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An Analysis of Alternative Measures of Fiscal Capacity for Regions of the Russian Federation

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AN ANALYSIS OF ALTERNATIVE MEASURES OF FISCAL CAPACITY FOR REGIONS OF THE RUSSIAN FEDERATION

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I. INTRODUCTION

Some measure of fiscal capacity should be an important component of the system of equalization transfers for the regions of the Russian Federation. In order to enhance the understanding of the concepts and measurement issues involved, a recent technical note discussed the concept of fiscal capacity as well as some general measurement issues.[1] In that note, six measures were presented that can be used to measure the fiscal capacity of subnational regions. These six measures are (1) current or lagged revenue collections, (2) per capita personal income, (3) gross regional product, (4) total taxable resources, (5) the representative tax system and (6) the representative tax system using regression analysis.

The purpose of the current note is to actually compute various measures of fiscal capacity for the subjects of the Russian Federation, and to demonstrate how these measures are computed. This is done in Section II. Next, Section III will present a comparison of each of the measures of fiscal capacity that are computed in Section II. Section IV contains a summary and some concluding remarks.

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[1] See: "Fiscal Capacity: An Overview of Concepts and Measurement Issues and Their Applicability in the Russian Federation," Policy Research Center, School of Policy Studies, Georgia State University.

II. COMPUTING MEASURES OF FISCAL CAPACITY

A wide variety of measures are available that can serve as a proxy for a region's fiscal capacity. Of the six measures discussed in the earlier technical note, four will actually be computed in this section for the regions of the Russian Federation. We were not able to calculate two of the six measures, total taxable resources (TTR) and the representative tax system (RTS), as a result of insufficient data for regions of the Russian Federation. In addition, and also as a result of unavailable or inconsistent data, we were forced to exclude 11 regions from the computations and the ensuing analysis.[2]

This section discuses the data used and the methods employed to calculate four alternative measures of fiscal capacity: revenue collections, per capita income, gross regional product (GRP) and the representative tax system using regression analysis (RTS/R). The next section will compare these measures and evaluate which of these measures may be more suitable as a measure of fiscal capacity for use in the Russian Federation.

Revenue Collections

The regional level of revenue collections (either current collections or collections from a base year) is a simple yet poor measure of fiscal capacity. Currently, the Russian Federation uses regional revenue collections for 1991 (adjusted for legislative changes) as the measure of fiscal capacity used in the system of equalization transfers. The advantage of using revenue collections as a measure of fiscal capacity is, of course, that data are readily available from the State Tax Service.

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[2] These 11 regions consist of Chechnya, Ingushitia, as well as all Autonomous Regions, with the exception of Chokotskaya Autonomous Region. For the purpose of the estimations, data on Autonomous Regions, when available, were combined with those of the surrounding region.

The disadvantages of using of revenue collections as a measure of fiscal capacity is that in addition to measuring a region's ability to raise revenues (i.e., fiscal capacity), actual revenue collections are also influenced by different levels of enforcement, compliance, and in some cases by tax rates and exemptions that are at the discretion of the regional governments. In addition, the use of revenue collections as a measure of fiscal capacity presents the very serious problem that it will reduce the incentive for subnational governments to collect revenues.[3] An addition peril encountered in using adjusted collections data from a base year is that the adjustment process exposes the measure to potential manipulation. This exposure to manipulation reduces the transparency of any formula or mechanism based on fiscal capacity.

In order to compare revenue collections with alternative measures of fiscal capacity derived in this note, we collected data on revenue collections for 1996 for all regions in the Russian Federation. Two modifications were made to the levels of revenue collections provided by the Ministry of Finance. First, we expressed the level of revenue collection in per capita terms by dividing the total amount of collections by the population of each region. Second, we made an adjustment for the cost of living by dividing the amount of nominal per capita collections for each region by a regional cost of living index. This is warranted because we wish to measure the ability of regions to raise revenues in order to pay for some basket of public goods. As such, our measure would be biased if we were to ignore differences in prices between regions. Imagine, for example, that a region would have a price level double the national average. This region would have to raise twice the average amount of revenue collections in nominal terms to be able to afford an average basket of public goods. Use of nominal collections data would falsely suggest that this

[3] The use of base year revenue collections rather than current or last year's collections reduces the problem of perverse incentives, but it does not eliminate the problem entirely.

region has an above-average fiscal capacity. However, expressing collections in real terms (as opposed to nominal terms) will correct for this problem.

Data on real per capita revenue collections for 1996 (in thousands of Rubles) is presented in Table 1. A comparison of real per capita revenue collections with other measures of fiscal capacity will follow in Section III.

Per Capita Personal Income

One of the most widely used measures of fiscal capacity in the world is the average household income, or personal income in a region. The attractiveness of per capita income as a measure of fiscal capacity lies in its simplicity; even those not trained in economics understand how per capita income is measure and why it is a good proxy for fiscal capacity. However, as discussed in the earlier technical note, major concerns exist about the accuracy of the current data on per capita income for the regions of the Russian Federation.

Data on per capita income for each region of the Russian Federation is published annually by Russia's statistical bureau, GOSKOMSTAT. As was the case for revenue collections, per capita income is also divided by the regional cost of living index in order to control for differences in price levels across regions. The resulting variable, real per capita personal income, can be used as a proxy for fiscal capacity. Data for real per capita income for the regions of the Russian Federation (in thousands of Rubles) is also listed in Table 1.

Gross Regional Product (GRP)

A third measure of fiscal capacity is gross regional product (GRP). GRP measures the total value of goods and services produced by the region's economic resources (land, labor and capital) over a given period of time. Data for GRP are available for the regions of the Federation only for 1994. Preliminary data on GRP for the regions are also available for 1995.

The preliminary data for 1995 of the gross regional product for the regions of the Russian Federation are used as the basis of our measure of GRP. For use as a measure of fiscal capacity, gross regional product also needs to be deflated by the cost of living index. Data on real per capita GRP for the regions (in thousands of Rubles) are also presented in Table 1.

Total Taxable Resources

Total Taxable Resources (TTR) is a measure of fiscal capacity based on a region's level of gross regional product (GRP) plus several important adjustments.[4] Because data on several relevant variables are unavailable to us at the present time, we are unable to compute the TTR measure for the regions of the Russian Federation. However, computation of TTR for the subjects of the Federation should be feasible in the near future once information on the location of business activities that are taxed by the Enterprise Profit Tax become available. The other important pieces of information needed to compute the TTR measure, federal tax payments and transfers, are already available.

[4] See: "Fiscal Capacity: An Overview of Concepts and Measurement Issues and Their Applicability in the Russian Federation," Policy Research Center, School of Policy Studies, Georgia State University.

Representative Tax System (RTS)

The Representative Tax System is a measure of fiscal capacity that relies on disaggregated fiscal data and detailed information on the tax bases for each of the regions, or on proxies for those tax bases. Due to the intensive data requirements of the RTS, at the present time not sufficient data are available to compute a meaningful measure of RTS.

Representative Tax System Using Regression Analysis (RTS/R)

While insufficient data are available to compute fiscal capacity using the conventional representative tax system (RTS) method for the Russian Federation, we are able to do so using regression analysis. Because regression analysis is a statistical procedure that is not commonly used in economic policy, a general overview of the technique is presented in Box 1.

Regression analysis allows us to compute an accurate measure of fiscal capacity (RTS/R) by identifying the effect that the size of regional tax bases has on revenue collections. In our regression equation, we estimate the relationship between (per capita) revenue collections and two proxies for regional tax bases: (1) the amount of retail trade turnover (per person) and (2) gross regional product (per person). We would expect a region's ability to raise all types of tax revenues to increase with both of these variables. Data for these variables were collected for 78 regions of the Federation. Arguably, any variations in revenue collections that cannot be explained by these proxies for a region's tax bases may be interpreted as due to variations in fiscal effort.

BOX 1: REGRESSION ANALYSIS

Regression analysis is a statistical procedure that quantifies the relationship between one variable (the "dependent" variable) with one or more other "independent" variables. For example, when we employ regression analysis in the context of the representative tax system, we try to quantify the relationship between the amount of revenue collections for a region and a number of variables that -- directly or indirectly -- measure the tax bases of that region.

A simple example may be illustrative. Figure 1 shows the relationship between total personal income and revenue collections for a group of regions. Each dot in the figure represents the amount of revenue collections and personal income for one region. Just looking at the pattern of the dots, it is obvious that there exists a relationship between the level of revenue collections and the level of personal income of a region. In order to quantify this relationship we could, for example, draw an straight line through the group of dots, and measure the slope and intercept of this line. This is exactly what a regression achieves.

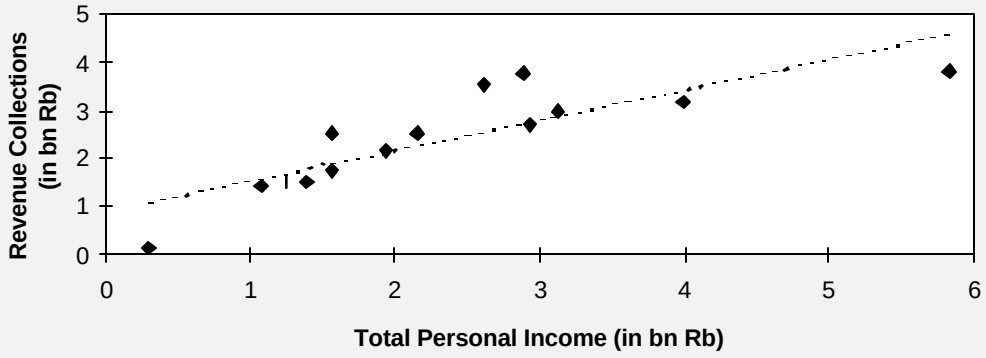
In our example, the relationship between revenues and income can be expressed by the equation:

$$\text{REVENUE} = B_0 + B_1 * \text{INCOME}.$$

The ordinary least squares (OLS) regression procedure will compute the values of the parameters B_0 and B_1 (the intercept and slope, respectively) that best "fit" the observations. Obviously, no straight line can exactly run through all of the points. The vertical distance between each observation and the regression line is referred to as error. The OLS regression procedure calculates the parameter values by minimizing the sum of the squared errors for all observations. In the given example, the parameters were calculated as $B_0 = 0.9$ and $B_1 = 0.6$. In the case of this simple regression, the independent variable (total personal income) is able to explain 70 percent in the variation of the dependent variable (revenue collections).

Software that performs regression analysis is widely available, ranging from spreadsheet programs such as Corel Quattro Pro to specialized statistical packages such as SPSS and SAS.

Figure 1: Example of Regression Analysis



The regression equation actually estimated by the ordinary least squares technique can be represented as:

$$REVENUE = B_0 + B_1 * TURNOVER + B_2 * GRP + \varepsilon,$$

where again all variables are specified in per capita terms. The parameters B_1 and B_2 quantify the relationship between per capita revenue collections and retail turnover per person and per capita GRP, respectively. The error term, ε, captures the variation in revenue collections that is not caused by variations in the tax bases across regions. Using data for the 78 subjects of the Federation for 1996, we obtain the following parameter estimates:

$$REVENUE = -687.8 + 475.3 * TURNOVER + 197.2 * GRP + \varepsilon; \quad R^2 = 0.77.$$

Based on these two proxies for tax bases, the regression is able to explain 77 percent of the variation in per capita revenue collections for the regions for 1996. The variation in revenue collections across regions that is not explained by the tax bases (23 %) again arguably can be interpreted as the result of different levels of fiscal effort exerted by different regions.[5]

[5] We say arguably, because if more and better data on proxies for tax bases were available, the unexplained variation could be lower than 23 percent. Consequently, our reading of variations in fiscal effort exerted by the regions would be reduced.

The next step is the computation of the amount of revenues that each region would have collected if we exclude (or "control for") the effect of variations in fiscal effort on revenue collections. This computed figure then becomes our measure of tax capacity. The amount of predicted revenue collections based solely on a region's tax bases is simply obtained by substituting that region's values for "TURNOVER" and "GRP"in the estimated equation:

$$\text{FISCAL CAPACITY}_i = -687.8 + 475.3 \times \text{TURNOVER}_i + 197.2 \times \text{GRP}_i.$$

Notice that we have excluded the error term, , , from this equation, so that fiscal capacity does not equal the amount of revenue collection. Rather, fiscal capacity equals the amount of revenue collections that can be explained by the regression on the basis of the proxies for the tax bases (in this case, retail turnover and GRP).

Again, in order to compute a meaningful the fiscal capacity, it is necessary to express this measure in terms of the real fiscal capacity per person. Therefore, we divide the predicted value from the regression by the cost of living index. The resulting measure of real fiscal capacity is again presented in Table 1.

III. A COMPARISON OF ALTERNATIVE MEASURES OF FISCAL CAPACITY

Four alternative measures of real fiscal capacity are explored in this note. All of these measures are listed in Table 1. In order to verify to what degree these measures are consistent with each other, we first ranked each measure. The region with the highest level of per capita revenue collections received the rank 1, the second highest, 2, and so on. In addition, correlation coefficients were

calculated pairwise for the four measures of fiscal capacity.

Before engaging in the comparison of these measures, an important cautionary note needs to be heeded about the data used in these computations. Throughout the analysis of the results, the reader needs to keep in mind that 11 regions were left out of the sample due to limitations of the data. In particular, no data were available on per capita income or gross regional product for any of the autonomous regions in the Russian Federation. This has two important implications. First, since many autonomous regions have relatively high per capita revenue collection, the current analysis could be biased as a result of their exclusion. Second, if any of these measures is actually to be used as a measure of real fiscal capacity for the Russian Federation, accurate data would have to be gathered for all subjects of the Federation, including the autonomous regions.

Casual verification of the ranking of the measures in Table 1 reveals that the four alternative measures appear to be relatively consistent with one another. This is confirmed by the correlation coefficients presented in Table 2. The lowest correlation between any two measures is between per capita income and gross regional product (0.64), while the highest correlation is between revenue collections and gross regional product (0.92). In addition, the poor correlation between per capita income and revenue collections suggests that our initial fears about the poor quality of the data on per capita income were correct.

Revenue collections are highly correlated both with GRP as well as with the fiscal capacity measure based on the regressed representative tax system (RTS/R). However, recall that the use of current revenue collections as a proxy for fiscal capacity will result in serious incentive problems. While the use of revenue collections from a base year reduces the incentive problem, it introduces

computational difficulties.

Considering the complexity of calculating gross regional product (GRP), this measure seems to perform well as a measure of fiscal capacity. GRP is highly correlated both with the amount of revenues collected as well as with the RTS/R measure. However, GRP has some serious conceptual shortcoming as a measure of fiscal capacity, a purpose for which it was not designed. Its shortcomings are mostly due to the fact that GRP does not account for the fact that regions' statutory tax bases are not equal to the level of different economic activities within the region, especially in the case of the enterprise profit tax. In addition, federal taxes and transfers create a gap between the GRP of a region and the taxable resources available to it.

With regard to the use of GRP as a proxy for fiscal capacity for the Russian Federation, it will be desirable that these shortcomings be addressed by calculating a measure of total taxable resources (TTR). TTR will make all necessary adjustments to GRP which will result in a precise measure of the taxable resources available to each region.[6]

The other measure that performed well in the comparison is the representative tax system using regression analysis (RTS/R). This measure is well-correlated with all other measures of fiscal capacity, in the narrow range from 0.86 to 0.89. This is especially impressive given the fact that only two proxies for tax bases were used in the regression. The methodology used to compute RTS/R can easily be expanded to include more proxies for tax bases, if consistent data become available. Theoretically, the RTS/R measure is attractive because it uses disaggregated data on tax bases in order to compute the

[6] The necessary adjustments are described in detail in: "Fiscal Capacity: An Overview of Concepts and Measurement Issues and Their Applicability in the Russian Federation," Policy Research Center, School of Policy Studies, Georgia State University.

fiscal capacity of a region, allowing different effective rates to apply to different categories of taxes. A major shortcoming of this measure, however, is its relative complexity. Policy makers who are unfamiliar with regression analysis may view the procedure with suspicion and favor a simpler and more transparent measure of fiscal capacity. Nevertheless, the representative tax system using regression analysis (RTS/R) should be considered seriously as a candidate for measuring of fiscal capacity in the Russian Federation.

IV. CONCLUDING REMARKS

In a previous technical note, we discussed the concept of fiscal capacity, as well as some general issues related to its measurement. In the current note, we computed four alternative measures of fiscal capacity for the regions of the Russian Federation. The comparison revealed some variation across the measures, although three of the measures appear to be closely related. Based on the analysis, we conclude that a version of the RTS/R would be the best choice for a measure of fiscal capacity for the Russian Federation. However, the relative complexity of the RTS/R computation and therefore its lack of transparency need to be taken into account. A second best candidate for measuring fiscal capacity across the subjects of the Russian Federation is the Total Taxable Resources (TTR), which is a modified version of gross regional product (GRP).

TABLE 1
Alternative Measures of Fiscal Capacity for the Regions of the Russian Federation

TERRITORY	Revenue Collections		Per Capita Income		Gross Regional Product		Representative Tax System Using Regression	
	Level	Rank	Level	Rank	Level	Rank	Level	Rank
Ðåñïóáëèêà Êàðåëèÿ	1,973	53	3,178	6	10,213	23	3,597	15
Ðåñïóáëèêà Êîìè	4,680	6	3,064	8	15,586	4	3,878	9
Àðõàíãåëüñêàÿ îáëàñòü	1,686	64	2,284	41	9,221	32	2,697	33
Âîëîãîäñêàÿ îáëàñòü	2,679	26	2,545	20	16,554	3	4,409	4
Ìóðìàíñêàÿ îáëàñòü	2,705	25	3,318	5	12,168	16	3,837	12
Ëåíèíãðàäñêàÿ îáëàñòü	2,865	23	2,264	43	8,996	37	2,782	29
Íîâãîðîäñêàÿ îáëàñòü	2,234	39	2,435	26	7,077	60	2,500	39
Ïñêîâñêàÿ îáëàñòü	1,660	65	2,225	48	7,148	58	1,987	58
ã.Ñàíêò- Ïåòåðáóðã	4,191	9	3,162	7	11,559	19	4,606	3
Áðÿíñêàÿ îáëàñòü	1,983	52	2,318	35	7,197	57	2,126	55
Âëàäèìèðñêàÿ îáëàñòü	2,269	34	2,098	53	8,266	45	2,193	52
Èâàíîâñêàÿ îáëàñòü	1,528	67	1,684	72	6,268	67	1,723	67
Êàëóæñêàÿ îáëàñòü	2,069	48	2,310	36	8,652	43	2,904	25
Êîñòðîìñêàÿ îáëàñòü	2,000	51	2,387	30	9,456	30	2,864	26
Ìîñêîâñêàÿ îáëàñòü	3,526	13	2,512	23	8,097	47	2,340	46
Îðëîâñêàÿ îáëàñòü	2,232	40	2,568	18	8,783	41	2,759	31
Ðÿçàíñêàÿ îáëàñòü	2,273	33	2,051	57	9,590	28	2,359	43
Ñìîëåíñêàÿ îáëàñòü	2,203	42	2,428	27	9,254	31	2,822	27
Òâåðñêàÿ îáëàñòü	2,249	37	2,341	33	9,165	33	2,524	37
Òóëüñêàÿ îáëàñòü	2,220	41	2,737	14	9,135	34	2,672	34
SSðîñëàâñêàÿ îáëàñòü	3,591	12	2,819	12	12,532	13	3,807	13
ã. Ìîñêâà	10,728	2	8,244	1	16,564	2	9,452	2

TABLE 1 (Continued)
Alternative Measures of Fiscal Capacity for the Regions of the Russian Federation

TERRITORY	Revenue Collections		Per Capita Income		Gross Regional Product		RTS Using Regression	
	Level	Rank	Level	Rank	Level	Rank	Level	Rank
Ðåñïóáëèêà Ìàðèé-Ýë	1,890	57	2,233	47	7,354	54	1,839	65
Ðåñïóáëèêà Ìîðäîâèÿ	1,857	58	1,812	71	7,073	61	1,750	66
×óâàøñêàÿ Ðåñïóáëèêà	2,142	44	1,917	64	7,542	51	2,301	47
Êèðîâñêàÿ îáëàñòü	2,125	45	2,328	34	9,590	29	3,143	21
Íèæåãîðîäñêàÿ îáëàñòü	3,468	15	2,370	31	11,377	21	2,989	23
Áåëãîðîäñêàÿ îáëàñòü	2,883	22	2,728	15	12,290	15	3,380	19
Âîðîíåæñêàÿ îáëàñòü	2,009	50	1,983	59	8,504	44	2,415	42
Êóðñêàÿ îáëàñòü	2,360	30	2,097	54	9,993	25	2,563	36
Ëèïåöêàÿ îáëàñòü	3,228	19	2,143	52	14,375	9	3,599	14
Òàìáîâñêàÿ îáëàñòü	1,818	61	2,182	50	6,908	62	1,938	61
Ðåñïóáëèêà Êàëìûêèÿ-Õàëüìã Òàíã÷	1,853	59	1,479	75	3,475	76	421	77
Ðåñïóáëèêà Òàòàðñòàí	4,684	5	2,769	13	15,202	7	3,863	10
Àſòðàõàíñêàÿ îáëàñòü	1,827	60	1,902	67	7,111	59	1,866	63
Âîëãîãðàäñêàÿ îáëàñòü	2,677	27	1,963	60	8,752	42	2,140	54
Ïåíçåíñêàÿ îáëàñòü	1,757	63	1,826	70	6,456	65	1,993	57
Ñàìàðñêàÿ îáëàñòü	4,758	4	2,452	24	15,255	6	4,371	5
Ñàðàòîâñêàÿ îáëàñòü	2,320	31	1,988	58	8,990	38	2,226	51
Óëüÿíîâſêàÿ îáëàñòü	2,900	21	2,940	9	11,923	18	3,209	20
Ðåñïóáëèêà Àäûãåÿ	1,242	70	1,827	69	5,453	69	1,227	72
Ðåñïóáëèêà Äàãåſòàí	377	76	1,352	78	2,435	78	72	78
Êàáàðäèíî-Áàëêàðſêàÿ Ðåſïóáëèêà	1,313	69	1,682	73	4,096	75	930	74
Êàðà÷àåâî-×åðſåſſſêàÿ Ðåſïóáëèêà	1,109	71	1,383	77	4,656	73	836	75
Ðåſïóáëèêà Ñåâſðíàÿ Îſſåòèÿ	1,100	72	1,674	74	4,524	74	1,119	73
Êðàſíîäſðſêèé êðàé	2,183	43	2,301	38	7,811	48	2,154	53
Ñòàâðîïſîëüſêèé êðàé	2,103	47	2,070	55	9,084	36	2,249	50
Ðîſòîâſêàÿ îáëàſòü	1,951	54	2,277	42	8,127	46	1,936	62

TABLE 1 (Continued)
Alternative Measures of Fiscal Capacity for the Regions of the Russian Federation

TERRITORY	Revenue Collections		Per Capita Income		Gross Regional Product		RTS Using Regression	
	Level	Rank	Level	Rank	Level	Rank	Level	Rank
Ðåñïóáëèêà Áàøêîðòîñòàí	3,404	16	2,163	51	12,395	14	2,990	22
Óäìóðòñêàÿ Ðåñïóáëèêà	3,324	18	2,295	39	9,674	26	2,820	28
Êóðãàíñêàÿ îáëàñòü	1,932	55	2,064	56	7,516	52	1,628	68
Îðåíáóðãñêàÿ îáëàñòü	3,211	20	2,225	49	10,721	22	2,268	48
Ïåðìñêàÿ îáëàñòü	3,900	11	2,448	25	14,734	8	4,023	8
Ñâåðäëîâñêàÿ îáëàñòü	4,220	8	2,537	21	13,774	10	3,856	11
×åëÿáèíñêàÿ îáëàñòü	3,372	17	2,347	32	10,063	24	2,761	30
Ðåñïóáëèêà Àëòàé	1,073	73	2,890	11	5,295	70	1,296	71
Àëòàéñêèé êðàé	1,555	66	1,904	66	6,533	64	1,942	60
Êåìåðîâñêàÿ îáëàñòü	3,517	14	3,356	3	12,576	12	4,325	6
Íîâîñèáèðñêàÿ îáëàñòü	2,619	28	1,908	65	8,789	40	2,489	40
Îìñêàÿ îáëàñòü	4,006	10	2,413	28	12,149	17	3,400	17
Òîìñêàÿ îáëàñòü	4,251	7	2,291	40	12,967	11	3,389	18
Òþìåíñêàÿ îáëàñòü	23,682	1	5,799	2	47,924	1	10,780	1

TABLE 1 (Continued)
Alternative Measures of Fiscal Capacity for the Regions of the Russian Federation

TERRITORY	Revenue Collections		Per Capita Income		Gross Regional Product		RTS Using Regression	
	Level	Rank	Level	Rank	Level	Rank	Level	Rank
Ðåñïóáëèêà Áóðÿòèÿ	1,473	68	1,924	63	7,369	53	2,253	49
Ðåñïóáëèêà Òûâà	627	75	1,453	76	3,297	77	781	76
Ðåñïóáëèêà Õàêàñèÿ	2,239	38	2,305	37	9,121	35	2,431	41
Êðàñíîÿðñêèé êðàé	7,488	3	2,910	10	15,423	5	4,236	7
Èðêóòñêàÿ îáëàñòü	106	77	2,522	22	11,494	20	3,422	16
×èòèíñêàÿ îáëàñòü	64	78	1,951	62	6,862	63	2,066	56
Ðåñïóáëèêà Ñàõà(ßêóòèÿ)	2,262	35	2,390	29	9,626	27	2,723	32
Ïðèìîðñêèé êðàé	1,805	62	1,952	61	6,135	68	1,848	64
Õàáàðîâñêèé êðàé	2,762	24	2,239	44	7,767	49	2,356	44
Àìóðñêàÿ îáëàñòü	2,119	46	2,239	45	7,272	55	2,341	45
Êàì÷àòñêàÿ îáëàñòü	1,922	56	2,554	19	7,694	50	2,660	35
Ì àãàäàíñêàÿ îáëàñòü	2,513	29	3,328	4	7,228	56	2,521	38
Ñàõàëèíñêàÿ îáëàñòü	2,038	49	2,237	46	6,278	66	1,950	59
Åâðåéñêàÿ àâòîíîìíàÿ îáëàñòü	881	74	1,855	68	4,788	72	1,576	69
×óêîòñêèé À Î	2,258	36	2,579	17	5,282	71	1,302	70
Êàëèíèíãðàäñêàÿ îáëàñòü	2,316	32	2,683	16	8,952	39	2,954	24
Average	***2,800***		***2,416***		***9,609***		***2,728***	
Coefficient of Variation	***1.01***		***0.37***		***0.57***		***0.56***	
Minimum	***64***		***1,352***		***2,435***		***72***	
Maximum	***23,682***		***8,244***		***47,924***		***10,780***	

TABLE 2
CORRELATION COEFFICIENTS FOR ALTERNATIVE MEASURES
OF FISCAL CAPACITY FOR THE REGIONS OF THE RUSSIAN FEDERATION

	Rev. Collections	Per Cap. Income	GRP	RTS/R
Rev. Collections	1.00	-	-	-
Per Cap. Income	0.73	1.00	-	-
GRP	0.92	0.64	1.00	-
RTS/R	0.86	0.87	0.89	1.00