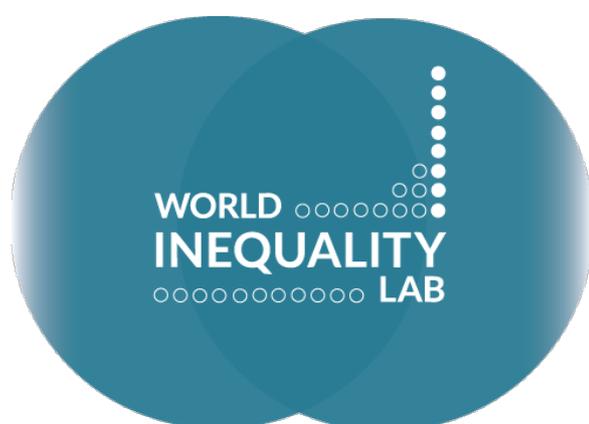


2020 DINA Update for the Russian Federation

Theresa Neef

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World Inequality Lab



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Technical Note

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A joint effort of the World Inequality Lab was made to revise and update macroeconomic and distributional information on the World Inequality Database. I have extended the distributional series of pretax national income for the Russian Federation to 2019. The update is entirely based on the methodology by Novokmet, Piketty, and Zucman (2018).

Method

To construct the distribution of fiscal income, survey data is top-corrected using tax tabulations on high incomes and generalized Pareto interpolation² for the years 2008 to 2018.³ By extrapolating the resulting increase in the top decile Pareto coefficients, the survey incomes for 1980 – 2007, years for which tax data is not available, 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 a sensible approximation of the distribution of wealth, the normalized wealth distributions of France, China, and the US (USCNFR) are joint and top-corrected with Russian billionaire's data. The distributions of fiscal income and non-fiscal income are harmonized with National Accounts. Fiscal income is assumed to account for 80% of national income, non-fiscal income for 10%. To arrive at the pretax national income distribution, a joint distribution of fiscal and non-fiscal income with a Gumbel parameter of $\theta = 3$ is assumed. In a last step, the joint distribution is proportionally updated to match 100% of adult national income. This step imputes indirect taxes and subsidies proportional to income.

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² For generalized Pareto interpolation the online tool [gpinter](https://wid.world/gpinter/) can be used (<https://wid.world/gpinter/>) or the eponymous R package. For details on the procedure see Blanchet et al. (2018).

³ Survey data usually suffers from underreporting of high incomes.

Figure 1 shows the top 1% and top 10% shares for the fiscal income and pretax national income distribution. The addition of non-fiscal income via the copula procedure increases the top 1% share by up to four percentage points in 1999 and 2000. Thereafter, the difference between pretax national and fiscal income is substantially smaller.

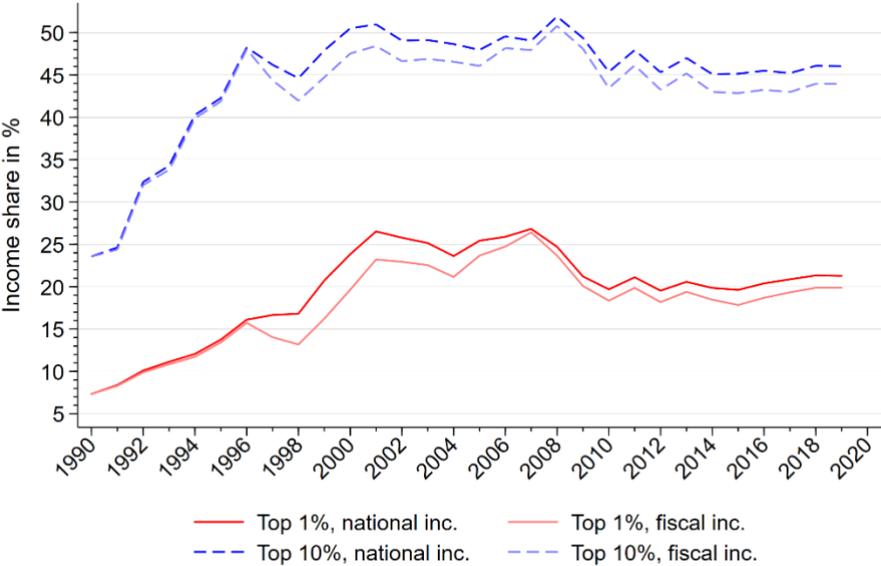


Figure 1: Top 1% & top 10% shares of fiscal and pretax national income, Russian Federation 1990-2019.

Data

Only the data since 1994 is revised and updated up to 2019. Due to missing income tax tabulations for 2019, the 2018 fiscal income distribution is carried forward assuming a constant distribution. The non-fiscal income distribution of 2019 is constructed using the USCNFR normalized wealth distribution and Forbes list 2019 information.

The Russian Longitudinal Monitoring Survey (RLMS) builds the survey database. It provides monthly data on pretax incomes including wages, self-employment incomes, pensions, unemployment benefits, rental income, dividends and interest, stipends, alimony and housing and fuel subsidies. Incomes are annualized. The survey provides annual information.

Detailed tax tabulations of incomes above one million Rubel (26,639€, 2019 PPP) allow for the correction for top incomes. This correction shows that survey data results highly underestimate inequality. The published tax tabulations are based on “assessable income”, i.e. incomes before the deduction of expenses and more in line with the revenue concept. Thus, assumptions about deduction rate profiles are made. 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. Consequently, another assumption about the declaration rate, i.e. the share of tax declarations among all incomes in an income group must be made. On both issues, I have used the preexisting assumptions made by Novokmet, Piketty, and Zucman (2018).

A normalized distribution of wealth is built from the wealth distributions of France, China, and the US (available for 1994 – 2014, thereafter distribution assumed constant) and is top-corrected with Forbes List information on the number of dollar billionaires and their total wealth (1995 - 2019). For this procedure, Russian citizens and residents were included.

Different to the original study that uses macroeconomic data from the national statistical office Rosstat, I have used national income and population data from the World Inequality Database (update 2020). This data is drawn from the OECD, UN MADT, and IMF BOPS databases and harmonized between sources and over time (Alvaredo 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
Survey data	Tax data	1995 – 2019, 2020: Billionaires data published on Forbes List	1990 – 2019 World Inequality Database (https://wid.world)	Survey data
1994-1996, 1998, 2000-2018, 2019: Russian Longitudinal Monitoring Survey (RLMS)	2008 - 2018: Tax tabulations, Federal Tax Service of Russia			2016 – 2018
Luxemburg Income Study		Normalized wealth distribution France, China, US 1994-2014 (World Inequality Database)		Tax tabulations 2016 – 2018
2000, 2004, 2007, 2010, 2011, 2013, 2017				Forbes list 2016 – 2019
				Macrodata from World Inequality Database (https://wid.world) 1990 – 2019

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

Outlook

In the future, the applied methodology and data sources can be extended, and results cross-checked for robustness to different data sources and methods. First, the Luxemburg Income Study (LIS) can be integrated to explore the robustness of the survey data base. Second, the relation between fiscal and non-fiscal income can be approximated by quantile ratios (Alvaredo et al. 2020, p 139f.). Third, for the top correction of the RLMS survey data, the BFM procedure (Blanchet, Flores, Morgan 2018) can be integrated. Fourth, better approximations than the USCNFR normalized distribution of wealth can be explored. Unfortunately, a wealth survey is currently not available for Russia. All in all, reliable data sources are still scarce. While the RLMS survey data suffers from sample attrition (Kozyreva et al., 2016), income tax tabulations are fragile and their use requires strong assumptions about declaration incidence and tax deductions. Already Novokmet, Piketty, and Zucman (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.

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