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ECONOMIC INEQUALITY: COORDINATION OF MEASUREMENTS WITH MACROECONOMIC ANALYSIS METHODS

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Abstract. The article is devoted to methodological approaches to the economic inequality study, distribution processes of the produced national product and national wealth. An inequality study by structural and logical analysis methods of macroeconomic balances is proposed. The research tool is a unit square with one-functional Lorentz curves inscribed in it. The single-functional Lorentz curve replaces the traditional, but not confirmed hypothesis of logarithmically normal income distribution by household groups, the Lorentz curve function is determined on the basis of structural and logical analysis of macroeconomic balances as non-random, homogeneous, nonlinear, smooth, symmetrical. Either the Pareto distribution point or the angles of Lorentz curve inclination at the starting and ending coordinates points (0; 0) and (1; 1) are "responsible" for the inequality degree. Preliminary calculations based on the inequality structure analysis revealed the possibility of constructing a complete Lorentz curves map for all possible Pareto distributions, and a ready-made table of inequality indicators for each curve. The set of indicators is able to accommodate any used inequality indicators: any funds coefficients, income shares of various top groups (from decile to one millionth), the ratio of median income to average per capita, and many others used by different researchers' schools. Based on these sets of indicators, the inequality levels according to the society stability degree are systematized – from a favorable level (Pareto distribution 60-40) to a threshold level (Pareto distribution 70-30), beyond which society moves to an unstable existence type (for example, Pareto distribution 80-20). The marker distributions presence allows to create an inequalities map. It is proposed to use the map as ready-made Lorentz curves templates and sets of inequality indicators to them, for setting up and conducting microeconomic studies (household surveys). The proposed

method is relevant to eliminate gaps between microdata and macroeconomic indicators in Distributive National Accounts - DINA.

Keywords: inequality; total national income; per capita income; Pareto distribution; Distributional National Accounts; analytical square; Pareto distribution point; Lorentz curve map; system of national accounts; unit square Lorenz curves; summary table of inequality indicators.

JEL codes: E01; E25; E7; D3; D63.

References

1. Alexeev, M.V. (2017) Income Distribution in the USSR in the 1980s // Review of Income and Wealth. Indiana University. April 1.
2. Novokmet, F.; Piketty, T.; Zucman, G. (2017) From Soviets to Oligarchs: Inequality and Property in Russia 1905-2016. WID.world Working Paper Series N° 2017/09. 80 p.
3. Alvaredo, F.; DeRosa, M.; Flores, I.; Morgan, M. (2022) The Inequality (or the Growth) we Measure: Data Gaps and the Distribution of Income. Facundo Alvaredo, Mauricio De Rosa, Ignacio Flores, Marc Morgan. World Inequality Lab. Working Paper N.° 2022/07.
4. Piketty, T.; Saez, E.; Zucman, G. (2018) Distributional National Accounts: Methods and Estimates for the United States // The Quarterly Journal of Economics. Vol. 133. Issue 2. P.: 553-609. DOI 10.1093/qje/qjx043.
5. Kapelyushnikov, R.I. (2019) Economic inequality - a universal evil? // Issues of Economics. No. 4. P.: 91-106. DOI 10.32609/0042-8736-2019-4-91-106.
6. Alvaredo, F.; Lucas, C.; Thomas, P.; Emmanuel, S.; Gabriel, Z. (2018) The World Inequality Report 2018. Cambridge: Harvard University Press. URL: <http://wir2018.wid.world/>.
7. Fernholz, R.; Fernholz, R. (2012) Wealth distribution without redistribution // Claremont McKenna College Working Paper. URL: <https://voxeu.org/article/what-would-wealth-distribution-look-without-redistribution>.
8. Kuznets, S. (1953) Shares of Upper Income Groups in Income and Saving // NBER URL: <https://wid.world/document/kuznets1953/>.
9. Ayvazyan, S.A. (1997) A model for the formation of the distribution of the population of Russia by the size of the average per capita income (Expert-statistical approach) // Economics and Mathematical Methods. No. 4. P.: 74-86.
10. Bobkov, V.N.; Kolmakov, I.B. (2017) Identification of the social structure and inequality in the distribution of monetary incomes of the population of the Russian Federation // Economics of the region. Vol. 13. Issue 4. P.: 971-984. DOI 10.17059/2017-4-1.

11. Kolmakov, I.B. (2004) Methods and models for forecasting indicators of differentiation of monetary incomes of the population. Moscow: Institute of Microeconomics. 168 p.
12. Kolmakov, I.B. (2016) Methodology for measuring the inequality of monetary incomes of the population: analysis and forecast of indicators of differentiation and polarization // Audit and financial analysis. No. 6. P.: 409-424.
13. Kolmakov, I.B. (2017) Methods for measuring the inequality of monetary incomes of the population // Population. Vol. 20. No. 2. P.: 81-91.
14. Atkinson, A. B.; Piketty, T.; Saez, E. (2011) The Highest Income in the Long Term of History // Journal of Economic Literature. Vol. 49. Issue 1. P.: 3-71.
15. Caghetti, M.; De Nardi, M. (2008) Wealth Inequality: Data and Models // Macroeconomic Dynamics. Vol. 12. Issue S2. P.: 285-313.
16. Davis, J. B.; Sandström, S.; Shorrox, A.; Wolf, E.N. (2011) The Level and Distribution of Global Household Wealth // Economic Journal. 121 (551). P.: 223-54.
17. World Inequality Lab, World Inequality Database. URL: <https://wid.world/world/>.
18. Trofimova, G.A. (2021) Quadrature of Lorenz curves // Human Progress. Vol. 7. Issue 2. P.: 16. URL: http://progress-human.com/images/2021/Tom7_2/Trofimova.pdf. DOI 10.34709/IM.172.16.
19. Kolmakov, I.B. (2015) 3.5. Conjugation of the logarithmically normal distribution of the population by the level of monetary income with the Pareto distribution // Audit and financial analysis. No. 2. P.: 124-131.

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