

**Looking for a Feasible Disaggregation in Urban Poverty Analysis:
A Case Study of Tomsk Region, Russia**

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Abstract. Although the majority of the Russian poor live in urban areas, little work has been done to understand urban poverty and its spatial variations. We argue that peculiarities of Russian urbanization led to an emergence of distinct types of urban settlements, depending on their size/population, remoteness from the main centers of economic activity, natural resource endowment and diversification of local economy. Looking at poverty issues in different types of urban settlements yields a much better understanding of the relationship between household location and welfare. At the same time, disaggregating by types of urban settlements on the basis of just several key parameters does not inflate survey costs nearly as much as a more detailed disaggregation, such as by individual locality. Using household survey data from Tomsk oblast as a case study, we construct profile of the urban poor and identify the key spatial aspects of welfare.

The findings are based on materials developed in the project, “Transition to Smart Growth,” jointly implemented by the Urban Institute and the Institute for Urban Economics, Moscow. Work on this paper was supported by the World Bank and U.S. Agency for International Development. Opinions expressed are those of the authors and not necessarily those of the World Bank, USAID or the Institute for Urban Economics. The authors are indebted to the administration of Tomsk oblast for providing the data and cooperating so generously with this study.

1. Introduction.

Russia began the 20th century as a predominantly agricultural society and ended it as a predominantly urban one. As in other places, urbanization increased in step with industrialization. Unlike most other countries, however, industrialization was driven by central government priorities (and state financing) not by market forces. Although only 15 percent of Russians lived in urban areas at the end of the 19th century, the advent of Soviet power and state-sponsored industrialization made about a third of the population urban by the end of the 1930s, about half by the late 1950s and nearly three-quarters by the late 1980s. Urbanization rates today (73 percent) remain virtually unchanged from those in 1989. Before transition, the fastest growing settlements were the largest cities with populations of 1 million or more.

Urbanization should have resulted in improved access of the population to public goods and urban infrastructure, as well as increased labor mobility, but in Russia the welfare outcome has been less clear. In the Soviet Union, industrialization was closely linked to military growth and development of natural resources in remote northern and eastern areas of the country. Without state involvement, extensive subsidies and slave labor (i.e., from 1924-1954), the pattern of industrial development (and rate and location of urban development) would likely have been much different; some mono-industrial towns and settlements in the harsh and remote regions would not have been built or would be smaller. In the early 1990s, when prices were liberalized and market forces introduced, the industrial sector contracted rapidly and unemployment increased in open and hidden forms [7, 17]. Urban poverty increased sharply across the country but mono-industrial and remote settlements suffered the most, since their residents often could not find alternative income sources.

The majority of Russian poor live in urban areas. According to official poverty data, in 1999, 68 percent of the poor were urban, in 2001 – 64 percent [8]. Analysis conducted by Braithwaite et al [3] found that in all of the former Soviet Union, household location had the greatest effect on urban welfare overall in Russia. A paper based on national Russian

Longitudinal Monitoring Survey concluded that persistent poverty depends on location of a household and that, measured in terms of expenditures, 'poverty in urban families turns out somewhat more severe than in rural ones' [20]. However, beyond these papers no work has been done to understand urban poverty in its spatial variations. This study seeks to partially fill the gap in understanding these variations. Its objective is to uncover important location-related factors influencing the welfare of urban residents. We argue that peculiarities of Russian urbanization led to formation of distinct types of urban settlements, depending on their size/population, remoteness from the main centers of economic activity, natural resource endowment and diversification of local economy. Looking at poverty issues in different types of urban settlements yields a much better understanding of the relationship between household location and welfare. At the same time, disaggregating by types of urban settlements on the basis of just several key parameters does not inflate survey costs nearly as much as a more detailed disaggregation (such as by individual locality). The experience shows that such a survey is feasible for a regional government to implement.

As a case study we make an assessment of urban poverty in Tomsk oblast, one of the Russian regions, suggesting a way to differentiate among urban settlements. The main data source is a household survey conducted in November-December 2002 by Tomsk oblast Committee on Statistics for the regional Administration. The survey covered 3,950 households in the whole oblast. The survey focused on employment, income, education, inter-household transfers, housing conditions and other characteristics of the population that may be used to help understand poverty. In addition, it included a section on migration in order to permit analysis of the links between poverty and limited labor mobility, particularly in small towns and remote areas. In order to minimize the problem of income under-reporting, the questionnaire contained a rather detailed section on expenditures, information from which was used to construct welfare indicator.

Tomsk oblast, located in Western Siberia, may serve as an illustration of the social consequences of economic transformation, urbanization and welfare issues in a variety of settlements. Most characteristics of its urban localities are similar to those in other regions of Russia, but in addition there are specificities related to Far Northern areas. Regional averages mask substantial variations among localities. Contributors to these variations are diversification of economic base (in some localities insufficient for survival under the conditions of market reforms), remoteness and the relative under-development of transportation networks in the oblast [19].

Section 2 presents some descriptive statistics from the household survey, complemented by selected municipal data. Section 3 discusses the main results of urban poverty analysis at the oblast level using suggested settlement typology. Conclusions are presented in section 4.

2. Descriptive welfare statistics from Tomsk oblast

Based on the data characterizing economic base of urban settlements, we develop the following classification for Tomsk oblast:

- capital city (meaning Tomsk and adjacent Seversk),
- so-called ‘oil’ or ‘petrochemical’ towns
- ‘non-oil’ or other secondary towns.

The capital city is the largest urban settlement, where nearly half of the region’s population reside. Secondary smaller towns are not only much smaller, their economies are substantially less diversified and, in fact, are close to being mono-industrial. However, we suggest splitting secondary towns into two groups based on differences in many parameters. For instance, the towns based on petrochemical industry are donors to the oblast budget, the others are recipients. Workers in oil towns are generally well paid by the dominant oil producer TomskNeft, but the towns lag behind in terms of development of social infrastructure (schools,

hospitals and social/cultural facilities). Non-petrochemical towns suffer from economic and cultural isolation, depreciated urban infrastructure, lack of investment sources. The living style of the population in these settlements is hardly different from rural areas. We hypothesize that secondary non-oil urban settlements have many fewer resources to cope with the negative effects of economic and social transformation than do the oil cities or the capital. This is because non-oil towns began economic transition with fewer services and a smaller potential for attracting investment than did oil towns and the capital. Additionally, non-oil towns have fewer opportunities to resort to subsistence farming or berry gathering than do rural areas, which create additional difficulties for non-oil urban residents to smooth consumption.

The results of constructing poverty indices for Tomsk oblast turned out quite as expected: the capital city is better off than all other kinds of settlements. The poor there are concentrated just below the poverty line, as measured by poverty gap. But upon closer look, a strongly differentiated pattern emerges. Poverty varies greatly by sub-groups of secondary urban settlements. Those developed around now defunct industries we expected to be especially hard hit by transition. Disaggregating the data by type of secondary city shows exactly this. The oil producing towns are actually better off than the capital city, while the non-oil producing towns are much worse off than anywhere else. In non-oil secondary cities, the poverty gap is very large, 24%. This is six times larger than in oil cities and twice as much as in rural areas. The deprivation index¹ is nearly four times higher in non-oil cities than in oil cities. In fact, for oil cities it is lower than for the capital, which means residents of oil towns have better living conditions than do residents of the capital. As for individuals with potentially high risk of transient poverty, we look at those within 10% above the poverty line and again secondary 'non-oil' cities stand out with the highest indicator of 11 percent.

¹ The index of deprivation was constructed using the method developed by Townsend [22].

Table 1. Poverty indicators for Tomsk oblast

Type of locality	poverty headcount, %	poverty gap, % of subsistence minimum	squared poverty gap	poverty in terms of deprivation, %	% of the population within 10% above subsistence minimum
Tomsk & Seversk (N=6148)	18	4	2	15	7
Secondary cities (all) (N=1675)	46	18	9	32	10
Of which,					
“Oil” (N=491)	18	4	1	11	8
“Non-oil” (N=1184)	57	24	12	41	11
Rural areas (N=3265) ²	38	12	5	31	6
Total (N=11088)	28	9	4	22	7

Next we look at such welfare-related information as housing conditions, land possession and employment. The survey data revealed informative differences in housing quality by types of settlements, and these differences are similar in their pattern to those in poverty indicators. For instance, there is little complaint about lack of utilities in Tomsk and oil towns, while in other secondary cities and rural areas this problem is quoted most frequently. Respondents in ‘oil cities’ are the most satisfied by their living conditions, followed by the capital city inhabitants, while other towns and rural areas lag behind.

Note that in Soviet times the state built apartments, primarily to house growing numbers of urban workers as the country industrialized. Those apartments were equipped with standard urban services (central heating, running hot and cold water, indoor toilets, etc.). Individual houses were instead privately built and inhabited by households not eligible for new state apartments. These households were often poorer and more rural; their homes were generally larger than state-built apartments, but much less likely to be provided with urban services.

An interesting perspective is brought by the survey data showing that over 40 percent of housing units in Tomsk city belong to either the municipality or local companies. At the same

² Note that the rural sample may have been biased upward since some of the most remote and hardly accessible rural areas were excluded from the sample. On the other hand, the use of an expenditure measure as the welfare aggregate, instead of a consumption aggregate, understates the overall well being of rural families, who are the most reliant on growing their own food and makes them appear to be poorer than they actually are.

time, the share of privatized housing is the lowest in the region – 56.6 percent. Differences remain even after individual houses, which were privately owned even during the Soviet period, are excluded from the analysis. In Tomsk and Seversk 60 percent of apartments are privately owned. In oil cities, 76 percent of units are privately owned, while in other secondary cities and rural areas the shares are 70 and 73 percent respectively. Apartment ownership in Tomsk city remains very low. Based on this question alone, it is difficult to interpret this situation, but it could mean one of the following: 1) poor conditions, 2) under-developed housing market, 3) some institutional constraints or incentives provided by the city

Regarding other assets, we consider land as a source for consumption smoothing, at least in areas where food can be produced. The capital city and the oil towns have a lower share of subsidiary land owners and people who rely on their plots as important sources of food than is found in non-oil towns and rural areas. The mean per capita land plot size for non-poor rural households (28.6 hectares) is substantially larger than that for poor rural households (3.2 hectares). On average, plot size is smallest in oil towns, where harsh climate makes subsidiary farming unproductive.

Over 70 percent of the poor, and about half of the non-poor, reported that food produced on their land was either very important or important as a food source for their family. Rural and non-oil secondary cities residents are twice as likely to rely on land as a source of food than in the capital city. Over half of the poor (and almost a third of the non-poor) consider their land to be very important for the family's food supply. About 6 percent of the non-poor, and 8.4 percent of the poor report producing more food than that required for domestic consumption, and for them their land is an important or very important cash income source. This suggests that most households are not able, or not willing, to produce more than needed for their own use.

Although conventional wisdom in the oblast holds it that collecting berries, mushrooms and plants provides a good living for rural residents and those in small towns, the survey results did not support this. Instead, the survey found that these activities are of much less importance

than growing one's own food. About 26 percent of non-poor households, and 36 percent of poor households, report that this is a very important or important source of food, while 3 percent of non-poor, and 7 percent of poor, households reported collecting as an important source of income. Interestingly, an unexpectedly high number of households in oil cities reported collecting berries and other plants. Such activities seem to help many families smooth their consumption; the oblast procurement network and markets where berries and mushrooms are sold ensure at least seasonal demand that needs to be satisfied in almost industrial quantities. However, the fact the fact that growing food and gathering berries are important survival strategies for such large numbers of people may be of concern to local officials.

Looking at income sources of the poor and non-poor to guide subsequent analysis we see some indications that the poor tend to be more dependent on pensions, and less on wages.³ Interestingly, nearly a quarter (23 percent) of households in non-oil secondary towns report pensions as their primary income source, which is higher than in any of the other kinds of settlements. Poor households from non-oil secondary cities and rural settlements also indicated higher dependence on social transfers.

Table 2. Percent distribution of primary income sources in settlements of different types

	Capital city		Oil		Non-oil		Rural		Total	
	All	Poor	All	Poor	All	Poor	All	Poor	All	Poor
Wage or salary	76.6	65.9	84.8	53.3	71.0	63.0	76.2	67.3	76.2	65.4
Self-employment	3.0	0.9	2.3	3.3	1.2	0.5	1.4	1.4	2.3	1.0
Pensions	18.3	29.0	11.1	40.0	23.1	29.4	19.0	24.3	18.7	27.6
Social benefits	0.5	1.7	1.2	3.3	3.6	6.2	2.1	5.1	1.3	4.0
Farm	0.0	0.0	0.0	0.0	1.0	0.9	0.5	0.5	0.3	0.4
Do not know	1.6	2.6	0.6	0.0	0.0	0.0	0.8	1.4	1.2	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

We do not quite know how to interpret the nearly invisible evidence of income from the subsidiary economy as the main source of income for rural residents. On the one hand, this may be because rural residents work for joint-stock companies, agricultural holdings and other institutional establishments that pay formal wages, which are identified as the main income

³ The high percentage of poor who are pensioners in oil cities, at least in part, reflects the small share of pensioners there.

source. The number of farmers is small, which may also affect the result. On the other hand, non-wage sources of income, including farming, would be expected to play an important role when wages are delayed. Regional authorities interpret this result more positively, however, saying that nobody would report incomes from farming or self-employment, which are mostly informal.

Table 3 is based on statistics provided by municipalities as a complement to the survey data. It shows that oil towns are the best off in terms of having the highest wages, lowest number of unemployed per job vacancy and lowest wage arrears. The capital generally does well, but the level of arrears in the capital exceeds that in many rural areas. Rayons where timber and forestry are important tend to pay lower wages, as would be expected.

Table 3. Selected employment-related information from municipal data (by city and rayon)

	Registered unemployment, %	Average real wage (Tomsk Rubles ⁴)	Wage arrears per worker (Tomsk rubles)	Share of 'risky' ⁵ industries in total output	Share of 'wealthy' ⁶ industries in total output
Alexandrovsky	4.9	3410.04	6014.09	26.4	0
Asinovsky*	1.5	1465.04	2889.65	72.1	0
Bakcharsky	1.7	1809.65	2351.32	0	0
Verkhneketsky*	12.9	1778.73	3364.83	69.42	0
Zyryansky	4.1	1463.18	2197.99	0	4.1
<i>Kedrovoy (oil)</i>	5.5	5080.47	1083.95	0	100
Kargasoksky	12.2	3570.70	5151.21	1.8	92
Kozhevnikovsky	7.1	1765.81	2755.29	0	0
Kolpashevsky*	4.5	2710.59	3262.38	33.8	0
Krivosheinsky	10.4	1867.93	4418.67	0	0
Molchanovsky	7.2	2246.71	5352.34	0	0
Parabelsky	8.7	3299.04	2384.75	96.9	0
Pervomaysky	10.4	1774.12	4161.57	95.11	0
<i>Strezhevoi (oil)</i>	2.2	6469.30	0.00	0	86.3
Teguldetsky	4.1	2046.96	4639.46	73	0
Chainsky	9.3	1808.14	3582.37	0	0
Shegarsky	5.2	1599.04	4032.19	0	0
Tomsky(rural)	1.3	3255.86	3944.44	0.9	97.7
<i>Tomsk (capital city)</i>	0.7	3685.20	4100.00	1.2	18.7

* The capital of each of these rayons is one of the non-oil secondary towns, but the information provided covers both the urban and the surrounding rural areas.

⁴ To grasp some of the price differences between localities, we introduced a common denominator for all monetary indicators, such as wages. The denominator for locality 'i' is calculated as a ratio of subsistence minimum in locality 'i' to subsistence minimum in Tomsk.

⁵ Timber and forestry

⁶ Petrochemical, fuel and construction materials.

A comparison of secondary employment among all working respondents with that among households where per capita income is below the subsistence minimum suggests that people with lower incomes are more likely to look for, but less likely to find, secondary employment opportunities. Still, a surprisingly high number of poor respondents are not seeking secondary employment opportunities. Secondary employment is important as a strategy to compensate low or unpaid/delayed wages at primary job [18]. Survey data show that secondary earning opportunities seem to be most readily available in the oblast capital: 10.3 percent of employed respondents in the capital have regular (and another 10.7 percent irregular) secondary jobs, which means that at least one in five working adults bring side income to the family. In rural areas and non-oil secondary towns only 3-4 percent of non-poor and 23 percent of the poor report having secondary employment.

The survey included a set of questions intended to improve understanding of migration as a way to find better employment or improve living conditions. Unfortunately, regional budget constraints, which limited the questionnaire size, did not permit collection of data that could be used to study informal (shuttle) labor mobility patterns. However, the information that was gathered clearly shows that there are two quite different driving forces behind migration processes. Overall, mobility rates are very low. Only 12.8 percent of non-poor households, and 11.5 percent of poor households reported moving during that period. Of the movers, only 2.5 percent reported moving more than once. As for moving experience of households by settlements types, oil towns and Tomsk make for more than three quarters of the most experienced movers (2 and more times).

The total share of respondents willing to migrate from current settlements of residence is 22 percent, but this average hides substantial differences among income groups and settlement types. Splitting the sample by settlement types, we see that only 16 percent of respondents wish to leave the capital city, while in secondary urban settlements this share exceeds 40 percent. This result is consistent with the picture described thus far in terms of employment, poverty and

general living conditions. In all geographical sub-samples the poor are less likely to wish to leave than the non-poor and the poor are more pessimistic about their own ability to raise funds sufficient to move.

Table 4. Willingness to migrate, %

Type of settlement	Non-Poor	Poor	Total
Capital city	17	10	16
Secondary cities (oil)	48	40	46
Other secondary cities	50	31	40
Rural areas	26	17	23
Total	23	18	22

In the above table, the high interest in migration among respondents from both oil and non-oil secondary cities results from completely different factors. Respondents from secondary non-oil towns, who were willing to move, cited better employment opportunities as the main reason. Would-be migrants from the oil towns have different reasons for leaving: instead of finding a (better) job, respondents from the oil towns most frequently state that they would like “to return to the place of birth or previous residence.” In other words, these respondents would like to move back to where they came from in order to be closer to their families. This difference seems to be attributable to the nature of jobs, which were considered to be “temporary” (i.e., for periods ranging from months to years). Premiums were used to attract new workers and relocation packages were used to move them back at the end of the agreed period. As a result, it is not surprising that residents think of the oil-towns as temporary places of residence without a long-term future since everyone expects to leave. In Tomsk, Seversk and the three oil towns, the second most common reason for moving was to move to a better climate.

The poor and non-poor also cite different reasons for willingness to move. Of those who are willing to move, about 40 percent of the poor (but only 22 percent of the non-poor) would like to find better jobs. In secondary cities, the share of those who would like to find jobs is even higher, 51.5 percent of the poor (versus 40 percent of the non-poor). Only in Tomsk, both poor

and non-poor respondents who are willing to move most commonly would like to move closer to relatives (30 and 25 percent respectively).

In terms of what destinations would be most attractive to migrants, the survey results suggest that the oblast capital is the most attractive target for respondents from other parts of the oblast. More than half of poor respondents, and 43 percent of non-poor respondents, see Tomsk as their desired destination. At the same time, half of all non-poor households would like to move to other regions of Russia, mostly to the central parts, but Siberia remains an attractive destination as well. However, at present, few households move and the migration rate is quite low. One point to note here is that the regional authorities may need to begin designing a phased program to support migration from the poorest, non-viable settlements--especially since the current levels of state support available for migrants will not enable them to purchase housing in larger cities in central Russia. As a result, migrants are likely to move to places like Tomsk city, which might soon increase demand for housing, jobs, infrastructure in the capital.

The data in section 2 alone cannot lead to conclusions about welfare risks or positive factors. However, it gives useful illustrations of differences observable among types of localities thus helping us construct several hypotheses for further analysis as presented in the following section.

3. Analysis of urban poverty in Tomsk oblast

We are trying to determine the effect of different household characteristics, including type of locality, on household welfare. First, we hypothesize that given low level of labor mobility in Russia differences in economic base (and labor markets) observed by types of localities will make a substantial impact on welfare by determining different returns on human and physical capital of households. Therefore, we expect negative welfare effects from non-petrochemical secondary towns that offer their residents limited opportunities to employ their assets productively. On the other hand, we expect residence in the capital city or oil towns to bring welfare premiums. Descriptive statistics provided in section 2, as well as other survey and local statistical data not included in the article, suggested several characteristics of human capital to be most likely associated with welfare of urban residents. We expect households to be better off if they are less dependent on social transfers, meaning that presence of dependents, such as unemployed, pensioners or children is likely to affect welfare negatively. Since urban economies require skilled labor, we think that high education, qualification, good health condition and professional experience would substantially reduce poverty risk. The differences in wage level offered by growing versus degrading industries also point out to a positive effect that employment in a better-off industry may have even on individuals with similar labor supply characteristics.

In order to test our hypotheses, we estimate a regression of welfare indicator on the set of explanatory variables shown in Table 5. Our empirical specification is based on OLS regression equation with two modifications. In both cases logarithm of household expenditure was the dependent variable. Both models included location-related variables in order to permit identification of poverty characteristics common to all locations as well as those that differ by location. Some of the variables describing the household generally (such as the number of people with higher education) were highly correlated with the characteristics of the main earner (i.e., the level of education of the household head). When this was the case, variables describing

the household as a whole were used in the first specification while those describing the household head were used in the second. In other words, modification 1 includes household characteristic variables (number of unemployed, number of pensioners and number of people with higher education), while modification 2 includes individual dummies for the household head (if s/he is unemployed, a pensioner or has higher education).

Table 5. Independent variables

Label	Variable	Mean value
FSIZE	Household size	2.83
FSIZE_SQ	Household size squared	9.45
NUM_SCH	Number of school age children	0.51
NUM_CH	Number of children from 0 to 6 years old	0.13
NUM_HIGH	Number of hh members with higher education (model 1 only)	0.57
NUM_PENS	Number of hh members above retirement age (model 1 only)	0.39
NUM_UNE	Number of unemployed members (model 1 only)	0.17
HEALTH	Self-assessment of own health conditions by the main earner	3.07
AGE	Age of household head	46.00
AGE_SQR	Age of household head squared	2320.80
GENDER	Dummy = 1 if household head is male	0.53
CATEG	Professional qualifications or occupational category for the main earner	2.57
NEPOLN	Single parent family = 1	0.10
FLD_RCH	Dummy for household head working in an industry that pays high wages (petrochemical, fuel, construction materials)	0.22
CITY	Living in the capital city Tomsk or Seversk (dummy)	0.57
NON_OIL	Living in non-oil secondary town (dummy)	0.11
OIL	Living in petrochemical town (dummy)	0.04
PENS	Household head is a pensioner (dummy, model 2 only)	0.30
UNEM	Household head is unemployed (dummy, model 2 only)	0.20
HIGH_EDU	Household head holds higher education (dummy, model 2 only)	0.31

Instead of using one poverty line for the oblast, the subsistence minimum in the district or city where each household resided was used. Large variations in the subsistence minimum (ranging from 1661 to 3523 rubles) among the localities and districts at the end of 2002 were the reason. Use of the oblast-level subsistence minimum would have increased the poverty headcount in the capital city and surrounding rural districts, but would have reduced it to near zero in the oil towns and some of the northern localities.

The results of regression analysis for Tomsk oblast are presented in Table 6 (t-statistics provided in parentheses). They consistently show that living in secondary non-oil towns and

unemployment of household members are the most significant factors affecting welfare negatively. Unemployment of household head, and to a somewhat lesser extent his/her retirement greatly increase the risk of poverty. The presence of children (especially pre-school age children) or pensioners are also significantly associated with welfare loss.

The most important household head characteristic in terms of positive welfare outcomes is gender. Male-headed households are less likely to be poor than are female-headed households. The second most important characteristic is the professional qualification of the household head⁷, which yields a welfare premium of about 13 percent. This suggests that education is an important factor. Indeed, the number of household members with higher education is positively associated with welfare, as is true when household heads have higher education.

Location-related factors, such as living in the capital city or the oil towns, also produce positive welfare effects. However, these effects are less significant than the negative effect of living in secondary non-oil urban settlement. One might generalize that households at risk of poverty in the oblast are those living outside of the capital or oil towns, headed by unemployed people or women, include children, especially small ones.

The results point out the importance of distinguishing between three types of urban settlements in analyzing poverty. Dummies for settlement types work well: living in the capital city or in an oil town reduces poverty, while living in another secondary urban settlement increases poverty. Therefore, we look at spatial sub-samples to track the essential variations in significance that selected factors make in different location types.

⁷ Respondents were asked whether they were: 1) a manager of an enterprise or an organization, 2) a department manager, 3) an engineer/expert/technical specialist, 4) a highly skilled worker, 5) low -skilled worker, 6) other.

Table 6. Welfare regressions

	Total sample		Capital city (Tomsk and Seversk)		All secondary urban settlements		“Non-oil” secondary towns		“Oil” towns	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
(Constant)	7,7080 (83,4050)	7,6380 (81,2220)	7,7780 (81,6050)	7,7100 (78,8040)	7,7180 (31,1320)	7,6630 (30,1460)	7,7745 (1,065)	7,8274 (8,035)	7,694 (44,990)	7,631 (44,524)
Fsize	-0,2220 (-8,0360)	-0,2620 (-9,4810)	-0,2210 (-7,7140)	-0,2660 (-9,2130)	-0,3870 (-4,4460)	-0,4240 (-4,8340)	-0,372 (-3,842)	-0,427 (-4,283)		
fsize ²	0,0193 (4,7490)	0,0223 (5,3750)	0,0202 (4,7930)	0,0235 (5,4210)	0,0416 (3,1220)	0,0406 (2,9620)	0,042 (2,767)	0,045 (2,824)		
Num_ch	-0,2220 (-9,7920)	-0,2100 (-9,1340)	-0,2420 (-10,3220)	-0,2310 (-9,6560)	-0,2050 (-3,1880)	-0,1670 (-2,5780)	-0,303 (-4,227)	-0,289 (-4,009)	-0,281 (-5,322)	-0,274 (-5,066)
Num_sch	-0,1590 (-10,7840)	-0,1430 (-9,7510)	-0,1760 (-11,5420)	-0,1590 (-10,4170)	-0,1270 (-2,9600)	-0,0903 (-2,1170)	-0,144 (-2,970)	-0,121 (-2,526)	-0,225 (-5,563)	-0,214 (-5,247)
Num_high	0,0978 (9,3710)	N/a	0,1210 (11,3980)	N/a	0,1440 (4,2240)	N/a	0,165 (4,146)	N/a	0,118 (2,840)	N/a
Num_une	-0,2370 (-13,0280)	N/a	-0,2790 (-14,9250)	N/a	-0,2520 (-5,8090)	N/a	-0,204 (-4,438)	N/a		N/a
Num_pens	-0,1470 (-9,9470)	N/a	-0,1710 (-11,2760)	N/a	-0,1300 (-2,9560)	N/a	-0,126 (-3,248)	N/a	-0,362 (-5,420)	N/a
Health	0,0543 (4,6160)	0,0583 (4,8540)	0,0608 (4,9880)	0,0678 (5,4220)					0,161 (3,209)	0,172 (3,441)
Age	0,0127 (4,0220)	0,0153 (4,7440)	0,0111 (3,4010)	0,0140 (4,1680)	0,0168 (1,8540)	0,0187 (2,0330)				
Age ²	-0,0002 (-5,2210)	-0,0002 (-5,9690)	-0,0002 (-4,5130)	-0,0002 (-5,3240)	-0,0002 (-2,2490)	-0,0002 (-2,2930)				
Gender	0,1590 (9,6210)	0,1760 (10,4290)	0,1660 (9,6950)	0,1900 (10,7640)	0,1680 (3,7940)	0,1910 (4,2100)	0,175 (3,473)	0,189 (3,656)		
Categ	0,1250 (13,7730)	0,1330 (14,3360)	0,1240 (13,2610)	0,1350 (13,8860)	0,1330 (5,1530)	0,1490 (5,6140)	0,175 (5,953)	0,196 (6,431)		

Nepoln	-0,0876 (-3,2530)	-0,0897 (-3,2620)	-0,0898 (-3,2110)	-0,0921 (-3,2000)						
Fld_rch	0,0909 (4,9860)	0,1020 (5,4970)	⁸		0,2740 (5,7920)	0,2810 (5,8060)	0,170 (2,836)	0,168 (2,714)	0,128 (2,125)	0,154 (2,548)
City	0,1180 (6,7980)	0,1490 (8,5530)	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Nonoil	-0,2980 (-11,4400)	-0,3030 (-11,4100)	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Oil_city	0,1010 (2,6690)	0,1200 (3,1270)	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
pens	N/a ⁹	-0,1870 (-9,0440)	N/a	-0,2130 (-9,8910)	N/a	-0,2350 (-3,7780)	N/a	-0,227 (-3,764)	N/a	-0,402 (-4,802)
unem	N/a	-0,3300 (-6,1750)	N/a	-0,4140 (-7,4430)	N/a	-0,4140 (-3,4470)	N/a	-0,311 (-2,559)	N/a	
High_edu	N/a	0,1600 (8,9290)	N/a	0,2070 (11,2380)	N/a	0,1940 (3,4850)	N/a	0,190 (2,912)	N/a	0,202 (3,005)

⁸ Fields left blank mean coefficient was not statistically significant

⁹ N/a means variable not included

Household heads who work in growing and/or well-paying industries, reduce poverty risk for their families in secondary cities. However, in Tomsk and Seversk this characteristics does not have a significant effect on poverty outcomes. Differences in wage structure between the capital and other urban areas likely are responsible for the differences between these two settlement types. In addition, defining 'rich industries' to be those involved in petro-chemical production excludes many activities, such as trade, which are quite prosperous. There are only a few petrochemical companies (mostly offices) in Tomsk, but the level of wages is high in trade and services.

Education is more a determinant of household well being in the non-oil cities and less so in the capital. The capital's population is more educated than in the rest of the oblast, so this is to be expected. In secondary cities where relatively few residents are highly educated, they may face little competition for jobs with regular and/or higher pay, for example in local government. Professional qualifications do not make significant welfare effects in homogeneous economies of the oil towns, but everywhere else labor market responds to professional experience positively. Note that unemployment in oil towns looks as an insignificant factor only because small subsample and low unemployment level in oil cities did not allow to capture a sufficient number of observations.

Although households that include pensioners increase the risk of poverty for all subsamples, in oil towns retirement means a substantial drop in earnings. Pension size in Russia is capped while average wage in oil towns is high, and therefore the presence of pensioners or retirement of household head make the greatest negative welfare effects. Health variable indicates that in oil towns where hard physical (though specialized) labor is the norm, household welfare is influenced by the main earner's ability to provide it. Age does not come across as a very important poverty correlate, but additional calculations revealed positive welfare effects until a household head reaches the age of 41, when the influence of age increase changes to the opposite. Finally, the high and positive coefficient of the 'gender of household head' variable

indicates that women are disadvantaged in all types of urban communities; in oil towns this effect is not visible most likely because there are hardly any female-headed households.

4. Conclusion

The analysis conducted in Tomsk oblast found that urban poverty varies greatly by type of location. Living in the capital city, or a prosperous oil town, produces a substantial welfare premium and reduces poverty risk. In contrast, living in a non-oil secondary town results in a substantial welfare loss. One important finding is that even households in rural areas are better off than are those in secondary cities in terms of income poverty, poverty gap, and deprivation. Location also matters for housing conditions and related deprivations such as lack of modern conveniences. Labor market characteristics vary substantially between the municipalities. Employment opportunities, including secondary employment, are most readily available in the oblast capital.

The results show the importance of distinguishing among the different types of secondary cities while analyzing urban poverty. In the case of Tomsk oblast, petrochemical mono-industrial towns differ substantially from other secondary urban settlements. Not only living in one or the other means entirely opposite welfare effects, but individual characteristics of households and individuals vary in their importance between these types of urban settlements.

Introduction of one additional step towards a disaggregation of urban settlements (after a traditional way of separating capital cities from the rest of urban areas) yields a significant amount of additional knowledge of urban poverty. Such a step only needs to take into account the key reflections of economic base: settlement size, remoteness from centers of economic activity, natural resource endowments, diversification. Applied to Tomsk oblast this approach shows significant urban poverty varieties, suggesting that a universal region-wide poverty reduction program is likely to bring very different results in different locality types and requires

geographic adjustments that take into account the main differences in urban poverty profiles and social risk factors.

In addition to spatial poverty correlates, the study found that urban households at risk of poverty are likely those headed by women or unemployed people, include children, especially small ones, and pensioners. Appearance of a small child in the family and a family member becoming unemployed are associated with the highest individual social risks followed by such factors as the presence of school-age children in the family, the number of pensioners. In contrast, the higher education or qualification of any household member yields a premium, which reduces poverty risk.

One of the fundamental policy questions for Tomsk oblast is why households choose to live in remote and partially non-viable small secondary urban settlements. One reason may be that these households can optimize their welfare because of lower living costs and higher returns from the informal economy where they are more competitive than on a formal labor market. But current residence may be a legacy of the pre-reform policies and a negative externality of economic transformation that can only be overcome by moving to places with more diverse labor markets. The study found that households in secondary cities express a high level of willingness to move towards better job opportunities, but few had actually done so. This suggests that improving labor mobility is likely to lead to noticeable welfare improvements and may require public intervention that will have to take spatial variations into account.

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