2.6	2.4	2.3
1.3	1.3	1.0	1.2	1.0	1.4	1.2
0.4	0.5	0.5	0.4	0.3	0.3	0.4
---	---	---	---	---	---	---
0.3	0.3	0.2	0.2	0.2	0.2	0.2
0.4	0.3	0.3	0.3	0.4	0.2	0.3
0.6	---	0.9	0.0	0.5	0.9	0.5
0.6	0.6	0.5	0.6	0.5	0.6	0.5
1.7	2.2	1.5	1.3	1.2	1.7	1.6
0.3	0.3	0.2	0.2	0.2	0.3	0.2
3.3	---	1.7	3.1	2.5	2.2	1.9
0.7	0.5	0.6	0.7	0.7	0.9	0.7
1.4	1.3	1.6	1.3	1.3	1.1	1.3
2.5	---	1.1	0.2	3.6	4.1	1.8
1.9	0.2	1.6	1.7	2.3	1.6	1.5
2.2	1.1	1.6	2.7	3.1	2.6	2.2
1.3	1.6	1.2	0.5	1.0	1.0	1.1

Table 3 (continued)

Region	1994 <sup>a</sup>	1995	1996	1997	1998	1999	2000
	(Planned figures)						
Koriak A.O.	2.6	0.9	0.3	0.5	0.4	0.4	0.7
Magadan Oblast	0.6	1.4	2.1	1.6	1.4	1.4	2.0
Sakhalin Oblast	1.9	1.6	1.8	1.6	1.4	1.9	2.1
Kaliningrad Oblast	0.8	0.9	0.4	0.5	0.5	0.6	0.6
Russian Federation	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes:

<sup>a</sup> A.O. = Autonomous Okrug.

<sup>b</sup> Last three quarters. Calculated assuming that 62 per cent of FFPR was earmarked for regions in need of support and 38 per cent for regions in need of considerable support (See Tabata, "Transfers," pp. 454-455). This ratio is obtained from T. Boiko and A. Lavrov, "Biudzhetye otnosheniia v Rossii," *EKO* No. 1 (1995), pp.171.

<sup>c</sup> Calculated from figures of plan fulfillment reported in S. Khursevich, "O nekotorykh usloviakh rezul'tativnosti reformy mezhibiudzhetykh otnoshenii," *Voprosy ekonomiki* No. 10 (1998), pp. 129-130

Siberia and the Far East are generally large compared with their revenues, they receive larger amounts of FFPR.

Table 4 reveals how important FFPR is for each region's budget.<sup>14</sup> Shares of FFPR in regional budgetary revenues vary greatly from one region to another. The largest shares were recorded in Aga-Buriat Autonomous Okrug, the Ingush Republic, Ust'-Orda Buriat Autonomous Okrug, Dagestan, Altai Republic, Tyva Republic, Koriak Autonomous Okrug, Evrei Autonomous Oblast, Kalmyk Republic, and Komi-Permiak Autonomous Okrug during 1994-1998. These are mostly small regions. While in the Northern, Central, Central Black Earth and Urals economic regions shares range from 8 to 10 per cent. In the North Caucasus and West Siberia the average share exceeds 25 per cent.

It is worth noting that the share of FFPR in the regional budgetary revenues of each region did not fluctuate too much. Coefficients of variation in 27 regions were less than 0.3 and those of 60 out of 80 regions that received FFPR were less than 0.5 1994-1998 (See the last column of Table 4). The transfer pattern appears relatively stable.

In conclusion, the transfer system from federal to regional budgets is stable at a comparatively low level. The amount of FFPR that each region receives also has been relatively fixed.

Avr.	1994	1995 <sup>b</sup>	1996	1997	1998	Avr.
	(Actual figures)					
0.8	1.6	0.9	0.4	0.4	0.4	0.8
1.5	0.5	1.5	2.2	1.5	1.5	1.4
1.8	1.2	1.6	1.7	1.6	1.6	1.5
0.6	0.9	0.8	0.3	0.7	0.2	0.6
100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Compiled from *Sobranie zakonodatel'stva RF* No. 10 (1994), pp. 1542-1544; No. 14 (1995), pp. 2200, 2203-2205; No. 1 (1996), pp. 205-207; No. 9 (1997), pp. 1713-1715; No. 13 (1998), pp. 2723-2725; No. 9 (1999), pp. 1701-1703; No. 1 (2000), pp. 27-29; Ministerstvo Finansov Rossiiskoi Federatsii, *Svodnyi meslachny i otchet ob ispolnenii mestnykh biudzhетov*, unpublished reports for the years 1994 and 1997-1998; *MFK Renaissance Research* (March 1998), pp. 30-33.

### Regional budgets and GDP

In this section data on GDP, tax revenues and FFPR are analyzed in regional perspective. The analysis is limited to 1996, the only year for which tax revenue data are available.

In Russia, regional GDP is calculated by Goskomstat Rossii as Gross Regional Product (GRP). The sum of regional GRP's does not add up to Russia's GDP because defense, state administration, bank activities and foreign trade are not attributable to specific regions.<sup>15</sup> GRP data were first published in 1997 in Goskomstat's national accounts handbook.<sup>16</sup> At present, data for the period 1994-1997 are available. GRP data for the nine Autonomous Okrugs that constitute the main components of the Federation have not been compiled, except for Chukotka Autonomous Okrug and Evrei Autonomous Oblast. In addition, GRP data for the Chechen Republic have been unavailable because of the on going military conflict. Also bear in mind that the GRP data is preliminary.<sup>17</sup>

With regard to tax revenues, federal budget tax receipt data from regions are rarely available.<sup>18</sup> We only have the data for 1996 published in *Russian Economic Trends*.<sup>19</sup>

Data on FFPR and regional budget revenues is readily available. The data for 1996 was obtained from *MFK Renaissance Research*.<sup>20</sup>

Table 5 summarizes GRP and tax revenues of Russia's regions in 1996. GRP is concentrated in a small number of regions. Twelve out of 79 regions (Moscow City and Oblast, Tiumen',



**Table 4: Share of FFPR in actual regional budget revenues (in percent of total regional budget revenue)**

Region	1994	1995 <sup>a</sup>	1996	1997	1998	Av. <sup>1</sup>	Coeff. of Var. <sup>2</sup>
Karelian Republic	1.5	12.0	15.0	15.2	14.6	11.7	0.45
Komi Republic	---	3.2	1.7	2.4	0.3	1.5	0.80
Arkhangel'sk Oblast	6.1	5.2	8.4	7.9	12.0	7.9	0.30
Nenets A.O.	16.6	29.9	21.7	21.7	13.7	20.7	0.27
Vologda Oblast	---	4.1	2.6	---	4.7	2.3	0.87
Murmansk Oblast	---	2.2	0.7	4.7	6.8	2.9	0.88
St. Petersburg City	---	---	1.7	1.4	0.3	0.7	1.08
Leningrad Oblast	2.4	1.7	3.3	5.9	3.7	3.4	0.43
Novgorod Oblast	2.9	13.2	22.1	22.3	17.8	15.7	0.46
Pskov Oblast	19.2	18.2	33.6	29.2	28.1	25.7	0.23
Briansk Oblast	18.7	16.5	21.0	14.1	20.6	18.2	0.14
Vladimir Oblast	5.9	4.5	13.6	14.3	8.5	9.3	0.43
Ivanovo Oblast	6.2	11.0	26.5	31.4	26.0	20.2	0.48
Kaluga Oblast	13.2	11.4	12.1	18.8	13.7	13.9	0.19
Kostroma Oblast	6.6	18.3	16.7	19.5	23.0	16.8	0.33
Moscow City	---	---	---	---	---	---	---
Moscow Oblast	---	4.7	2.5	4.9	0.8	2.6	0.77
Orel Oblast	3.2	14.0	20.3	28.0	18.9	16.9	0.49
Riazan' Oblast	---	0.8	8.3	11.0	10.8	6.2	0.78
Smolensk Oblast	7.3	6.4	13.0	13.1	13.0	10.6	0.29
Tver' Oblast	10.2	10.3	10.1	12.1	10.3	10.6	0.07
Tula Oblast	8.2	5.7	8.9	7.9	8.9	7.9	0.15
Iaroslavl' Oblast	---	---	0.2	4.9	2.8	1.6	1.24
Mari El Republic	24.3	24.7	28.4	34.0	24.8	27.2	0.14
Mordovian Republic	19.0	13.7	22.7	24.2	18.5	19.6	0.19
Chuvash Republic	15.2	12.8	17.7	15.2	12.1	14.6	0.14
Kirov Oblast	14.8	9.2	22.1	21.8	6.4	14.9	0.43
Nizhnii Novgorod Oblast	---	---	4.7	2.7	8.6	3.2	1.00

**Table 4 (continued)**

Region	1994	1995 <sup>a</sup>	1996	1997	1998	Av. <sup>1</sup>	Coeff. of Var. <sup>2</sup>
Belogorod Oblast	---	0.8	1.3	2.8	2.0	1.4	0.69
Voronezh Oblast	13.6	13.1	16.5	15.1	11.2	13.9	0.13
Kursk Oblast	10.4	5.3	9.8	15.1	10.1	10.1	0.31
Lipetsk Oblast	---	---	---	---	---	---	---
Tambov Oblast	14.1	---	14.8	20.0	21.3	14.0	0.54
Kalmyk Republic	18.7	36.7	52.6	47.8	26.3	36.4	0.35
Tatarstan Republic	---	---	---	---	---	---	---
Astrakhan' Republic	3.6	13.4	31.9	26.7	25.1	20.1	0.51
Volgograd Oblast	2.8	3.1	8.0	3.9	5.9	4.7	0.41
Penza Oblast	18.7	19.2	28.8	21.9	19.9	21.7	0.17
Samara Oblast	---	---	---	---	---	---	---
Saratov Oblast	9.8	9.8	13.7	14.3	14.0	12.3	0.17
Ul'ianovsk Oblast	---	7.2	11.0	10.6	12.3	8.2	0.54
Adygei Republic	16.0	27.1	38.6	51.9	40.2	34.8	0.35
Dagestan Republic	14.3	44.5	52.9	49.5	54.1	43.1	0.34
Ingush Republic	32.0	43.6	70.9	66.4	48.4	52.3	0.28
Kabardino-Balkar Republic	15.5	20.7	31.7	34.1	43.3	29.1	0.34
Karachai-Cherkess Republic	10.2	25.6	32.2	34.5	43.6	29.2	0.38
North Ossetian Republic	10.7	28.5	34.3	33.3	44.5	30.3	0.37
Chechen Republic	---	83.0	80.7	---	---	32.7	1.22
Krasnodar Krai	3.7	5.7	13.7	16.3	12.3	10.4	0.46
Stavropol' Krai	10.0	16.5	20.3	21.8	20.6	17.8	0.24
Rostov Oblast	10.4	10.9	11.3	16.8	12.5	12.4	0.19
Bashkir Republic	---	---	---	---	---	---	---
Udmurt Republic	7.2	8.8	10.0	10.5	12.2	9.7	0.17
Kurgan Oblast	13.8	13.7	23.1	21.4	21.7	18.8	0.22
Orenburg Oblast	4.7	4.7	8.3	5.2	5.3	5.7	0.24
Perm' Oblast	---	2.7	0.8	2.0	1.3	1.4	0.68
Komi-Permiak A.O.	23.9	41.8	40.0	39.8	34.3	36.0	0.18

Table 4 (continued)

Region	1994	1995 <sup>a</sup>	1996	1997	1998	Av. <sup>1</sup>	Coeff. of Var. <sup>2</sup>
Sverdlovsk Oblast	---	---	---	---	---	---	---
Cheliabinsk Oblast	---	0.6	1.4	2.4	2.7	1.4	0.73
Altai Republic	43.0	39.9	54.8	51.3	25.6	42.9	0.24
Altai Krai	20.3	20.0	30.8	33.3	33.7	27.6	0.22
Kemerovo Oblast	22.9	17.3	7.4	10.3	14.7	14.5	0.37
Novosibirsk Oblast	4.8	12.5	7.6	7.9	5.2	7.6	0.36
Omsk Oblast	12.1	12.2	5.7	7.2	8.8	9.2	0.28
Tomsk Oblast	3.3	7.4	8.7	8.6	9.9	7.6	0.30
Tiumen' Oblast	0.3	1.1	5.2	10.1	11.8	5.7	0.81
Khanty-Mansiisk A.O.	---	---	---	---	---	---	---
Iamalo-Nenets A.O.	---	---	---	---	---	---	---
Buriat Republic	20.5	16.6	23.5	40.3	35.0	27.2	0.33
Tuva Republic	16.5	22.8	57.1	54.7	57.9	41.8	0.44
Khakass Republic	6.7	11.3	9.3	8.6	7.7	8.7	0.18
Krasnoirsks Krai	---	---	---	---	---	---	---
Taimyr A.O.	12.3	16.8	24.1	16.1	9.9	15.8	0.31
Evenki A.O.	17.2	25.4	29.3	44.5	26.6	28.6	0.31
Irkutsk Oblast	---	2.5	0.1	2.4	4.6	1.9	0.91
Ust'-Orda Buriat A.O.	30.7	34.8	53.5	64.5	59.1	48.5	0.28
Chita Oblast	15.6	15.1	16.5	18.5	24.9	18.1	0.20
Aga-Buriat A.O.	27.4	37.8	65.0	70.7	73.0	54.8	0.34
Sakha Republic	---	4.9	13.7	12.7	13.1	8.9	0.62
Evrei A.Obl.	15.7	25.3	47.7	51.3	57.1	39.4	0.41
Chukotka A.O.	10.4	28.2	27.7	36.8	37.6	28.2	0.35
Primorski Krai	---	3.9	1.1	17.3	22.5	9.0	1.02
Khabarovsk Krai	0.7	7.0	9.5	16.2	9.3	8.5	0.59
Amur Oblast	7.2	15.4	26.7	38.9	30.9	23.8	0.47
Kamchatka Oblast	11.2	10.9	8.2	19.2	17.5	13.4	0.31
Koriak A.O.	31.0	31.4	39.5	49.9	47.3	39.8	0.20

Table 4 (continued)

Region	1994	1995 <sup>a</sup>	1996	1997	1998	Av. <sup>1</sup>	Coeff. of Var. <sup>2</sup>
Magadan Oblast	3.7	15.8	24.9	22.9	26.8	18.8	0.45
Sakhalin Oblast	6.9	14.9	19.2	21.0	18.8	16.2	0.31
Kaliningrad Oblast	9.1	11.6	5.2	12.3	3.0	8.2	0.44
Russian Federation	4.7	6.5	7.4	7.9	7.5	6.8	0.17

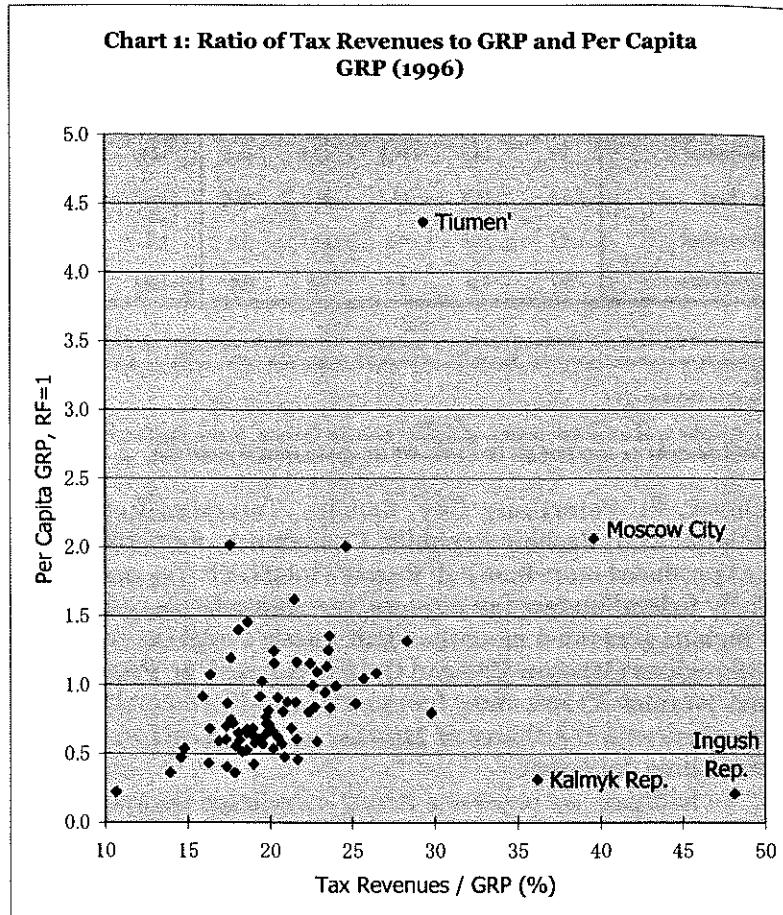
Notes:

<sup>a</sup> Calculated from figures of plan fulfillment reported in Khursevich, "O nekotorykh usloviakh", pp. 129-130 and regional budget revenue data reported in *Regiony Rossii* (Moscow: Goskomstat Rossii, 1998), pp. 699-700.<sup>b</sup> Average<sup>c</sup> Coefficient of variationSources: Compiled by an author from Ministerstvo Finansov Rossiiskoi Federatsii, *Svodnyi mesiachny i otchet*, unpublished reports for the years 1994 and 1997-1998; *MFK Renaissance Research* (March 1998), pp. 30-33.

Sverdlovsk, St. Petersburg City, Samara, Tatarstan Republic, Krasnoirsks Krai, Bashkir Republic, Cheliabinsk, Kemerovo and Irkutsk) produced more than half Russia's total GRP. Tax revenues, especially federal budget tax receipts, are similarly concentrated. Eight regions generated more than half Russia's total tax receipts, and five regions (Moscow City and Oblast, Tiumen', St. Petersburg City and Sverdlovsk) accounted for more than half of federal budget tax revenues, with the shares of Moscow and Tiumen' (26 and 13 per cent) being dominant.

In addition, we observe a strong correlation between GRP and aggregate tax collections (correlation coefficient = 0.974) and a stronger correlation between GRP and regional budget revenues (correlation coefficient = 0.994). Although these correlation coefficients are high, there are differences in ratios of tax receipts to GRP among regions (See Table 6). These statistics show that the tax receipts-GRP ratios for the Ingush Republic (48 per cent) and Kalmyk Republic (36 per cent) are extremely high and lowest for the Dagestan Republic (11 per cent).<sup>21</sup> It is worth noting that coefficients of tax variation for regional budget revenue-GRP ratios (0.17) is much lower than for federal budget receipts from the regions (0.63, see the bottom line of Table 6). Which factors determine regional budget revenues-GRP ratios?

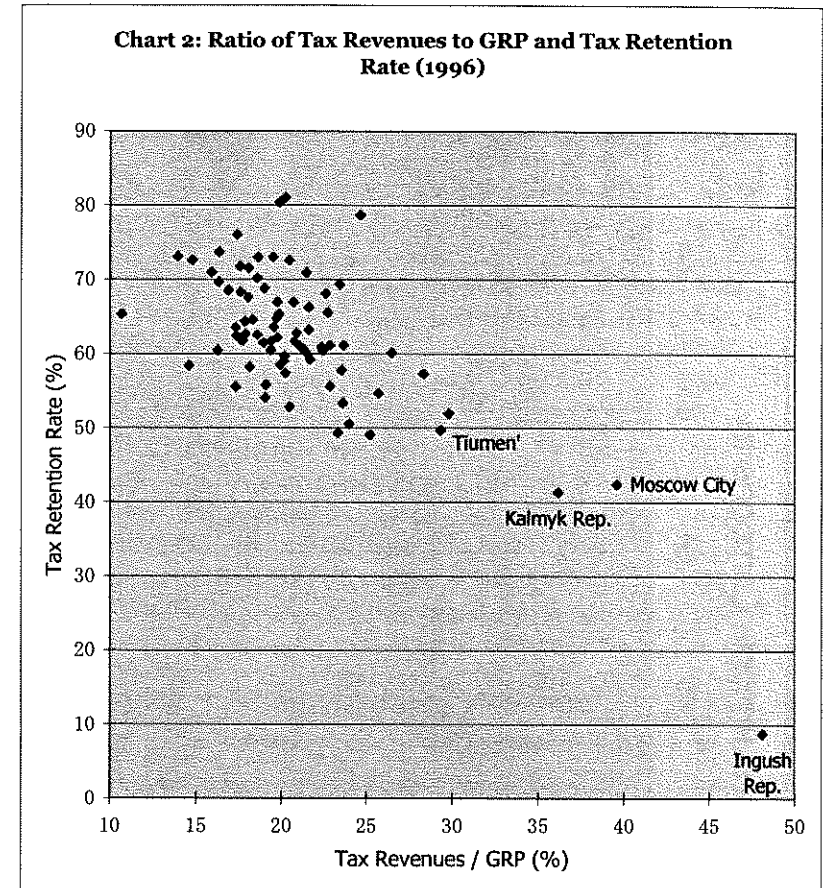
The data in Table 6 points to two explanatory variables. First, there is a positive, though weak, correlation between the budget revenues-GRP ratio and per capita GRP (See Chart 1). If we exclude the Ingush and Kalmyk Republics, the correlation coefficient equals 0.540.



Second, Chart 2 displays a negative correlation between the tax revenues-GRP ratios and the tax retention rate, calculated as share of regional budget tax revenues in total tax revenues (correlation coefficient = -0.730).<sup>22</sup> This negative correlation can be explained as follows:

The tax revenues-GRP ratio is defined algebraically as  $TR/GRP$ , where TR denotes tax revenues;

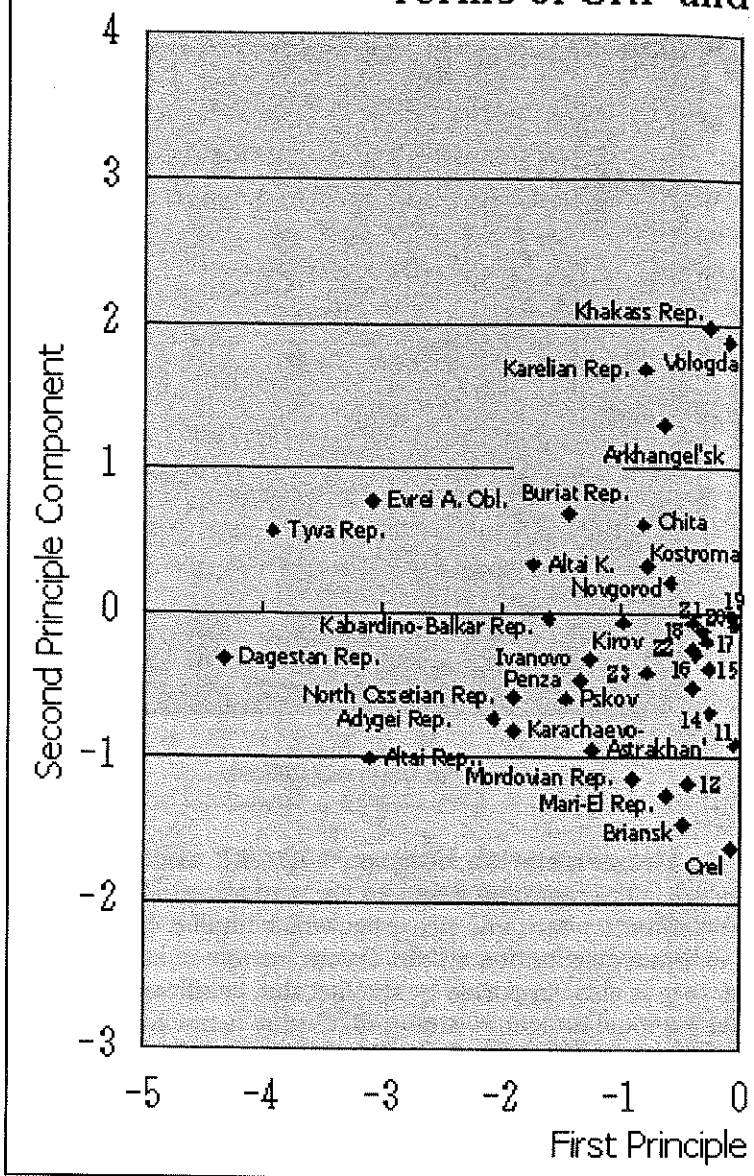
The tax retention rate is  $RBTR/TR$ , where RBTR denotes regional budget tax revenues.



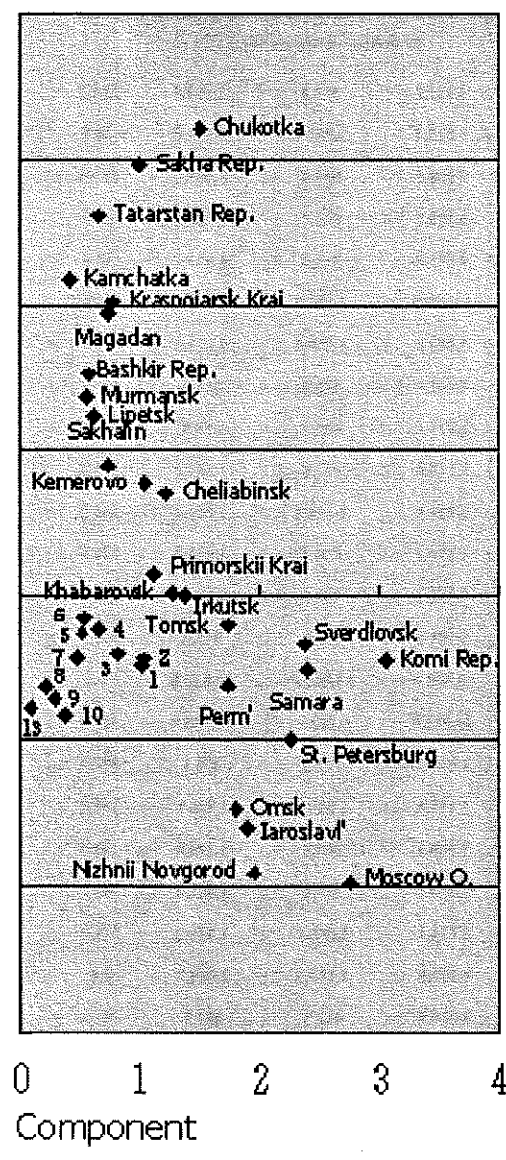
The correlation between  $TR/GRP$  and  $RBTR/TR$  is negative. The greater tax revenues are in relation to GRP, the lower the tax retention rate, and vice versa, which implies that the existing tax revenue distribution system favors income-equalization. This inference is also supported by the fact that coefficient of variation of the regional budget revenues-GDP ratio is much lower than for federal tax receipts from the regions.

In order to identify structural correlations between GRP and regional budget indicators, we applied cluster and principal component analyses. The sample size was 75. Because the data for Moscow, Tiumen', and the Ingush and Kalmyk Republics were outliers in preliminary rounds of our analyses and GRP data for the Chechen Republic was not available, these five regions were

Chart 3: Classification of Terms of GRP and



Russian Regions in Budget Indicators



1. Udmurt Rep.
2. Leningrad
3. Novosibirsk
4. Orenburg
5. Volgograd
6. Belogorod
7. Kaliningrad
8. Saratov
9. Riazan'
10. Vladimir
11. Orel
12. Stavropol'
13. Tambov
14. Voronezh
15. Krasnodar Krai
16. Smolensk
17. Kursk
18. Ul'ianovsk
19. Tula
20. Tver'
21. Chuvash Rep.
22. Amur
23. Kurgan

**Table 5: GRP and tax revenues of regions (1996)**

Region	GRP	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	FFPR
	(in millions of new rubles)				
Karelian Republic	8,960.9	1,557.7	373.9	1,183.8	263.2
Komi Republic	20,562.9	5,823.1	2,487.1	3,336.0	74.9
Arkhangel'sk Oblast	18,306.2	2,908.7	844.9	2,063.8	252.1
Vologda Oblast	19,140.8	3,128.2	823.4	2,304.8	65.9
Murmansk Oblast	16,435.1	2,891.6	918.0	1,973.6	16.8
St. Petersburg City	66,331.5	17,046.6	7,726.8	9,319.8	168.9
Leningrad Oblast	17,822.1	3,983.4	1,559.5	2,423.9	84.5
Novgorod Oblast	7,047.0	1,391.5	460.2	931.3	284.7
Pskov Oblast	5,777.2	1,072.7	402.2	670.5	398.8
Briansk Oblast	1,1294.9	2,149.6	987.6	1,162.0	336.2
Vladimir Oblast	12,830.2	2,931.5	1,138.9	1,792.6	322.3
Ivanovo Oblast	8,578.3	1,570.2	556.4	1,013.8	424.9
Kaluga Oblast	9,649.9	1,943.1	797.7	1,145.4	205.0
Kostroma Oblast	6,940.0	1,251.8	406.2	845.6	337.7
Moscow City	236,323.0	93,500.3	53,860.8	39,639.5	---
Moscow Oblast	69,606.4	20,733.0	9,963.6	10,769.4	327.2
Orel Oblast	7,476.6	1,530.3	722.2	808.1	274.0
Riazan' Oblast	12,405.9	2,472.0	1,025.1	1,446.9	149.2
Smolensk Oblast	10,059.8	1,868.1	700.5	1,167.6	181.1
Tver' Oblast	14,367.9	2,850.4	989.1	1,861.3	243.2
Tula Oblast	15,337.6	3,022.1	1,065.2	1,956.9	225.7
Iaroslavl' Oblast	18,131.1	4,229.8	2,144.1	2,085.7	6.8
Mari-El Republic	4,659.4	1,009.4	412.1	597.3	288.4
Mordovian Republic	7,604.7	1,316.1	585.5	730.6	364.3
Chuvash Republic	10,314.3	2,134.9	706.4	1,428.5	341.0
Kirov Oblast	15,046.7	2,604.0	950.5	1,653.5	485.9
Nizhnii Novgorod Oblast	42,559.4	10,722.8	5,458.6	5,264.2	292.5
Belgorod Oblast	14,955.5	2,952.0	1,117.9	1,834.1	24.5

Region	GRP	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	FFPR
	(in % of Russian total)				
Karelian Republic	0.5	0.3	0.2	0.4	1.1
Komi Republic	1.1	1.2	1.2	1.2	0.3
Arkhangel'sk Oblast	0.9	0.6	0.4	0.8	1.1
Vologda Oblast	1.0	0.7	0.4	0.9	0.3
Murmansk Oblast	0.8	0.6	0.4	0.7	0.1
St. Petersburg City	3.4	3.6	3.7	3.5	0.7
Leningrad Oblast	0.9	0.8	0.8	0.9	0.4
Novgorod Oblast	0.4	0.3	0.2	0.3	1.2
Pskov Oblast	0.3	0.2	0.2	0.3	1.7
Briansk Oblast	0.6	0.5	0.5	0.4	1.4
Vladimir Oblast	0.7	0.6	0.6	0.7	1.4
Ivanovo Oblast	0.4	0.3	0.3	0.4	1.8
Kaluga Oblast	0.5	0.4	0.4	0.4	0.9
Kostroma Oblast	0.4	0.3	0.2	0.3	1.5
Moscow City	12.2	19.7	26.0	14.8	---
Moscow Oblast	3.6	4.4	4.8	4.0	1.4
Orel Oblast	0.4	0.3	0.3	0.3	1.2
Riazan' Oblast	0.6	0.5	0.5	0.5	0.6
Smolensk Oblast	0.5	0.4	0.3	0.4	0.8
Tver' Oblast	0.7	0.6	0.5	0.7	1.0
Tula Oblast	0.8	0.6	0.5	0.7	1.0
Iaroslavl' Oblast	0.9	0.9	1.0	0.8	0.0
Mari-El Republic	0.2	0.2	0.2	0.2	1.2
Mordovian Republic	0.4	0.3	0.3	0.3	1.6
Chuvash Republic	0.5	0.4	0.3	0.5	1.5
Kirov Oblast	0.8	0.5	0.5	0.6	2.1
Nizhnii Novgorod Oblast	2.2	2.3	2.6	2.0	1.3
Belgorod Oblast	0.8	0.6	0.5	0.7	0.1

Table 5 (continued)

Region	GRP	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	FFPR
	(in millions of new rubles)				
Voronezh Oblast	20,185.3	3,906.9	1,497.6	2,409.3	488.5
Kursk Oblast	12,821.5	2,272.3	870.3	1,402.0	203.8
Lipetsk Oblast	15,056.3	3,079.9	844.8	2,235.1	---
Tambov Oblast	8,260.0	1,723.4	642.0	1,081.4	244.7
Kalmyk Republic	1,31.2	474.8	278.7	196.1	288.3
Tatarstan Republic	57,642.0	11,656.3	2,212.7	9,443.6	---
Astrakhan' Oblast	8,151.4	1,476.5	617.9	858.6	4,91.7
Volgograd Oblast	28,925.9	6,004.1	2,303.7	3,700.4	346.8
Penza Oblast	11,390.7	2,034.8	760.5	1,274.3	491.1
Samara Oblast	59,476.1	14,043.6	6,553.4	7,490.2	---
Saratov Oblast	24,780.4	5,271.1	2,076.3	3,194.8	539.1
Ul'ianovsk Oblast	14,781.9	2,601.9	991.5	1,610.4	203.5
Adygei Republic	2,417.5	419.2	157.6	261.6	209.9
Dagestan Republic	6,019.3	641.7	222.5	419.2	913.5
Ingush Republic	845.9	407.1	371.4	35.7	148.4
Kabardino-Balkar Republic	4,434.6	842.2	263.0	579.2	363.2
Karachai-Cherkess Republic	2,494.8	405.4	160.4	245.0	147.2
North Ossetian Republic	3,173.8	566.3	201.8	364.5	377.9
Krasnodar Krai	45,698.5	8,649.3	3,335.9	5,313.4	893.9
Stavropol' Krai	22,060.2	4,207.0	1,861.0	2,346.0	670.1
Rostov Oblast	31,351.2	6,321.6	2,549.1	3,772.5	574.6
Bashkir Republic	55,574.1	10,830.9	2,924.9	7,906.0	---
Udmurt Republic	18,094.1	4,279.1	1,663.8	2,615.3	333.5
Kurgan Oblast	8,347.4	1,630.0	594.1	1,035.9	337.7
Orenburg Oblast	25,824.4	5,432.3	2,114.4	3,317.9	312.4
Perm' Oblast	43,494.8	9,939.2	4,411.8	5,527.4	123.0
Sverdlovsk Oblast	67,262.1	17,798.9	7,094.6	10,704.3	---
Cheliabinsk Oblast	48,595.9	10,977.8	3,501.1	7,476.7	106.6

GRP	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	FFPR
(in % of Russian total)				
1.0	0.8	0.7	0.9	2.1
0.7	0.5	0.4	0.5	0.9
0.8	0.6	0.4	0.8	---
0.4	0.4	0.3	0.4	1.1
0.1	0.1	0.1	0.1	1.2
3.0	2.5	1.1	3.5	---
0.4	0.3	0.3	0.3	2.1
1.5	1.3	1.1	1.4	1.5
0.6	0.4	0.4	0.5	2.1
3.1	3.0	3.2	2.8	---
1.3	1.1	1.0	1.2	2.3
0.8	0.5	0.5	0.6	0.9
0.1	0.1	0.1	0.1	0.9
0.3	0.1	0.1	0.2	3.9
0.0	0.1	0.2	0.0	0.6
0.2	0.2	0.1	0.2	1.6
0.1	0.1	0.1	0.1	0.6
0.2	0.1	0.1	0.1	1.6
2.4	1.8	1.6	2.0	3.9
1.1	0.9	0.9	0.9	2.9
1.6	1.3	1.2	1.4	2.5
2.9	2.3	1.4	3.0	---
0.9	0.9	0.8	1.0	1.4
0.4	0.3	0.3	0.4	1.5
1.3	1.1	1.0	1.2	1.3
2.2	2.1	2.1	2.1	0.5
3.5	3.8	3.4	4.0	---
2.5	2.3	1.7	2.8	0.5

Table 5 (continued)

Region	GRP	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	FFPR
	(in millions of new rubles)				
Altai Republic	1,258.8	183.6	76.4	107.2	154.3
Altai Krai	20,995.7	3,544.6	1,116.6	2,428.0	1,244.5
Kemerovo Oblast	47,094.0	10,171.9	3,435.1	6,736.8	629.3
Novosibirsk Oblast	31,867.2	6,861.1	2,752.1	4,109.0	351.7
Omsk Oblast	28,534.2	6,845.4	3,386.8	3,458.6	240.8
Tomsk Oblast	17,865.2	4,205.4	1,776.6	2,428.8	221.7
Tiumen' Oblast	183,450.9	53,807.3	27,066.5	26,740.8	225.5
Buriat Republic	9,478.1	1,546.7	469.6	1,077.1	401.9
Tyva Republic	1,484.1	206.8	55.7	151.1	274.3
Khakass Republic	6,289.2	1,250.6	245.6	1,005.0	100.1
Krasnoirsks Krai	57,388.4	10,363.9	2,954.5	7,409.4	124.4
Irkutsk Oblast	46,036.4	9,308.6	3,966.2	5,342.4	136.9
Chita Oblast	11,572.6	2,148.9	641.3	1,507.6	367.9
Sakha Republic	27,197.6	4,778.3	1,350.1	3,428.2	728.7
Evrei A. Obl.	1,481.1	218.9	60.1	158.8	158.1
Chukotka A.O.	2,334.3	574.8	122.6	452.2	311.9
Primorskii Krai	24,980.9	5,675.5	1,958.3	3,717.2	50.3
Khabarovsk Krai	23,908.6	5,361.0	2,123.6	3,237.4	399.9
Amur Oblast	12,527.7	2,426.2	959.9	1,466.3	638.0
Kamchatka Oblast	7,841.0	1,460.1	394.5	1,065.6	218.8
Magadan Oblast	5,466.2	1,173.0	341.4	831.6	508.5
Sakhalin Oblast	9,600.1	2,248.7	689.6	1,559.1	405.8
Kaliningrad Oblast	7,494.9	1,618.7	596.2	1,022.5	70.8
<b>Russian Federation*</b>	<b>1,943,118.8</b>	<b>474,468.5</b>	<b>206,800.5</b>	<b>267,668.0</b>	<b>23,212.9</b>

Note:

\*Data for the Chechen Republic is excluded.

Sources: Compiled by an author from *Russian Economic Trends* (March 1997); *MFK Renaissance Research* (March 1998) pp. 30-33; *Natsional'nye scheta* (1999), pp. 108-110

GRP	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	FFPR
(in % of Russian total)				
0.1	0.0	0.0	0.0	0.7
1.1	0.7	0.5	0.9	5.4
2.4	2.1	1.7	2.5	2.7
1.6	1.4	1.3	1.5	1.5
1.5	1.4	1.6	1.3	1.0
0.9	0.9	0.9	0.9	1.0
9.4	11.3	13.1	10.0	1.0
0.5	0.3	0.2	0.4	1.7
0.1	0.0	0.0	0.1	1.2
0.3	0.3	0.1	0.4	0.4
3.0	2.2	1.4	2.8	0.5
2.4	2.0	1.9	2.0	0.6
0.6	0.5	0.3	0.6	1.6
1.4	1.0	0.7	1.3	3.1
0.1	0.0	0.0	0.1	0.7
0.1	0.1	0.1	0.2	1.3
1.3	1.2	0.9	1.4	0.2
1.2	1.1	1.0	1.2	1.7
0.6	0.5	0.5	0.5	2.7
0.4	0.3	0.2	0.4	0.9
0.3	0.2	0.2	0.3	2.2
0.5	0.5	0.3	0.6	1.7
0.4	0.3	0.3	0.4	0.3
<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Table 6: Relative volumes of tax revenues of regions (1996)

Region	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	Tax revenue retention rates*	Share of FFPR in regional budget revenues	Per capita GRP
	in % of GRP			%	%	RF=1
Karelian Republic	17.4	4.2	13.2	76.0	15.0	0.87
Komi Republic	28.3	12.1	16.2	57.3	1.7	1.32
Arkhangelsk Oblast	15.9	4.6	11.3	71.0	9.8	0.91
Voilogda Oblast	16.3	4.3	12.0	73.7	2.6	1.07
Murmansk Oblast	17.6	5.6	12.0	68.3	0.7	1.19
St. Petersburg City	25.7	11.6	14.1	54.7	1.7	1.05
Leningrad Oblast	22.4	8.8	13.6	60.9	3.3	0.80
Novgorod Oblast	19.7	6.5	13.2	66.9	22.1	0.72
Pskov Oblast	18.6	7.0	11.6	62.5	33.6	0.53
Briansk Oblast	19.0	8.7	10.3	54.1	21.0	0.58
Vladimir Oblast	22.8	8.9	14.0	61.1	13.6	0.59
Ivanovo Oblast	18.3	6.5	11.8	64.6	26.5	0.51
Kaluga Oblast	20.1	8.3	11.9	58.9	12.1	0.67
Kostroma Oblast	18.0	5.9	12.2	67.6	16.7	0.65
Moscow City	39.6	22.8	16.8	42.4	---	2.06
Moscow Oblast	29.8	14.3	15.5	51.9	2.5	0.80
Orel Oblast	20.5	9.7	10.8	52.8	20.3	0.62
Riazan' Oblast	19.9	8.3	11.7	58.5	8.3	0.71
Smolensk Oblast	18.6	7.0	11.6	62.5	13.0	0.65
Tver' Oblast	19.8	6.9	13.0	65.3	10.1	0.66
Tula Oblast	19.7	6.9	12.8	64.8	8.9	0.64
Iaroslavl' Oblast	23.3	11.8	11.5	49.3	0.2	.95
Mari-El Republic	21.7	8.8	12.8	59.2	28.4	0.46
Mordovian Republic	17.3	7.7	9.6	55.5	22.7	0.60
Chuvash Republic	20.7	6.8	13.8	66.9	17.7	0.57
Kirov Oblast	17.3	6.3	11.0	63.5	22.1	0.70
Nizhnii Novgorod Oblast	25.2	12.8	12.4	49.1	4.7	0.87
Belogorod Oblast	19.7	7.5	12.3	62.1	1.3	0.77

Table 6 (continued)

Region	Total tax revenues	Federal budget tax revenues	Regional budget tax revenues	Tax revenue retention rates*	Share of FFPR in regional budget revenues	Per capita GRP
	in % of GRP			%	%	RF=1
Voronezh Oblast	19.4	7.4	12.0	61.7	16.5	0.61
Kursk Oblast	17.7	6.8	10.9	61.7	9.8	0.72
Lipetsk Oblast	20.5	5.6	14.8	72.6	---	0.91
Tambov Oblast	20.9	7.8	13.1	62.7	14.8	0.48
Kalmyk Republic	36.2	21.2	14.9	41.3	52.6	0.31
Tatarstan Republic	20.2	3.8	16.4	81.0	---	1.16
Astrakhan' Oblast	18.1	7.6	10.5	58.2	31.9	0.60
Volgograd Oblast	20.8	8.0	12.8	61.6	8.0	0.81
Penza Oblast	17.9	6.7	11.2	62.6	28.8	0.55
Samara Oblast	23.6	11.0	12.6	53.3	---	1.36
Saratov Oblast	21.3	8.4	12.9	60.6	13.7	0.69
Ullianovsk Oblast	17.6	6.7	10.9	61.9	11.0	0.75
Adygei Republic	17.3	6.5	10.8	62.4	38.6	0.41
Dagestan Republic	10.7	3.7	7.0	65.3	52.9	0.22
Ingush Republic	48.1	43.9	4.2	8.8	70.9	0.21
Kabardino-Balkar Republic	19.0	5.9	13.1	68.8	31.7	0.42
Karachai-Cherkess Republic	16.2	6.4	9.8	60.4	32.2	0.43
North Ossetian Republic	17.8	6.4	11.5	64.4	34.3	0.36
Krasnodar Krai	18.9	7.3	11.6	61.4	13.7	0.68
Stavropol' Krai	19.1	8.4	10.6	55.8	20.3	0.62
Rostov Oblast	20.2	8.1	12.0	59.7	11.3	0.54
Bashkir Republic	19.5	5.3	14.2	73.0	---	1.02
Udmurt Republic	23.6	9.2	14.5	61.1	10.0	0.83
Kurgan Oblast	19.5	7.1	12.4	63.6	23.1	0.57
Orenburg Oblast	21.0	8.2	12.8	61.1	8.3	0.88
Perm' Oblast	22.9	10.1	12.7	55.6	2.1	1.09
Sverdlovsk Oblast	26.5	10.5	15.9	60.1	---	1.09



**Table 6 (continued)**

Region	Total tax revenues	Federal Budget tax revenues	Regional budget tax revenues	Tax revenue retention rates*	Share of FFPR in regional budget revenues	Per capita GRP
	in % of GRP			%	%	RF=1
Cheliabinsk Oblast	22.6	7.2	15.4	68.1	1.4	1.00
Altai Republic	14.6	6.1	8.5	58.4	54.8	0.47
Altai Krai	16.9	5.3	11.6	68.5	30.8	0.59
Kemerovo Oblast	21.6	7.3	14.3	66.2	7.4	1.17
Novosibirsk Oblast	21.5	8.6	12.9	59.9	7.6	0.88
Omsk Oblast	24.0	11.9	12.1	50.5	5.7	0.99
Tomsk Oblast	23.5	9.9	13.6	57.8	8.7	1.25
Tiumen' Oblast	29.3	14.8	14.6	49.7	0.8	4.37
Buriat Republic	16.3	5.0	11.4	69.6	23.5	0.68
Tyva Republic	13.9	3.8	10.2	73.1	57.1	0.36
Khakass Republic	19.9	3.9	16.0	80.4	9.3	0.81
Krasnoyarsk Krai	18.1	5.1	12.9	71.5	1.7	1.40
Irkutsk Oblast	20.2	8.6	11.6	57.4	2.2	1.25
Chita Oblast	18.6	5.5	13.0	70.2	18.6	0.68
Sakha Republic	17.6	5.0	12.6	71.7	13.7	2.02
Evrei A.Obl.	14.8	4.1	10.7	72.5	47.7	0.54
Chukotka A.O.	24.6	5.3	19.4	78.7	27.7	2.01
Primorski Krai	22.7	7.8	14.9	65.5	1.1	0.84
Khabarovsk Krai	22.4	8.9	13.5	60.4	9.5	1.16
Amur Oblast	19.4	7.7	11.7	60.4	26.7	0.92
Kamchatka Oblast	18.6	5.0	13.6	73.0	13.2	1.45
Magadan Oblast	21.5	6.2	15.2	70.9	24.9	1.62
Sakhalin Oblast	23.4	7.2	16.2	69.3	19.2	1.13
Kaliningrad Oblast	21.6	8.0	13.6	63.2	5.2	0.61
<b>Russian Federation*</b>	<b>24.4</b>	<b>10.6</b>	<b>13.8</b>	<b>56.4</b>	<b>7.3</b>	<b>1.00</b>
<b>Coefficient of variation</b>	<b>0.25</b>	<b>0.63</b>	<b>0.17</b>	<b>0.16</b>	<b>0.86</b>	<b>0.63</b>

Notes:

\* Shares of regional budget tax revenues in total tax revenues

\* Data for the Chechen Republic are excluded

Sources: FFPR data are calculated from *MFK Renaissance Research* (March 1998), pp. 30-33. Per capita GRP data are calculated from *Natsional'nye scheta* (1999), pp. 111-113. Other data are calculated from Table 5.

excluded in the final round. Four variables were taken into account: ratios of tax revenues to GRP; the tax revenue retention rate; the share of FFPR in regional budget revenues; and per capita GRP. All this data is reported in Table 6.

According to cluster analysis, Russia's regions were classified into five groups.<sup>23</sup> Chart 3 illustrates this result. The first principal component indicates regional wealth and the second regional "independence."<sup>24</sup>

As shown in Table 7, the first group includes relatively affluent regions, which pay heavily to the federal budget and receive little from it. Moscow and Tiumen' also belong to this group.

The second group are relatively rich regions that finance their budget by disproportionately retaining tax revenue. They do not rely on financial support from the center. Most of these regions are located in the northern area,<sup>25</sup> and include four republics (Karelian, Tatarstan, Bashkir, and Sakha Republics) which determine their own tax retention rates.<sup>26</sup>

The third group comprises "medium" regions with per capita GRP 50-80 per cent below Russia's average (See the last column of Table 6). Most of these regions are located in central European Russia. Northern and Siberian regions are not included.

The fourth group is composed of relatively poor regions that rely heavily on financial support from the federal budget.<sup>27</sup>

Finally, the fifth group represents the poorest regions of Russia. The Ingush, Chechen, and Kalmyk Republics could also be included.

The typology presented here is unusual because it combines budget and tax revenue indicators with a wealth indicator (GRP indicator). In contrast with the Lavrov group's "budget independence" typology, northern regions like Chukotka, Magadan, Kamchatka and Sakhalin are classified in a higher category because their GRP is high. Likewise we rank the Karelian, Tatarstan, Bashkir, and Sakha Republics in the second category instead of treating them as "privileged republics."<sup>28</sup>

### Concluding remarks

The evidence suggests there is a fivefold pattern of financial flows among regions.<sup>29</sup> The first group, plus Moscow and Tiumen', finance most of federal budget expenditures, by producing the mass of Russia's wealth. The second, which is also relatively productive, finances its own budgets with its own tax revenues. The regions

**Table 7: Classification of Russian regions in terms of GRP and budget indicators**

<p><b>First Group (20 regions):</b>                  St. Petersburg City, Leningrad, Komi Republic, Moscow Oblast, Iaroslavl', Nizhnii Novgorod, Volgograd, Samara, Udmurt Republic, Perm', Sverdlovsk, Cheliabinsk, Orenburg, Omsk, Novosibirsk, Tomsk, Kemerovo, Irkutsk, Khabarovsk Krai, Primorskii Krai</p>
<p><b>Second Group (14 regions):</b>                  Murmansk, Karelian Republic, Arkhangel'sk, Vologda, Lipetsk, Tatarstan Rep., Bashkir Republic, Krasnoiarsk, Khakass Republic, Sakha Republic, Chukotka A.O., Magadan, Kamchatka, Sakhalin</p>
<p><b>Third Group (21 regions):</b>                  Kaliningrad, Tver', Smolensk, Briansk, Kaluga, Orel, Tula, Riazan', Vladimir, Kursk, Belgorod, Voronezh, Tambov, Mordovian Republic, Mari El Republic, Ul'ianovsk, Saratov, Astrakhan', Rostov, Stavropol' Krai, Krasnodar Krai</p>
<p><b>Fourth Group (16 regions):</b>                  Novgorod, Pskov, Ivanovo, Kostroma, Penza, Chuvash Republic, Kirov, Kurgan, Adygei Republic, Karachai-Cherkess Republic, Kabardino-Balkar Republic, North Ossetian Republic, Altai Krai, Buriat Republic, Chita, Amur</p>
<p><b>Fifth Group (4 regions):</b>                  Dagestan Rep., Altai Republic, Tyva Rep., Evrei A.Obl.</p>

that belong to the fourth and fifth groups receive large amounts of financial support from the federal budget.

Analyses of regional industrial structure may shed further light on the relationship between interregional income generation and distribution, and will be undertaken soon.

in Russia: A Statistical Analysis," *Post-Soviet Geography and Economics*, Vol. 39, No. 8 (1996).

<sup>28</sup> Steven Rosefielde, "Changing of the Guard in the Asia Pacific Region? Economic Determinants of Military Power in the Twenty-First Century," *Problems of Post-Communism*, Vol. 40, No. 6, (November-December 1999), pp. 37-46; Rosefielde, "The Future Geometric Equation," eds. Vladimir Ivanov and Sheila Smith, *Japan and Russia in Northeast Asia* (Westport, CT: Praeger, 1999), pp. 144-53.

<sup>29</sup> Steven Rosefielde, and Natalia Vennikova, "Fiscal Federalist Relations in Russia Through the Eyes of the 'Washington Consensus,'" unpublished manuscript December 2001.

**Endnotes for "Regional Sources of Federal Expenditure and the Pattern of Revenue Sharing in Post-Soviet Russia" by Shinichiro Tabata**

<sup>1</sup> An earlier version of this paper was presented at the 31st National Convention of the AAASS in St. Louis on 21 November 1999. Partial funding of the study was provided by the Ministry of Education in the form of a grant-in-aid for international scientific research on the inter-regional flow of financial resources in Russia. The author thanks Steven Rosefielde, Peter Rutland, Akira Uegaki and Sabrina Ramet for valuable comments given to earlier versions of this paper.

<sup>2</sup> In this paper regions mean the subdivisions of the Federation (republic, oblast, krai and so on). We do not analyze the relationship between a region and its sub-regions (city, *raion*, and so on).

<sup>3</sup> Shinichiro Tabata, "Transfers from Federal to Regional Budgets in Russia: A Statistical Analysis," *Post-Soviet Geography and Economics*, Vol. 39, No. 8, (1996).

<sup>4</sup> See Tabata, "Transfers" for the detail of the FFPR. We will discuss later how this fund is distributed among regions.

<sup>5</sup> *Sobranie zakonodatel'stva RF*, No. 13 (1998), pp. 2706-2821; No. 9 (1999), pp. 1687-1880; and No. 1 (2000), pp. 12-255. As for 2000, there was no description of the rules determining the size of this fund.

<sup>6</sup> For example, as for 1997, the data published in the *Goskomstat statistical handbook (Rossiiskii statisticheskii ezhegodnik (RSE))*, (Moscow: Goskomstat Rossii, 1999), pp. 492) were not reconcilable with the data obtained from a regional budget outlay report released by the Ministry of Finance (Ministerstvo finansov Rossiiskoi Federatsii, "Svodnyi mesiachnyi otchet ob ispolnenii mestnykh biudzhetrov na 1-oe ianvaria 1999 goda" (1999), unpublished report).

<sup>7</sup> See Tabata, "Transfers," pp. 447-452 for the correspondence of the categories shown in Tables 1 and 2.

<sup>8</sup> "Mutual settlements" are a budget outlay item and are not reported in the budget authorization. They represent a net balance of various transactions between federal and regional budgets. See Tabata, "Transfers," pp. 450-451

<sup>9</sup> The scheme of FFPR offset against VAT has been adopted because in the period 1994-1995 FFPR was formed from federal VAT receipts and the regions were allowed to offset payments of VAT revenues they owed to the federal budget by corresponding FFPR transfers from the federal budget (Tabata, "Transfers," pp. 453-454).

<sup>10</sup> See, for example, Kitty Stewart, *Are Intergovernmental Transfers in Russia Equalizing?* UNICEF International Child Development Centre Innocenti Occasional Papers, Economic and Social Policy Series No. 59 (1997), pp. 37.

<sup>11</sup> K. Laikam, "Optimizatsiia raspredeleniia nalogov mezhdru federal'nym i regional'nym urovniami biudzhetnoi sistemy," *Voprosy ekonomiki*, No. 10 (1998).

<sup>12</sup> There are discrepancies between 1994 planned figures and 1995 actual figures, as indicated in footnotes of the table.

<sup>13</sup> Tabata, "Transfers," pp. 454. As for 2000, there seem to be considerable changes in this scheme. See, Moskovskii tsentr Instituta 'Vostok-Zapad', *Federal'nyi biudzhets i regiony: opyt analiza finansovykh potokov* (Moscow: Dialog-MGU, 1999), pp. 56-61.

<sup>14</sup> Again, there are problems in reliability of data concerning 1995 actual figures. In addition, there are inconsistencies in local budget data between those published in *Regiony Rossii* (Moscow: Goskomstat Rossii, 1998), on the one hand, and unpublished reports of the Ministry of Finance and other publications, on the other. We are obliged to use both series of data in calculating 1995 figures.

<sup>15</sup> *Natsional'nye scheta Rossii v 1991-1998 godakh* (Moscow: Goskomstat Rossii, 1999), pp. 107. Sum of region's GRP have been by 8-9 per cent smaller than Russia's GDP in the period 1995-1997 (Ibid., pp. 108-110).

<sup>16</sup> *Natsional'nye scheta Rossii v 1989-1995 godakh* (Moscow: Goskomstat Rossii, 1997).

<sup>17</sup> As for methodological problems of compiling GRP indicators, see A. Ponomarenko, "Gross Regional Product for Russian Regions: Compilation Methods and Preliminary Results," in Kimitaka Matsuzato, ed., *Regions: A Prism to View the Slavic-Eurasian World* (Sapporo: Slavic Research Center, Hokkaido University, 2000) and A. Granberg, I. Masakova and Iu. Zaitseva, "Valovoi regional'nyi produkt kak indikator differentsiatsii ekonomicheskogo razvitiia regionov," *Voprosy statistiki*, No. 9 (1998).

<sup>18</sup> As for the years 1994 and 1997-1998, data on regional budget tax revenues by regions were available from regional budget execution reports compiled by the Ministry of Finance (Ministerstvo Finansov Rossiiskoi Federatsii, "Svodnyi mesiachnyi otchet ob ispolnenii mestnykh biudzhetrov," unpublished reports for the years 1994, 1997 and 1998).

<sup>19</sup> "A Statistical Look at Russia's Regions," *Russian Economic Trends* (March 1997).

<sup>20</sup> "Passing the Buck - A Guide to Fiscal Federalism in Russia," *MFK Renaissance Research* (March 1998).

<sup>21</sup> The higher volumes for Ingush and Kalmyk Republics were explained by the functioning of the so-called offshore zone in these republics (Moskovskii, *Federal'nyi*, pp. 44).

<sup>22</sup> In Russia there has been a distinction between federal and local taxes and some taxes have been shared by both federal and local budgets. Although in principle, uniform tax sharing rules have been adopted across the country, there are some differences in these rules among regions. The differences in tax retention rates among regions might be attributed to these differences and the differences in structure of tax revenues in a region. See Moskovskii, *Federal'nyi*, pp. 35-53; OECD, *Russian Federation* (Paris: OECD Economic Surveys, March 2000), pp. 116-129.

<sup>23</sup> As for cluster analysis, we adopt the Ward method, using standardized squared Euclidean distance.

<sup>24</sup>

Eigenvector	1 <sup>st</sup> Component	2 <sup>nd</sup> Component
Total tax revenues/GRP	0.61	-0.21
Per capita GRP	0.47	0.54
Tax retention rate	-0.21	0.81
Share of FFPR	-0.60	-0.08
Eigenvalue	2.07	1.24
Proportionate contribution	51.73%	30.97%
Cumulative proportionate contribution	51.73%	82.70%

<sup>25</sup> In the northern area, due to a higher cost of living, prices are generally higher than in the other areas. This factor certainly contributes to the higher level of such indicators in the northern area, as per capita GRP and tax revenues, measured at current prices.

<sup>26</sup> Stewart, *Intergovernmental Transfers*, pp. 11; World Bank, *Fiscal Management in Russia* (Washington, DC: World Bank, 1996), pp. 17. With regard to three republics (Tatarstan, Bashkir, Sakha), see also OECD, *Russian Federation*, pp. 121-123; Moskovskii, *Federal'nyi*, pp. 50-51.

<sup>27</sup> The difference between the third and fourth groups is not big. If we redo our cluster analysis using four groups, these two groups are merged into one. See Chart 3.

<sup>28</sup> "Analiz tendentsii razvitiia regionov Rossii v 1992-1995 godakh," *Voprosy ekonomiki*, No. 6 (1996), pp. 58-62. Lavrov's typology was based upon the data of 1994, while our analysis refers to the data of 1996.

<sup>29</sup> It goes without saying that we have to confirm the findings of the preceding section, extending our analysis to other years.

### Endnotes for "An Analysis of Russia's Embryonic Globalization: Regional Foreign Trade and Foreign Currency Receipts" by Akira Uegaki

<sup>1</sup> This paper uses data on trade and foreign currency flows between Russia's regions and foreign nations to gauge regional integration into the global economy. This is seldom done for regions in Western countries, but could be undertaken if analysts and policymakers desired. The *Russian Statistical Yearbook* and other statistical handbooks contain data on "foreign trade by region" and "receipts of foreign currency by region." There is a customs office in almost every federal administrative unit (even in inland regions), enabling Goskomstat to gather the data separately. Also it should be noted that some autonomous republics have signed foreign trade treaties independently of Russia which give them special economic status as semi-independent economic regimes. According to Russian legal journals, there were 10 customs bureaus and 105 customs offices by the end of 1993. Therefore there is not a customs bureau in every one of the 11 economic regions of the Russian Federation and there is sometimes more than one in the 89 federal districts. Dagestan and Tatarstan have customs bureaus, but the Central Chernozem Region does not. There are three customs bureaus in Moscow, including Vnukovo and Sheremet'ev (Zakon, No. 12, 1993, pp. 39-41). On the transfer from the federal to regional budgets, see Shinichiro Tabata, "Transfer from Federal to Regional Budgets in Russia: A Statistical Analysis," *Post-Soviet Geography and Economics*, Vol. 39, No. 8 (1998). Concerning the relation between foreign economic activities at the regional level and the Russian federal system, see A. Gumilevskii, V. Maksimov and A. Shishkov, "Normativno-pravovoe regulirovanie vneshneekonomicheskoi deiatel'nost' sub'ektov Rossiiskoi Federatsii," *Vneshniaia torgovlia*, No. 1 (1995), pp. 2-5.

<sup>2</sup> One of the main sources of trade data is the *Russian Statistical Yearbook of 1996 (Rossiiskii statisticheskii ezhegodnik, 1996* hereafter, *RSE 1996*) which on pp. 898-903 provides a table on trade volume by region covering 1990-1995. (Hereafter, the '90-'95 table.) The figures in the '90-'95 table are incomplete because part of the trade in oil, gas and oil products has been omitted and

"shuttle trade" excluded from the '90-'95 table. The omission of shuttle trade diminishes the usefulness of the import. It is also important to note that the '90-'95 table only includes trade with the so called "distant foreign countries." Trade data with the CIS were not published before 1994, when the customs clearance data were first issued. Therefore, the coverage of the '90-'95 table is scant. The other main source of trade data is the *Russian Statistical Yearbook of 1998 (RSE 1998)*, which includes a table on regional foreign trade in 1997 in US dollar values. (Hereafter, the '97 table.) According to a note, the table is based on the data of the State Customs Committee. So here we can confirm that the '97 table omits shuttle trade because customs offices do not count them (*Metodologicheskie polozheniia po statistike* Vol. 1 (Goskomstat Rossii, 1996), Logos, pp. 413-415 and 420-421). In the '97 table the total trade volume of the Russian Federation is similar to the sum of regional trade volumes. Still, it is curious that Moscow's exports and imports suddenly rose in 1997 reaching 30-40 per cent of total Russian trade. It seems that the bulk of trade, which had been excluded from the '90-'95 table, began to be counted as Moscow's trade in 1997. Trade with CIS countries is included in the '97 table. The second set of the data is provided in tables labeled "Basic indexes of movement of funds in foreign currency" or "Movement of funds of enterprises and organizations in foreign currency in their current accounts" (*RSE 1996*, pp. 936-938 and Goskomstat Rossii, *Finansy Rossii* (1998), pp. 117-119. Goskomstat's publication, *Vneshneekonomicheskie sviazi respublik, kraev i oblastei Rossiiskoi Federatsii v 1992 godu*, (Moscow: 1993) also has data for "receipt and consumption of foreign currency" for 1992). These data represent receipts and uses of foreign currency at the regional level. Russian enterprises and organizations can hold two types of foreign currency accounts in the so called "agent banks" which are given licenses by the Central Bank of Russia to operate foreign currency transactions. One of the accounts is named "transition account" and the other "current account." Foreign currency earned by exports or other transactions is registered in the transition account first, and after the compulsory sales of foreign currency, the rest is transferred to the current account (I.K. Platonova, ed., *Valiutnyi rynek i valiutnoe regulirovanie* (Moscow: Izdatel'stvo BEK, 1996), pp. 38) The "receipt of foreign currency" is an inflow of foreign currency into the current account of an enterprise or organization, located in the region concerned. This inflow results from exports of goods and services and other financial transactions. If an enterprise in a region borrows foreign currency