2021 DINA Regional Update
for Russian Federation

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In this year's update, I have extended the distributional series of pretax national income for the Russian Federation to 2021. The update is entirely based on the methodology by Novokmet, Piketty, and Zucman (2018). The years 2020 and 2021 are extrapolations of the 2019 distribution aligned with net national income of the subsequent years.

Method

To construct the distribution of fiscal income, survey data is top-corrected using tax tabulations on high incomes and generalized Pareto interpolation[1] for the years 2008 to 2019.[2] 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 then top-corrected 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, non-fiscal income for 8%. 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. This uprate does not change the distribution, but only the levels of bracket averages and thresholds. 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 almost four percentage points in 1999. After 2007, the increase is stable around 1 percentage point.
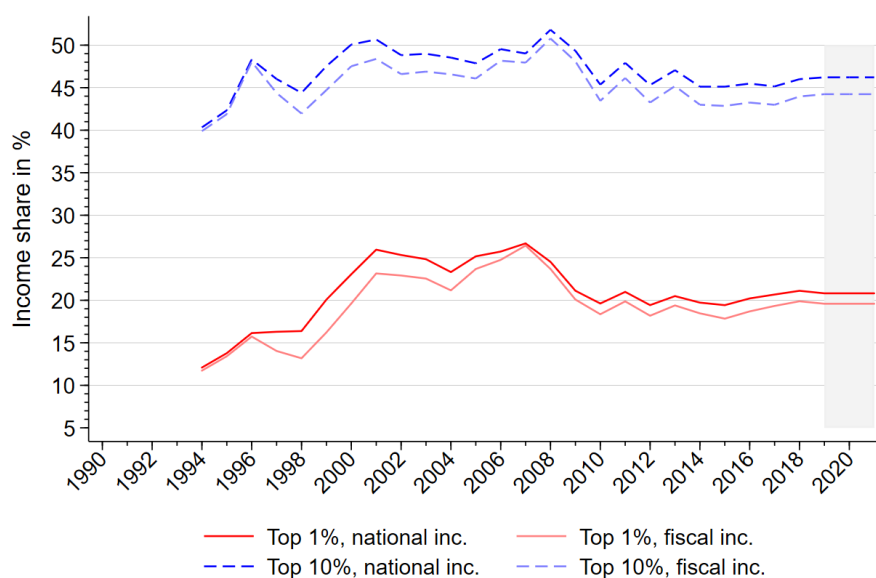

Figure 1: Top 1% & top 10% shares of fiscal and pretax national income, Russian Federation 1993-2021. The shaded area indicates the extrapolated years (2020, 2021).

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[1] 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).

[2] Survey data usually suffers from underreporting of high incomes.

Data

Only the data since 1994 is revised and updated up to 2021. Survey and tax data are available until the income year 2019. Thus, for the years 2020 and 2021, the 2019 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. We simulate the income tax to convert net incomes to gross incomes. Incomes are annualized.

Detailed tax tabulations of incomes above one million Rubel (26,639€, 2019 PPP) allow for the correction for top incomes. 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). Overall, this correction shows that survey data results highly underestimate inequality.

A normalized distribution of wealth is built from the wealth distributions of France, China, and the US (available for 1994 – 2019, Blanchet, Martínez-Toledano, 2021) 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 use national income and population data from the World Inequality Database (macro update 2021). 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 2021
Survey data	Tax data	1995 – 2019, 2020, 2021: Billionaires data published on Forbes List Normalized wealth distribution France, China, US 1994-2019 (Blanchet, Martínez-Toledano, 2021)	1990 – 2021 https://wid.world	Survey data 2019 Tax tabulations 2019 Forbes list 2019 Wealth distributions US, CH, FR: newest & revised wealth
1994-1996, 1998, 2000-2018, 2019: Russian Longitudinal Monitoring Survey (RLMS) Luxemburg Income Study 2000, 2004, 2007, 2010, 2011, 2013, 2017, 2018	2008 - 2019: Tax tabulations available on the website of the Federal Tax Service of Russia			

				data release 1994-2019 Macro data from https://wid.world 2019 – 2021

* 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 database after 2010.[3] Second, the relation between fiscal and non-fiscal income can be approximated by quantile ratios (Blanchet 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.

References

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[3] 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.