Age-Adjusted Disability Rates and Regional Effects in Russia

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Abstract

We provide two measures of age-standardized disability rates for each Russian region and show that most, though not all, of the regional patterns in disability prevalence disappear with standardization. Of the patterns that remain, some are plausible (disability prevalence is greater in poor areas) and the "remote but healthy" pattern is nearly gone.

1 Introduction

Previous research has found that disability prevalence is lowest in Russia's Far East and far north while highest in St Petersburg, Moscow, and the Central federal district. This is a counterintuitive finding, since the high prevalence regions are more prosperous and have better health care and social services. Due to recent large-scale migration out of the Russian north and Far East, the population distribution in these regions is undoubtedly a product of self-selection on the basis of health and employment opportunity, which correlate with age. Thus, the regions with higher disability prevalence have older populations and so it is natural to ask whether the patterns simply reflect demographic differences.

Crude comparisons of disability prevalence rates across the regions of Russia may thus be biased. A more proper method of cross-sectional comparison of disability rates adjusts for age. Such age-adjusted rates are already used in a number of applications, including mortality rates, incidence of cancer, and the like. This paper estimates age-adjusted disability rates on the basis of survey data of Russian households. In addition, the paper explores two other methods of capturing regional effects on disability incidence using regression analysis. Finally, the paper presents a regression of regional disability rates on macroeconomic, demographic, and geographic factors.

With standardization, the "remote but healthy" advantage that appears to characterize Siberia, the Far East, and the northernmost regions almost disappears. When different types

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of disability are considered, there appears to be almost no clear regional pattern of disability prevalence either for partial (Group III) or most severe (Group I, typically incurred at or near birth, or at older ages but with little prospect for recovery) grups. Rather, regional differences are most pronounced for intermediate (Group II) disabilities, as are gender difference. A steeper age disability gradient for women also emerges consistently.

The remainder of this paper proceeds as follows: the next section summarizes the structure of the Russian disability system as well as some of the recent literature on this subject. Section 3 provides the methodology for estimating age-adjusted disability rates from survey data and for capturing regional effects using macroeconomic and microeconomic regression models. Section 4 presents the results of the age-adjustment computations and regional effect regression analysis. A final section offers conclusions and policy implications.

2 The Russian Disability System

Disability in Russia is governed by the 24 November 1995 Federal law "On the Social Protection of Disabled Individuals in the Russian Federation." The law defines as disabled an individual "who has a health impairment with a continued dissruption of bodily functions caused by illness, the results of trauma, or [anatomical] defects, leading to limited capacity for life and requiring social protection" (Russian Federation, 1995).

Russia has a complex federal system, in many ways similar to that of the United States. Disability policy is set at the national level and administered by the regions[1]. To obtain disabled status, an individual must undergo a medical evaluation at the local office of the Bureau of Medical and Social Evaluation (BMSE). The evaluating comittee votes on the applicants' disabled status and assigns one of three disability groups, with Group I being most severe[2].

Individuals with an assigned disability group who have an employment history are eligible for "labor disability pensions" administered by the Russian Pension Fund, the same entity that provides pensions for the retired. Rules governing the type and amount of labor disability pension are governed by the 17 December 2001 federal law "Concerning Labor Pensions." In practice, all Group I, most Group II, and some of the Group III individuals with employment history are eligible. Those individuals who do not qualify for a labor disability pension may receive the smaller means-tested "social pension", which is not dependent on employment history.

Very little is known about the likelihood of recovery from disability or the characteristics of the Russian disabled population or, for that matter, the disabled populations of middle-income countries in general. Notable exceptions include Mont (2007), Braithwaite and Mont (2008), Mete, Braithwaite, and Schneider (2008), Scott and Mete (2008), and Hoopengardner (2001). There is also detailed presentation of disability patterns in Russia in Baskakov, Andreeva, Baskakova (2001), Merkuryeva (2007), Becker and Merkuryeva (2009), Schultz (2008), Mosgorzdrav (2005), FBEA (1999), and FBEA (1998).

[1]We use the term "regions" to refer to the administrative subdivisions of the Russian Federation. These consist of 21 republics, 46 oblasti, 9 kraii, 1 autonomous oblast, 4 autonomous okrugi and 2 federal cities.

[2]In a recent reform, Groups I, II, and III were renamed as Categories 3, 2, and 1, respectively. We use the old terminology for the sake of consistency with prior literature.

Table 1: Disability prevalence by age and sex cohort (in per cent of cohort population)

	Men				Women			
Age cohort	Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
Ages 0-19	0.20	0.29	0.19	0.68	0.06	0.23	0.09	0.38
Ages 20-34	0.35	1.23	0.87	2.45	0.26	0.77	0.64	1.67
Ages 35-49	0.75	2.33	1.37	4.45	0.51	2.12	1.19	3.82
Ages 50-59	1.63	4.99	2.64	9.26	1.16	5.02	1.71	7.89
Ages 60-69	2.00	10.43	1.95	14.38	1.51	9.53	1.29	12.33
Ages 70 and up	2.46	18.87	2.28	23.61	1.98	16.35	1.44	19.76
Total	0.88	3.94	1.25	6.08	0.77	4.72	0.98	6.47

This study uses data from the Russian National Survey of Household Welfare and Participation in Social Programs, known by its Russian acronym as NOBUS. The NOBUS was conducted in 2003 by the Russian Federal Statistical Survey (Goskomstat) and is "a cross section survey of the Russian households, which was specially designed to measure the efficiency of the national social assistance programs by means of estimating the impact of social benefits and privileges on household welfare."

The NOBUS is has multi-stage stratified survey design, using sequential random selection. The population is divided into homogeneous strata based on the type of settlement. Within each stratum, primary sampling units (PSUs) were randomly selected. The PSUs are either settlements or, within large settlements, polling districts. Finally, within each PSU households were selected at random. Within each household, a questionnaire was administered to each individual (the individual questionnaire) and to the head of household (the household questionnaire). Given such a survey design, observations in the NOBUS are not independent; thus we use the appropriate econometric techniques for working with survey data as well as reweigh observations to account for nonresponse using the weights provided in the data.

Our NOBUS sample contains almost 120,000 observations, of which 6.3% are disabled. Prevalence of disability by disability group, age cohort, and sex is provided in Table 1. We observe that the overall prevalence of disability increases unambigously with age for both sexes – in the oldest cohort, almost one quarter of all individuals are disabled. For all cohorts, the most prevalent disability group is Group II (severely but not permanently disabled) and prevalence of Group II disability increases dramatically around age 60, a phenomenon that may well be linked to retirement since many retirees apply for disabled status to obtain additional social benefits. Oddly, prevalence of Group III (partially disabled) status peaks at age 50-59 and then declines (this may also be linked with retirement patterns). Finally, disability prevalence is higher for men than for women.

3 Methodology

In standard population counts, an age-adjusted rate may be computed as follows. Let δ_i be an indicator variable equal to one if the i^{th} individual is disabled and zero otherwise. Divide the population into C age and gender cohorts. Then the age-specific disability rate for a given cohort is given by

$$ASDR_c = \frac{1}{n_c}\sum_{i=1}^{n_c}\delta_i \tag{1}$$

where n_c is the number of individuals in the c^{th} cohort.

The age-adjusted disability rate is simply a weighted average of the ASDRs for all cohorts using a standard population to determine weights. Let p_c be the number of individuals in the c^{th} age cohort in the standard population. The total standard population is then

$$p = \sum_c p_c \tag{2}$$

and the weight of the c^{th} cohort is

$$w_c = \frac{p_c}{p} \tag{3}$$

We next compute the age-adjusted disability rate ADR as

$$\begin{aligned} ADR &= \sum_c w_c * ASDR_c \qquad (4)\\ &= \frac{1}{N}\sum_{i=1}^{N}\delta_i w_c \qquad (5)\end{aligned}$$

where N is the total number of individuals in the population.

The above equations allow us to generalize this computation for survey data. Since the NOBUS dataset has a multi-stage survey design, we must rewrite Equation 5 taking into account survey sampling characteristics. Let our survey design sample primary sampling units (PSUs) from specified strata. It is easy to see that Equation 5 is simply the weighted mean of the disability indicator variable δ_i. Taking into account the survey design and the individual's probably weights, the formula becomes

$$ADR = \frac{\sum_{h=1}^{H}\sum_{j=1}^{J_h}\sum_{i=1}^{n_{hj}}\sum_c \delta_{hji} w_{hji} w_c}{\sum_{h=1}^{H}\sum_{j=1}^{J_h}\sum_{i=1}^{n_{hj}} w_{hji}} \tag{6}$$

where we have H strata, J_h PSUs in the h^{th} stratum, and n_{hj} observations in the j^{th} PSU of the h^{th} stratum. Again, δ_{hji} is the disabled status dummy of the i^{th} individual in the j^{th} PSU of the h^{th} stratum; w_c is the standardization weight of the c^{th} age cohort; and w_{hji} is the sample weight, which reflects the probability that the individual was included in the sample.

The variance of the age-adjusted disability rate can be computed using formulae for variances of means in a complex survey (Graubard and Korn, 1996). Let the total weight of the j^{th} PSU in the h^{th} stratum be $W_{hj} = \sum_{i=1}^{n_{hj}} w_{hji}$ and let ADR_{hj} be the age-adjusted disability rate in the j^{th} PSU of the h^{th} stratum. Then the variance is

$$\hat{\sigma}^2_{ADR} = \frac{1}{\left(\sum_{h=1}^{H}\sum_{j=1}^{J_h} W_{hj}\right)^2} \sum_{h=1}^{H} \frac{J_h}{J_h - 1} \sum_{j=1}^{J_h} \Bigg[W_{hj}(ADR_{hj} - ADR) - \frac{1}{J_h} \sum_{k=1}^{J_h} (ADR_{hk} - ADR) \Bigg]^2 \quad (7)$$

Finally, we must chose a standard population for the computation of weights in Equation 3. In principle, the magnitude of age-adjusted rates has no meaningful interpretation by itself. That is, the purpose of standardized rates is to provide an ordinal ranking rather than a cardinal interpretation. Thus, any affine transformation of a standardized rate is equally appropriate, and hence the precise choice of standard population is not important, provided that the distribution chosen does not lead to ordinal rankings different from other plausible distribution choices.

In practice, a convenient standard population is usually chosen in order to facilitate comparison with other studies. In the United States, for example, it is common to use the 2000 projected US population as the standard population (Klein and Schoenborn, 2001). For the purposes of this study, we chose the 2000 mid-year Russian population as the standard. The standard population structure is presented in Table 2 and the accompanying age pyramid. The population structure reflects significant events in Russian history. The dip for those aged 55-59 is evidence of low birth rates during World War Two, which subsequently impacted birth rates in the late 60's. Hence we see a second dip for the 30-34 cohort. Arguably, it still accounts for some of the recent decline in birth rates, further magnified by the current demographic crisis.

A few words are warranted about the choice of the number of cohorts. On the one hand, the larger the number of age cohorts, the better the analysis captures all the details of age-specific variation in disability rates both for spacial and time-series studies. On the other hand, as the number of cohorts increases, the number of observations in each cohort decreases and the standard error of the age-adjusted disability rate estimate grows dramatically. Table 3 presents one possible grouping of age cohorts, which we will use for this study. Since the prevalence of disability increases unambigously with age, this distribution imposes narrower age delineations in the older population.

We now present two alternative methods to capture regional effects on disability prevalence. In the first method, compute the crude disability rate for the r^{th} region as

$$cdr_r = \frac{1}{n_r} \sum_{i=1}^{n_r} \delta_i \quad (8)$$

The next step is to regress the crude disability rates obtained in Equation 8 on the number of individuals in each age cohort

$$cdr_r = w_r \sum_c \beta_c n_{r,c} + \epsilon_r \quad (9)$$

Table 2: Mid-year Russian population in 2000. Source: Goskomstat.

Age cohort	Population
0-4 years	6,356,661
5-9 years	7,951,563
10-14 years	11,726,731
15-19 years	11,857,292
20-24 years	10,793,627
25-29 years	10,264,022
30-34 years	9,491,001
35-39 years	11,554,944
40-44 years	12,553,216
45-49 years	11,391,053
50-54 years	8,875,119
55-59 years	5,370,948
60-64 years	8,761,106
65-69 years	5,969,644
70-74 years	6,148,461
75-79 years	3,228,269
80-84 years	1,522,619
85 years and up	1,372,880
Total	145,189,156

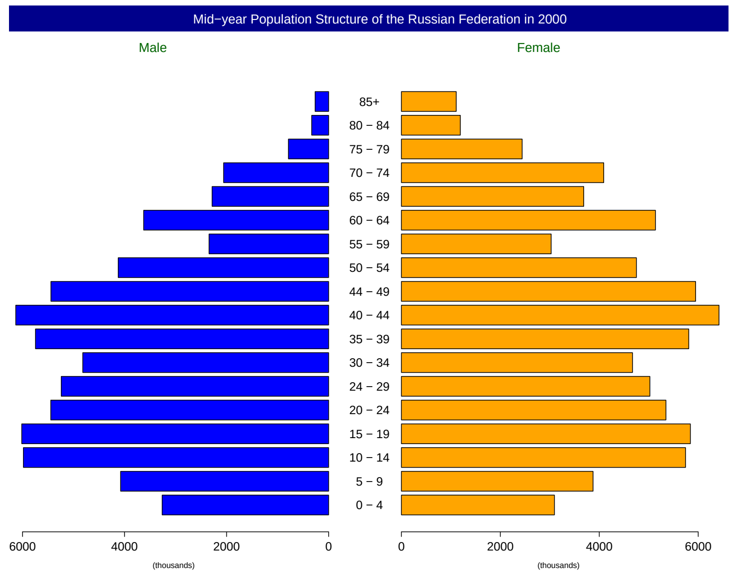

Table 3: Age distribution based on the standard population.

	Men			Women		
Age cohort	Population	Total Weight	Group Weight	Population	Total Weight	Group Weight
Ages 0-19	19,339,595	0.1332	0.2844	18,552,652	0.1278	0.2403
Ages 20-34	15,506,899	0.1068	0.2281	15,041,751	0.1036	0.1948
Ages 35-49	17,323,234	0.1193	0.2548	18,175,979	0.1252	0.2354
Ages 50-59	6,468,365	0.0446	0.0951	7,777,702	0.0536	0.1008
Ages 60-69	5,910,016	0.0407	0.0869	8,820,734	0.0608	0.1143
Ages 70 and up	3,443,145	0.0237	0.0506	8,829,084	0.0608	0.1144
Total	67,991,254	0.4682	1.0000	77,197,902	0.5317	1.0000

where $w_r = \frac{n_r}{\sum_r n_r}$ is the weight of the r^{th} region. The estimated coefficients $\hat{\beta}_c$ are the estimates of national age-specific disability rates and the residual $\hat{\epsilon}_r$ captures the fixed effect of the r^{th} region not due to age structure. In theory, regions with high age-adjusted disability rates should have positive residuals and regions with low age-adjusted disability rates should have negative residuals.

A second alternative method adopts a microeconomic approach. Assume that an idividual faces a binary choice of being disabled or not disabled. Then there arises a probit model where the probability that the i^{th} individual is disabled is

$$P[disab_i = 1|\vec{I_i}] = \Phi\left(\beta_0 + \sum_r \beta_r I_{i,r} + \sum_c \beta_c I_{i,c}\right) \tag{10}$$

where $I_{i,r}$ is an indicator variable equal to one if the i^{th} individual lives in the r^{th} region and zero otherwise and $I_{i,c}$ is an indicator variable equal to one if the i^{th} individual is in the c^{th} age cohort and zero otherwise. Then the estimated $\hat{\beta}_c$ captures the national age-specific disability rate for cohort c and the estimated $\hat{\beta}_r$ captures the regional fixed effect.

In principle, other terms can be added as well. At the abehavioral level, this includes interaction terms between age and region that allow regional relative advantages to vary by both age and gender. A second step is to add individual-specific variables that affect disability risk, including those variables found in standard prevalence analyses (see in particular Merkuryeva (2007); also Scott and Mete (2008), Hoopengardner (2001), and Schultz (2008)). The remaining regional effects are those that exist controlling for demographic structure as well as differences in composition of individuals (who vary in terms of education, occupation, marital status, household composition, and health-related measures), settlement properties (urban / rural), healthcare system characteristics, and regional prosperity (reflected in both regional per capita income and individual incomes).

By adding these terms, it is possible to compare unadjusted regional disability rates with age-standardized rates that do not correct for the envrironment, and then with standardized rates that correct for individual and regional characteristics. Decomposition analysis can then be used to determine the extent to which regional differences are attributable to demographic structure, economic conditions, and individual characteristics; the remainder is the unattributed regional effect, analagous to total factor productivity measures in economic growth decompositions.

4 Results

Table 4 presents the adjusted disability rates for 79 regions of the Russian Federation (data for the Chechnya are not available). The first column reports the gender- and age-adjusted rate and the next two columns report age-adjusted rates for men and women separately[3]. Observe that the highest gender- and age-adjusted disability rates are in Belgorod Oblast and the lowest – in Chukotka AO. Splitting the sample along gender lines reveals a more complex trend: for women, the highest disability rates are in St Petersburg, Belgorod Oblast, Karelia Republic, and the Jewish AO; the lowest – in Chukotka and Kaliningrad Oblast. For men, the highest adjusted rates are in the Karachay-Cherkess Republic while the lowest – in Chukotka and Khakassia Republic.

Table 5 presents the regional effect regressions across Federal Subjects. The coefficients indicate, first of all, that disability incidence increases with age. However, the coefficients for the cohort aged 60-69 are insignificant. Members of the group aged 60-69 at the time of data collection were born in 1934-1943. Perhaps the statistical insignificance of these coefficients captures effects of Soviet collectivization policies in the 30's and the subsequent World War Two. Secondly, the coefficients for women are almost double those of their male counterparts. Especially striking is the large coefficient on women aged 50-59; a one-tenth unit increase in the share of this cohort would account for an increase in the crude disability rate of six percentage points. We believe this is a consequence of the retirement age for

[3] We also computed overall age-adjusted rates without adjusting for gender. These revealed to be almost identical to the gender- and age-adjusted rates reported in Table 4

women set at 55; upon retiring many individuals apply for disabled status in order to qualify for additional social benefits.

The regional effect residuals are plotted against the age-adjusted disability rates in Figure 2. For ease of comparison, both values have been standardized to have zero mean and unity variance (this affine transformation does not affect the ordinal rankings of the adjusted rates). Perhaps the most striking characteristic of this set of graphs is that the regional effects of Chukotka and Tuva are higher than expected. Put differently, given their regional effects, Chukotka and Tuva ought to have higher adjusted disability rates: Chukotka, with a regional effect of zero, should have an ADR close to the national average and Tuva, with a large positive residual, should have one of the largest disability rates in the Federation.

To help visualize the effect of standardization, we plot crude and age-adjusted disability rates on a map of the Russian Federation in Figure 1. The maps reveal that with standardization some, though not all, of the counter-intuitive "remote-but-healthy" pattern is gone. The pattern is especially less-pronounced in central and eastern Siberia (Krasnoyarsk Krai, Yakutia Republic, Buryat Republic) and in the North (Arkhangelsk Oblast, Karelia Republic). However, the pattern is still present in remote regions of the Far East – Chukotka AO, Magadan and Kamchatka Oblasti.

Finally, Table 6 presents the regression results. Initially, we regress disabled status on region of residency and age cohort for both women and men. As expected from the age-adjustment computations, we observe statistically significant and positive coefficients for women in Belgorod Oblast and St Petersburg. We observe a negative and statistically significant coefficient for women in Astrakhan Oblast. For men, we observe a negative and statistically significant coefficient in Kamchatka.

In the second set of regressions, we add health variables, residency, education and family status dummies, the number of children in the household and the logarithm of total per capita household consumption, as a measure of poverty. When we do this, the regional effects become more pronounced, except for men in Kamchatka.

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Figure 1: Map

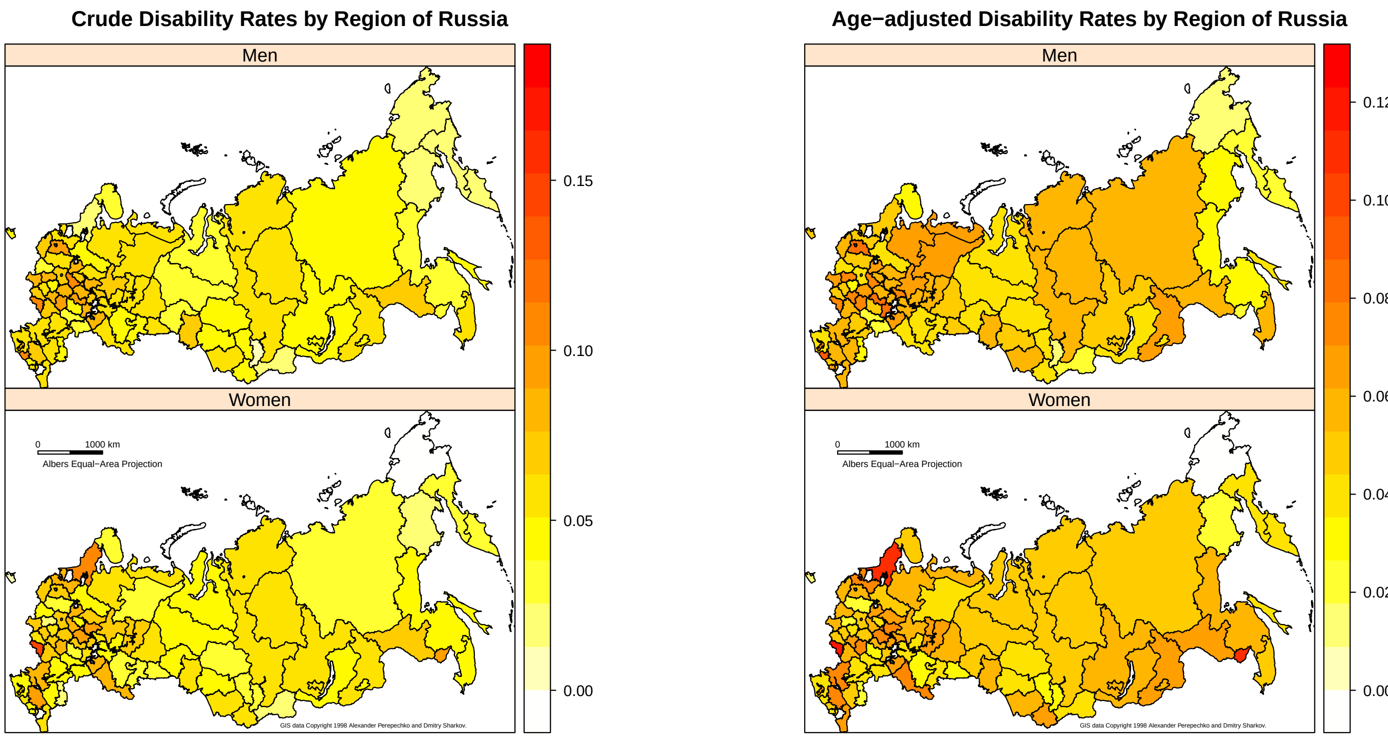
Crude Disability Rates by Region of Russia
Men
Women
0
1000 km
Albers Equal−Area Projection
GIS data Copyright 1998 Alexander Perepechko and Dmitry Sharkov.
0.00
0.05
0.10
0.15
Age−adjusted Disability Rates by Region of Russia
Men
Women
0
1000 km
Albers Equal−Area Projection
GIS data Copyright 1998 Alexander Perepechko and Dmitry Sharkov.
0.00
0.02
0.04
0.06
0.08
0.10
0.12

Table 4: Estimated age-adjusted disability rates by subject of the Russian Federation.

	All	Men	Women
Central Federal District			
Moscow City[a]	6.38	4.41	8.10
Belgorod Oblast	10.00	7.81	11.93
Bryansk Oblast	6.41	6.98	5.91
Ivanovo Oblast	4.80	5.89	3.83
Kaluga Oblast	4.70	7.64	2.10
Kostroma Oblast	5.93	5.35	6.45
Kursk Oblast	5.01	5.01	5.01
Lipetsk Oblast	6.70	7.23	6.22
Moscow Oblast	4.51	4.36	4.64
Orel Oblast	5.03	4.84	5.21
Ryazan Oblast	5.98	7.00	5.08
Smolensk Oblast	5.03	4.22	5.74
Tambov Oblast	7.41	7.75	7.11
Tver Oblast	3.54	4.55	2.65
Tula Oblast	3.80	3.25	4.28
Vladimir Oblast	6.74	7.40	6.16
Voronezh Oblast	5.50	5.51	5.49
Yaroslavl Oblast	6.76	6.77	6.75
Southern Federal District			
Krasnodar Krai	3.93	3.86	3.99
Stavropol Krai	6.35	5.33	7.24
Adyg Republic	7.30	7.61	7.04
Chechen Republic	N/A	N/A	N/A
Dagestan Republic	6.19	5.75	6.57
Ingush Republic	4.16	5.05	3.37
Kabardino-Balkar Rep.	4.58	4.63	4.52
Kalmyk Republic	5.04	5.35	4.76
Karachay-Cherkess Rep.	6.45	9.03	4.17
North Ossetin Rep.	5.22	6.49	4.10
Astrakhan Oblast	2.70	3.44	2.06
Rostov Oblast	6.45	5.49	7.30
Volgograd Oblast	4.08	4.58	3.63

	All	Men	Women
Northwestern Federal District			
St Petersburg	9.45	6.19	12.34
Karelia Republic	8.11	4.64	11.18
Komi Republic	4.98	6.29	3.82
Arkhangelsk Oblast	5.79	6.34	5.31
Kaliningrad Oblast	2.77	4.54	1.21
Leningrad Oblast	6.26	4.99	7.38
Murmansk Oblast	4.33	3.47	5.09
Novgorod Oblast	7.20	8.48	6.06
Pskov Oblast	5.95	5.83	6.06
Vologda Oblast	4.54	4.31	4.75
Far Eastern Federal District			
Khabarovsk Krai	4.40	3.26	5.40
Primorskiy Krai	5.47	5.88	5.10
Saha (Yakutia) Rep.	4.87	5.38	4.43
Amur Oblast	6.53	6.01	7.00
Kamchatka Oblast	3.18	2.05	4.17
Magadan Oblast	2.43	2.80	2.10
Sakhalin Oblast	4.29	4.29	4.29
Chukotka AO	0.49	1.07	0.00
Jewish AO	6.99	2.46	10.98
Uralic Federal District			
Chelyabinsk Oblast	3.82	3.98	4.05
Kurgan Oblast	3.84	4.56	3.22
Sverdlovsk Oblast	5.37	4.97	5.72
Tyumen Oblast	4.50	4.22	4.75

	All	Men	Women
Volga Basin Federal District			
Bashkir Republic	3.43	3.80	3.11
Chuvash Republic	6.52	6.15	6.85
Mari El Republic	6.91	7.24	6.62
Mordva Republic	7.10	8.19	6.15
Tatar Republic	4.81	5.39	4.29
Udmurt Republic	4.92	5.94	4.02
Kirov Oblast	6.11	6.31	5.94
Nizhniy Novgorod Obl.	6.94	6.15	7.64
Orenburg Oblast	5.92	4.35	7.31
Penza Oblast	3.96	4.51	3.48
Perm Oblast	6.00	5.39	6.53
Samara Oblast	6.45	6.69	6.23
Saratov Oblast	2.95	2.01	3.78
Ulianovsk Oblast	6.52	8.22	5.03
Siberian Federal District			
Altai Krai	5.53	5.79	5.31
Krasnoyarsk Krai	5.29	5.59	5.03
Altai Republic	5.73	4.33	6.96
Buryat Republic	4.84	4.25	5.37
Khakassia Rep.	2.41	1.21	3.47
Tuva Republic	2.87	2.09	3.55
Chita Oblast	6.65	6.34	6.92
Irkutsk Oblast	5.50	5.12	5.83
Kemerovo Oblast	3.82	4.34	3.36
Nobosibirsk Obl.	4.18	4.67	3.75
Omsk Oblast	5.77	5.99	5.57
Tomsk Oblast	4.01	3.96	4.05

[a] All Federal subjects are identified according to their 2003 names and boundaries. For statistical purposes, Autonomous Okrugi are included within their parent Oblast or Krai.

Table 5: Regression of crude disability rate on age cohorts over Federal Subjects (heteroskedasticity robust standard errors).

	Entire Sample	Men	Women
Constant	-0.172 *	-0.0621	-0.300
Ages 20-34	0.132	-0.00217	0.352
Ages 35-49	0.404 *	0.263 **	0.543 *
Ages 50-59	0.456 **	0.245 ***	0.608 **
Ages 60-69	0.112	0.115	0.147
Ages 70 and above	0.413 ***	0.255 ***	0.593 ***
Number of Obs.	79	79	79
R^2:	0.54	0.45	0.47
F on 5 and 73 df	10.56 ***	14.96 ***	8.17 ***
Significance codes: * = 10%, ** = 5%, *** = 1%			

Figure 2: Age-Adjusted Disability Rates and Regional Effect Residuals

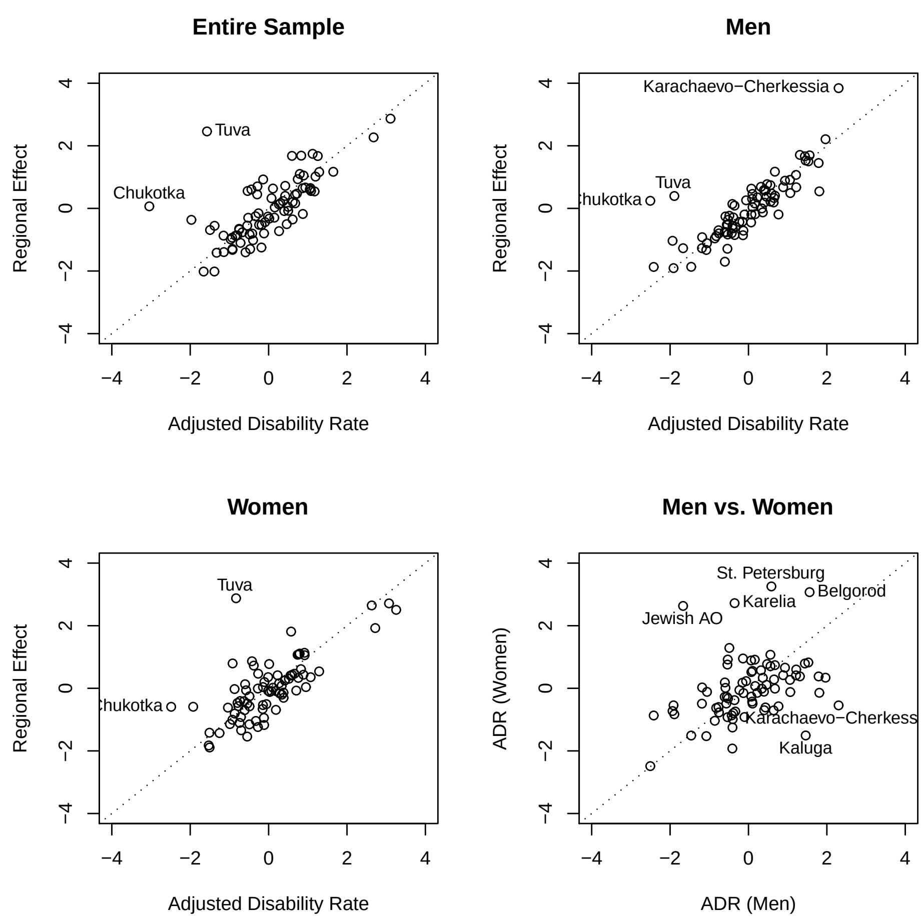

Table 6: Probit estimation results (dependent variable: disabled).

	Women		Men	
Federal Subjects[a]				
Astrakhan Oblast	-0.469 ***	-0.516 ***	-0.306 *	-0.282
Belgorod Oblast	0.525 ***	0.585 ***	0.226	0.384
Kaliningrad Oblast	-0.661 **	-0.521	-0.163	0.160
Kamchatka Oblast	-0.115	-0.0587	-0.495 ***	-0.478 ***
Tver Oblast	-0.362 **	-0.227	-0.123	0.0478
Novgorod Oblast	0.0935	0.236	0.243	0.385 **
Saint Petersburg	0.568***	0.704***	0.0635	0.227
Ingushetia	-0.145	-0.392	-0.114	-0.491 **
Karachaevo-Cherkessia	0.0624	0.232	0.324 *	0.482 **
Karelia	0.427	0.618 **	-0.386	-0.00340
Khakasia	-0.197	-0.0969	-0.924 **	-0.758 *
Age Cohorts[b]				
Ages 20-34	-1.510 ***	0.862 ***	0.506 ***	0.878 ***
Ages 35-49	-0.968 ***	1.339 ***	0.769 ***	1.365 ***
Ages 50-59	-0.613 ***	1.616 ***	1.144 ***	1.727 ***
Ages 60-69	-0.261 ***	1.854 ***	1.415 ***	1.983 ***
Ages 70+	0.295 ***	2.031 ***	1.754 ***	2.156 ***
Behavioral Variables				
healthGood		0.747 ***		0.805 ***
getsPhysical		0.634 ***		0.630 ***
neverSmoked		-0.00231		-0.00658
noVodka		0.309 ***		0.292 ***
noWine		0.219 ***		0.0561
noBeer		0.0736		0.194 ***
Residency[c]				
largeCity		0.276 ***		0.181 **
city		0.197 ***		0.0456
town		0.169 ***		0.00402
Education[d]				
educPrimary		0.118		-0.240 **
educBasic		0.263 ***		-0.170
educSecondary		0.294 ***		-0.107
educPtuFzu		0.206 **		-0.252 **
educVocational		0.159 *		-0.227 **
educTertiary		-0.0425		-0.467 ***
Family Status[e]				
married		-0.306 ***		-0.383 ***
cohabitating		-0.302 ***		-0.305 ***
widowed		-0.239 ***		-0.385 ***
divSep		-0.251 ***		-0.132 *
numChldren		-0.0223		-0.0905 ***
logHHConsumpPerCap		0.0743 **		-0.0904 ***
Constant	-1.212 ***	-4.502 ***	-2.414 ***	-2.317 ***
Number of Obs.	64,958	64,958	52,046	52,046
Significance codes: * = 10%, ** = 5%, *** = 1%				

[a] Total of 79 Federal Subjects, reporting only statistically significant coefficients. Omitted dummy: Altai Krai.

[b] Omitted dummy: Ages 0-19.

[c] Omitted dummy: village.

[d] Omitted dummy: no schooling.

[e] Omitted dummy: single.