2022 DINA Regional Update
for Russia

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Technical Note

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Overview

For this year's update, I have revised the average and sum of net national income since 1961. I only revise distributional estimates from 1994 onwards. The income year 2021 is an extrapolation of the 2020 distribution. The time series and all updates are entirely based on the methodology by Novokmet, Piketty, and Zucman (2018, in the following NPZ).

Data & Quality

Survey and tax data are available until the income year 2020. Thus, for 2021, the 2020 national income distribution is carried forward, assuming a constant distribution. However, (bracket) average incomes and thresholds are adapted to the year-specific net national income.

The Russian Longitudinal Monitoring Survey (RLMS) builds the survey database. It provides monthly data on net incomes, including wages, self-employment incomes, pensions, unemployment benefits, rental income, dividends and interest, stipends, alimony, and housing and fuel subsidies. I build on NPZ (2018), who have simulated the income tax to convert net incomes to gross incomes. Monthly gross incomes are annualized. Please note that the survey database suffers from sample attrition (Kozyreva et al., 2016) which is apparent in the income shares from raw survey data (Fig. 1). We aim to integrate LIS survey data in our analysis to improve survey data quality.[2]

Detailed tax tabulations of incomes above one million Rubel (about 25,867€, 2021 PPP) allow for the correction of the top of the distribution. The published tax tabulations are based on "assessable income", i.e. incomes before the deduction of expenses and more in line with the

[2] LIS data for Russia is based on the RLMS for the years until 2010 and on the Survey of the Population Income and participation in Social programs (PIS) thereafter.

revenue concept. Thus, NPZ (2018) make several assumptions about deduction rate profiles. Also, the income tax can be withheld at the source, e.g. if employers settle the tax liability for their employees. Furthermore, capital incomes are withheld at the source, too. Consequently, another assumption about the declaration rate, i.e. the share of tax declarations among all incomes in an income group must be made. I have used the preexisting assumptions made by NPZ (2018). Overall, this correction shows that survey data results highly underestimate inequality.

Distributional information for wealth is currently not available for Russia. Therefore, a normalized distribution of wealth is built from the wealth distributions of France, China, and the U.S. (available for 1994 – 2020, Blanchet, Martínez-Toledano, 2021) and is top-corrected with Forbes list information on the number of dollar billionaires and their total wealth (1995 - 2020). For this procedure, Russian citizens and residents were included.

Unlike the original study that uses macroeconomic data from the national statistical office Rosstat, I use national income and population data from the World Inequality Database (national accounts update 2022). This data is drawn from the OECD, UN MADT, and IMF BOPS databases and harmonized between sources and over time (Blanchet et al. 2020, p. 88). The advantage of this change is that more recent data is available than currently provided by Rosstat. Discrepancies in the main concepts like GDP and national income are negligible.

Table 1: Overview of used sources and data availability.

Income		Wealth	National Accounts and population data	Update 2022
Survey data	Tax data	1995 – 2020, 2021: Billionaires data published on Forbes List Normalized wealth distribution France, China, US 1994-2020 (Blanchet, Martínez-Toledano, 2021)	1990 – 2021 https://wid.world	Survey data 2020 Tax tabulations 2020 Forbes list 2020 Wealth distributions US, CH, FR: newest & revised wealth data release 1994-2020 Macro data from https://wid.world 2019 – 2021
1994-1996, 1998, 2000-2020, 2021 Russian Longitudinal Monitoring Survey (RLMS) Luxemburg Income Study 2000, 2004, 2007, 2010, 2011, 2013, 2017 - 2019	2008 - 2020: Tax tabulations available on the website of the Federal Tax Service of Russia			

* Note: Data sources in grey were identified but not used.

Method

To construct the distribution of fiscal income, survey data is top-corrected using tax tabulations on high incomes and generalized Pareto interpolation[3] for the years 2008 to 2020.[4] By extrapolating the resulting increase in the top decile Pareto coefficients, the survey incomes before 2007 are top-corrected. The distribution of non-fiscal income, mainly representing tax-exempt capital incomes, is assumed to be proportional to the wealth distribution. To construct an approximation of the Russian wealth distribution, I normalize the wealth distributions of France, China, and the US (USCNFR) and calculate their yearly mean. Lastly, I top-correct with Russian billionaire's data from Forbes List. The distributions of fiscal income and non-fiscal income are harmonized with national accounts data. Fiscal income is assumed to account for 72% of national income and non-fiscal income for 8% in recent years. A joint distribution of fiscal and non-fiscal income with a Gumbel parameter of $\theta = 3$ is assumed. Last, the joint distribution is uprated to match net national income to account for net taxes on production and government and non-profit income. This uprate does not change the distribution, but only the levels of bracket averages and thresholds. Figure 1 shows the top 10% and bottom 50% shares for raw survey income before the tax-correction, fiscal income after the top-correction and pretax national income distribution after the addition of non-fiscal income and the update to net national income. The addition of non-fiscal income via the copula procedure increases the top 10% share by less than 2 percentage points in all years.

For 2020, the first fully Covid-affected year, we find an increase of almost 5 percentage points in the top 10% share after the tax data correction. Tax tabulations show an increase of Rubel millionaires among all tax filers from 15-16% in 2018 and 2019 to 20% in 2020. The total number of tax filers has increased at a similar rate as in previous years, while particularly higher income tax filers have increased more than in previous years. Still, we recommend a cautious interpretation of this result due to limited data quality.

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[3] For generalized Pareto interpolation the online tool gpinter can be used (https://wid.world/gpinter/) or the eponymous R package. For details on the procedure see Blanchet et al. (2018).
[4] Survey data usually suffers from underreporting of high incomes.

Figure 1: Top 10% and bottom 50% income share at different stages of the data edit and analysis.

Top 10% share

Bottom 50% share
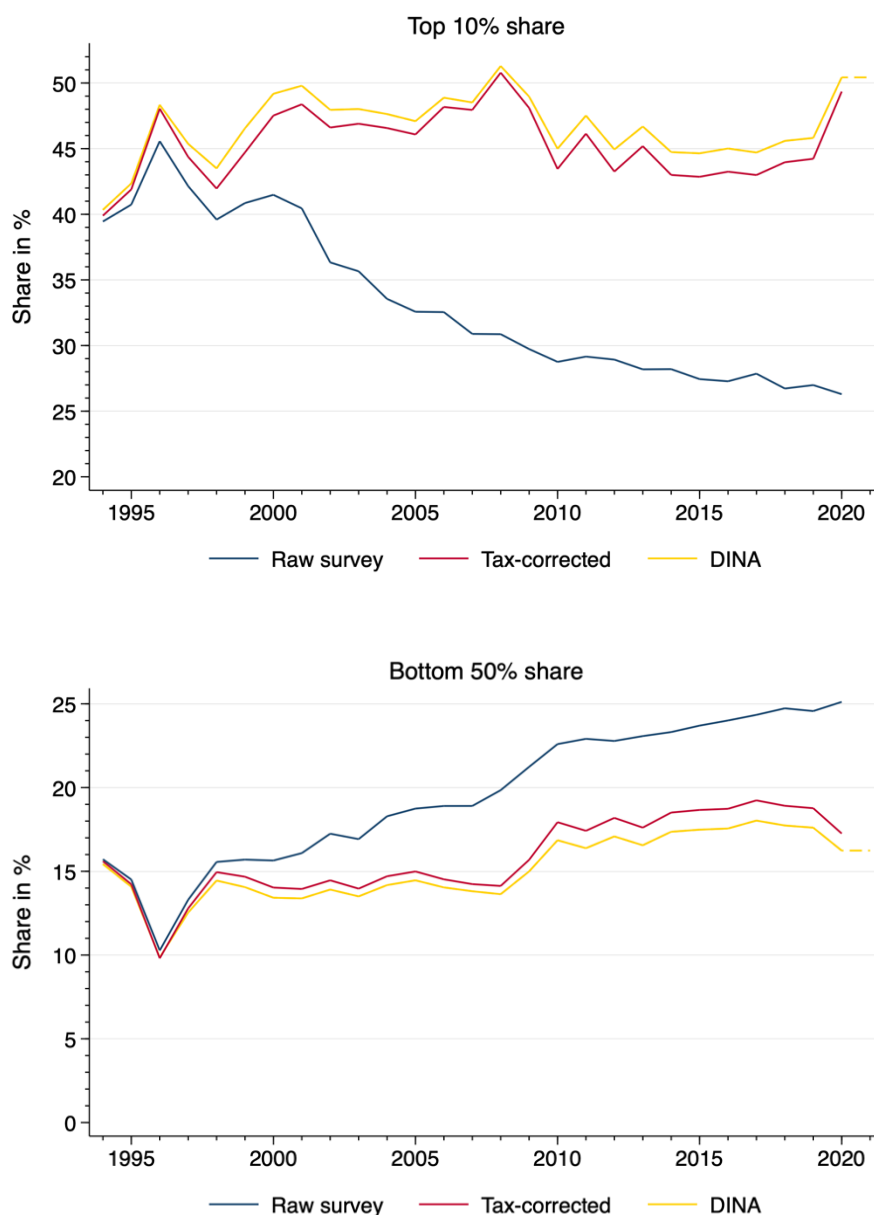
Already NPZ (2018) have stressed that due to strong limitations of the underlying data sources, broad orders of the magnitude of income shares can be considered reliable, but not small variations. Despite our best efforts to construct the present time series, better data availability and transparency is needed to sharpen the picture about inequality in the Russian Federation.

Deflator adjustment

In general, we draw on World Bank data and NPZ (2018) for information on the national income deflator. However, NPZ (2018) remark that the official Rosstat national income deflator suggests "implausibly high living standards in Russia during the Soviet period (as a proportion of Western European living standards)". Therefore, we integrated the authors' revised deflator series. NPZ (2018) increased the deflator before 1995, which lowers national income levels in constant terms.[5] Figure 2 shows the difference.

Figure 2: Net national income per adult in 2021 constant EUR. Comparison between the original deflator and NPZ (2018)'s revised deflator before 1995 (red line).
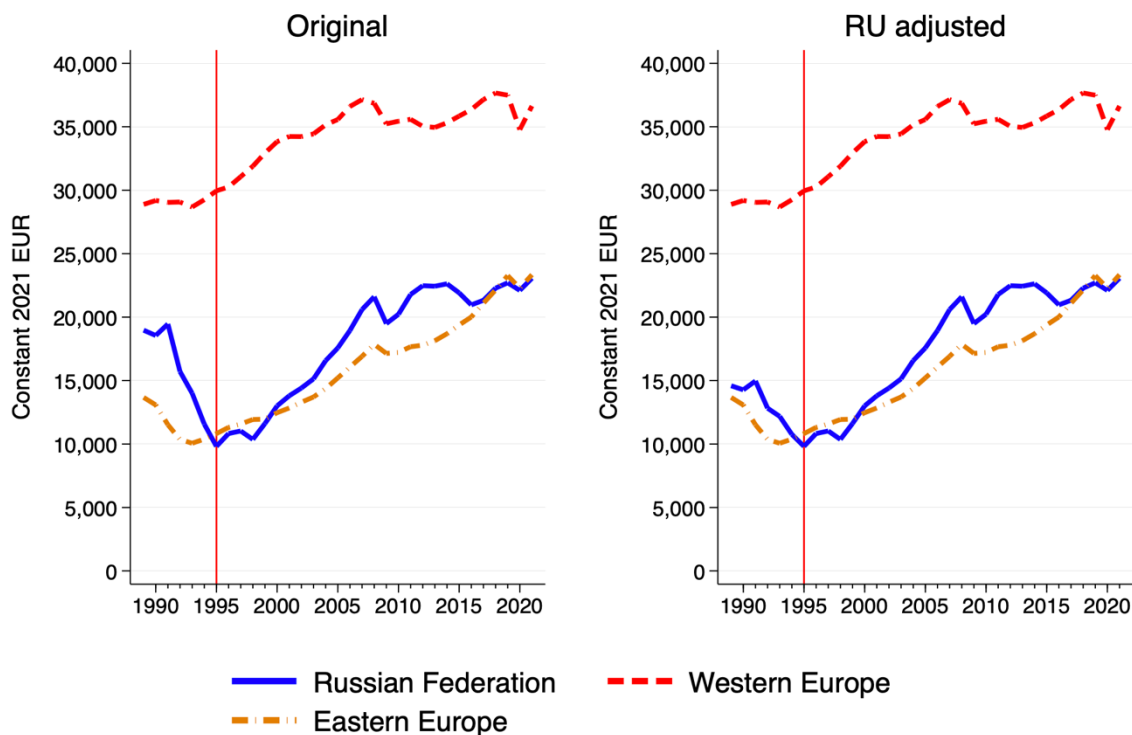
Note: Western Europe comprises Austria, Belgium, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Great Britain, Switzerland, Portugal, Spain, Italy, Iceland, Greece, Malta, Cyprus, Sweden, Norway, Finland and Denmark. Eastern Europe covers Albania, Bosnia and Herzegovina, Bulgaria, Czechia, Estonia, Croatia, Hungary, Kosovo, Lithuania, Latvia, Moldova, Montenegro, North Macedonia, Poland, Romania, Serbia, Slovenia and Slovakia.

References

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Blanchet, T. & Martínez-Toledano (2021): Distributional Wealth Accounts in Europe. Methodology. World Inequality Lab Technical Note 2021/16.

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[5] We apply the following multipliers: 1.3 for all years before 1992, 1.225 for 1992, 1.15 for 1993 and 1.075 for 1994.

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