

How unequal is Russia ?

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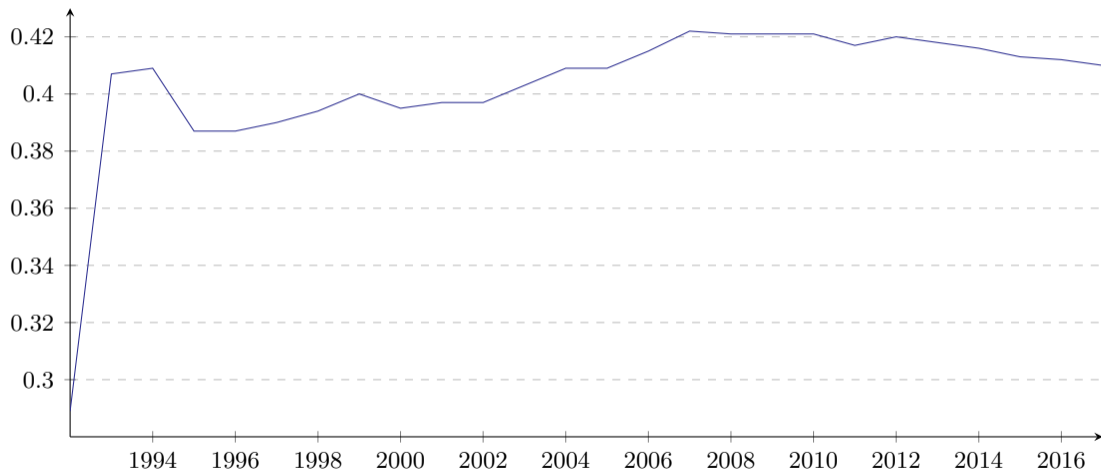
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Outline

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- 2 Data and Measurement
- 3 Rosstat's Methodology
- 4 Alternative Estimations
- 5 Discussion

Inequality Dynamic

Gini index, Russia, 1992–2017



Source: Federal State Statistics Service (Rosstat)

Main Inequality Trends

The Soviet system featured a highly compressed wage structure. Earned income reflected a very low return to skill and education and other variable determinants of productivity. Productivity at state enterprises was relatively low and there were no legal private enterprises (Remington 2011).

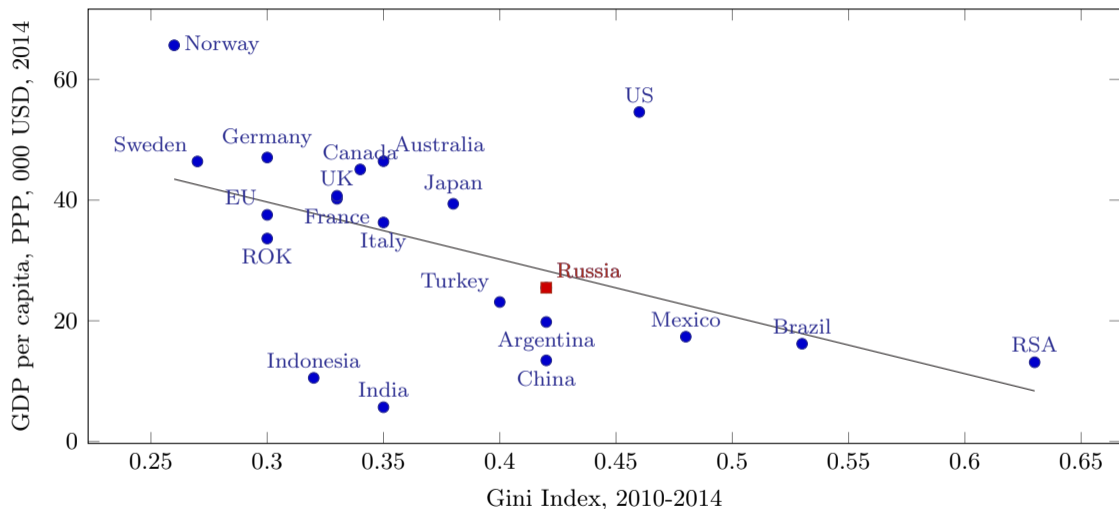
Income inequality, wealth inequality and **regional inequality** increased significantly during the early years of the transition in Russia.

The main driving factors of the rising inequality were:

- privatization of state enterprises;
- the poor quality of state social assistance;
- the rapid increase in wage differentiation;
- rising unemployment;
- steep price inflation (Commander, Tolstopiatenko, Yemtsov 1999).

An extreme rise in the **1990s** was followed by a brief leveling off, then a slower rise in **2000-2012** and a slow decline in **2012-2017**.

Other Countries



Source: Federal State Statistics Service (Rosstat), World Bank, CIA

Underestimation

Income inequality level is **underestimated by Russian officials**(Aivazian 1997; Commander, Tolstopiatenko, Yemtsov 1999; Aivazian, Kolenikov 2001; Shevyakov, Kiruta 2001,2002; Guriev, Rachinsky 2008; Gimpelson, Treisman 2015; Novokmet, Piketty, Zucman 2018).

Moreover, "Russia **entered the transition with significant inequality**.... already by 1992 income inequality was comparable, for example, to that existing in the USA and significantly greater than in the former planned economies of Central Europe. ... official figures have grossly understated the degree of inequality."(Commander,Tolstopiatenko, Yemtsov 1999)

An increase in levels of inequality usually demands a response by the state to equalize living standards. What this **response** might be depends on how one **measures, analyses, and explains** the patterns of uneven development, in other words, on how one defines the problem. (Bradshaw, Vartapetov 2003).

Data and Measurement

Measurement Algorithm:

- 1 Income distribution identification.
 - ▶ Approximation by parametric function(s).
 - ▶ Nonparametric evaluation.
- 2 Income inequality indices calculation.

Main Russian Data Sources:

- The Household Budget Sample Survey (HBS), organized by the Federal State Statistics Service (52 thous. obs.). The sample is representative at the regional level.
- The Russia Longitudinal Monitoring Survey (RLMS-HSE) (4 thous. obs.), organized by High School of Economics. The sample is representative at the national level.
- Income tax data on high income taxpayers, provided by the Federal Tax Service. Income brackets (annual income, rubles) are: < 1 mln.; 1 - 10 mln.; 10 - 100 mln.; 100 - 500 mln.; 500 - 1000 mln.; 1 - 10 bln.; > 10 bln.

Data: The Household Budget Sample Survey (HBS)

Income distribution identification relies on the assumption that density can be approximated by the **2-parameter lognormal distribution function**.

Main estimation steps:

- 1 Lognormal function parameters are identified using the method of moments from the household survey for each Russian region.
 - ▶ Note: Mean parameter is calculated as the average money income, obtained from macroeconomic balance, adjusted by the standard deviation from the sample.
- 2 The empirical distributions, obtained from the sample survey data, are aggregated to the national level.
- 3 Gini index and "fund" coefficient (R/P 10% ratio) are calculated.

Alternative Estimations

| Paper | Data | Density |
|--|--|---|
| Aivazian 1997 and Aivazian, Kolenikov 2001 | RLMS-HSE | 5 and 3-component mixture of lognormals |
| Commander, Tolstopiatenko, Yemtsov 1999 | RLMS-HS | Nonparametric estimation |
| Shevyakov, Kiruta 2001, 2002 | HBS | Nonparametric estimation |
| Guriev, Rachinsky 2008 | Income tax data, Moscow region | Nonparametric estimation |
| Butaeva 2017 | HBS, income tax data | Combined nonparametric-Pareto |
| Novokmet, Piketty, Zucman 2018 | RLMS, HBS, income tax data, wealth (incl. offshore) data | Generalized Pareto |

Our Methodology

Data: The Household Budget Sample Survey (HBS), income tax data

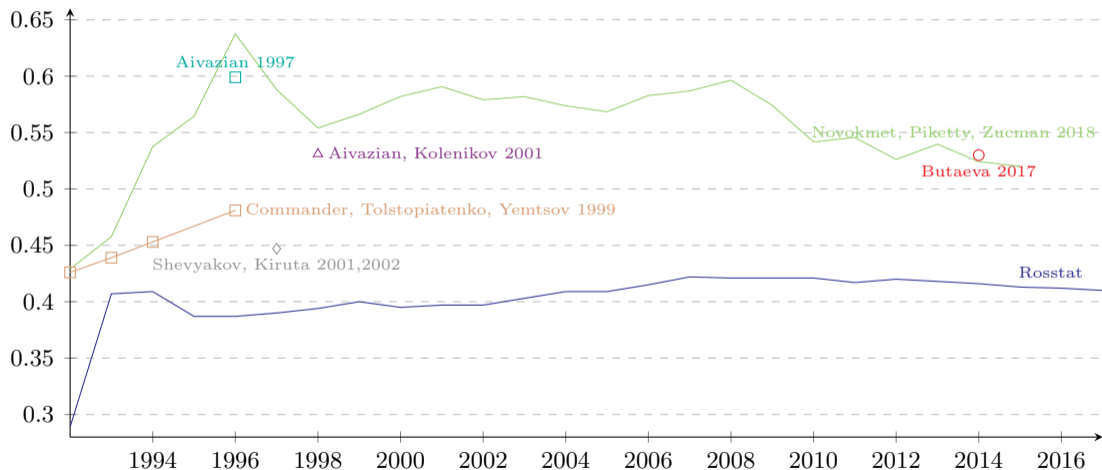
Income distribution identification relies on the assumption that density can be approximated by the **combined nonparametric-Pareto distribution function**.

Main estimation steps:

- 1 Nonparametric estimation of density in the "low" and "medium" income segment, which is calculated from the HBS data.
- 2 The approximation of "high" income by the Pareto function, whose parameters were identified on the basis of the Federal Tax Service of Russia data.
- 3 Combination of two evaluated densities in such a way that the mean income in the combined distribution should be equal to the average money income published in the official macro statistics (Macro Balance).
- 4 Income inequality indices calculation.

What was really happening?

Gini index, Russia, 1992–2017



Where we are today?

