Articles

Analysis of the Wealth Inequality Dynamics in Bulgaria: Different Approach

Peter Peshev*

Summary:

This paper aims to analyze the wealth inequality in Bulgaria during the period Q4.2005-Q2.2015, using two types of gross wealth Gini coefficients, derived through households' bank deposits and bank loans cumulative distributions. Bank deposits, as a major form of financial wealth for Bulgarian individuals, are supposed to give a fair representation of total gross wealth of households. In an untraditional way bank loans Gini coefficient is assumed to fairly represent gross wealth inequality. The dynamics of derived Gini coefficients suggests that gross wealth inequality is steadily rising in spite of recent divergence between deposit and loans Gini coefficients. Inequality should be addressed for overcoming the buildup of systematic risks.

Key words: Inequality, wealth distribution, wealth Gini coefficient,

JEL Classification: D31, D60, G21, I30.

1. Introduction

Wealth and income inequalities in the world have been steadily rising in the past few decades, attracting the interest of analysts and scientists. The problem is getting even more substantial, not only because of the fact that higher economic development did not lead to lower inequality, as the theory of Kuznets suggests, but also because of the fact that minority groups in the wealthiest countries seem to be left without access to good education, health services and social security, eventually entering the vicious cycle of poverty (Kuznets, S., 1955).[1] These minority groups' unrest can grow into large riots damaging the interest to everyone else and making even the wealthiest top 1% worse-off.

Shifting the analysis to Bulgaria, it can be summarized that local inequality deepening tendencies are more distinct. In the last decade the small and open economy of Bulgaria went through a period of high economic growth, a recession and a period of slow recovery (GDP growth has slowly and partially recovered in the last three quarters ending in June 2015). In this period GDP per capita rose faster and recovered faster in the post-crisis period, reaching new record values. Despite the rising trend in income inequality and the fact that income inequality in Bulgaria is among the highest in EU wealth inequality in Bulgaria is relatively low compared to other EU members, with value of the Wealth Gini of 0.67 and values above 0.68 for most of the other EU states, the gross wealth inequality in Bulgaria is rising rapidly in the last decade though (Harvard Income Gini Dataset-SWIID, Global Wealth Databook 2014 and Allianz Global Wealth Report 2015).

* Ph.D., Assistant professor at UNWE-Sofia, p.peshev@unwe.bg.

[1] See Kuznets, 1955.

Nevertheless[2] wealth distribution has always been more unequal than income inequality, with wealth Gini usually being two times and above bigger than the income Gini coefficient (Piketty, 2014, p.244-249 and Dabla-Norris, Ms Era, et al. 2015).[3] Wealth inequality in Bulgaria might be a function of factors as: taxation, inheritance peculiarities, economic development, cultural characteristics, education, structural changes and many others, e.g. similar to the results for emerging markets wealth inequality as found in the paper of Dabla-Norris, Ms Era, et al. (2015). Perhaps, low and flat tax rates on individuals' and corporates' income and low tax rates on wealth stimulate rising inequality.

This paper aims to estimate and analyze the dynamics of gross wealth inequality of Bulgarian households using the not very common techniques of calculating Gini coefficients based on distribution of bank deposits and on distribution of loans of households (part of the liabilities site of the households' balance sheet) as proxies for overall gross wealth distribution in the time interval between the end of 2005 and mid-2015. The unique combination of the time span and indicators used is assumed to give better idea on latest gross wealth inequality dynamics in Bulgaria.

2. Data and Methodology

The analysis of wealth inequality via cumulative households' deposit distribution is also supported by the analysis of households' bank loans distribution, assuming that bank loans lent give a relatively good and fair approximation of current and prospective gross wealth and streams of income. The objectivity of the results and inferences is impeded by the fact that bank deposits are only about 40% of of households' gross wealth, with homeownership representing almost 50% (See Global Wealth Databook 2014).[3] Some of the adults don't have bank deposits and others don't owe banks, also many of the adults possess more than one bank deposits[4]. All of these facts suggest that gross wealth inequality results are at the least skewed.

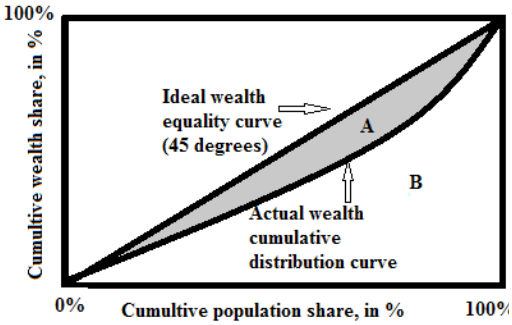

Fig. 1. Hypothetical wealth inequality representation

The gross wealth inequality is measured through a Gini coefficient, calculated with easily accessible and publicly available data, supplied by Bulgarian National Bank. BNB releases data on the number and the size of deposits in ranges of below BGN 1 000, between 1 000 and BGN 2 500, between 2 500 and BGN 5 000, between 5 000 and BGN 10 000, between 10 000 and BGN 20 000, between 20 000 and BGN 30 000, between 30 000 and BGN 40 000, between 40 000 and BGN 50 000, and above BGN 50 000. BNB ranges households' loans below BGN 1000, between 1 000 and BGN 2 500, between 2 500 and BGN 5 000, between 5 000 and BGN 10 000, between 10 000 and BGN 25 000, between 25 000 and BGN 50 000, and above BGN 50 000.

[2] See Harvard Income Gini Dataset-SWIID, Global Wealth Databook 2014 and Allianz Global Wealth Report 2015 .
[3] See Piketty, 2014, p.244-249 and Dabla-Norris, Ms Era, et al. 2015.
[4] According to the Global Financial Inclusion Index 63% of people aged 15 and above have accounts at financial institutions, adding the fact that the population between 15 and 19 years is above 5% of the total population and about 6% of the adult population, the percentage probably will rise. According the database even smaller share of adult population have outstanding bank loans, not always because of a limited capacity to service a bank loan, but because of the reluctance to borrow.

The gross wealth Gini coefficient is calculated as the difference between the area below the ideal equality curve (represented graphically through the 45° line) and the area of actual inequality (denoted by the Lorenz curve, noted as Actual wealth cumulative distribution curve on the graph) divided by the area of ideal equality. Graphically the wealth Gini is computed as the quotient between the shaded area (A) and the area below the Ideal wealth equality curve (A+B). Since A+B area equals 0.5 and A is the difference between 0.5 and the actual cumulative wealth distribution area (see formula (1)), the Gini coefficient is limited in the range between 0 and 1 (1 points to absolute inequality, while at 0 the Gini coefficient signals an absolute equality in wealth distribution).

$$B=\int_0^1 f(x)dx \quad (1)$$

3. Deposit wealth inequality

Gross wealth distribution, measured through deposits is assumed to give a good approximation of overall gross wealth of households, despite the obstacles mentioned above. As of 30.06.2015 the number of bank deposits of households is just above 10.8 mln., pretending to give a fair representation of the wealth distribution. It should be noted, however, that middle and high wealth groups (measured through deposit value) may possess more than one bank deposit account, with this being especially valid for deposits close or above the maximum secured amount by the Bulgarian Deposit insurance fund of EUR 100 000. Dividing large deposits in to smaller deposits and allocating them in different banks undervalues the real wealth inequality, though it is assumed that the big picture is not considerably different.

In the period of q4.2005-q2.2015 usually more than 69% of all households' deposits fall in the first group of below 1 000 BGN in value deposits. As of the second quarter of 2015 69.1% of all households deposits own just 2.48% of total value of deposits, while 79% of households possess 6.8% of the value of deposits, with 85.7% of households owning merely 13.4% of the households value of deposits. The distribution points to

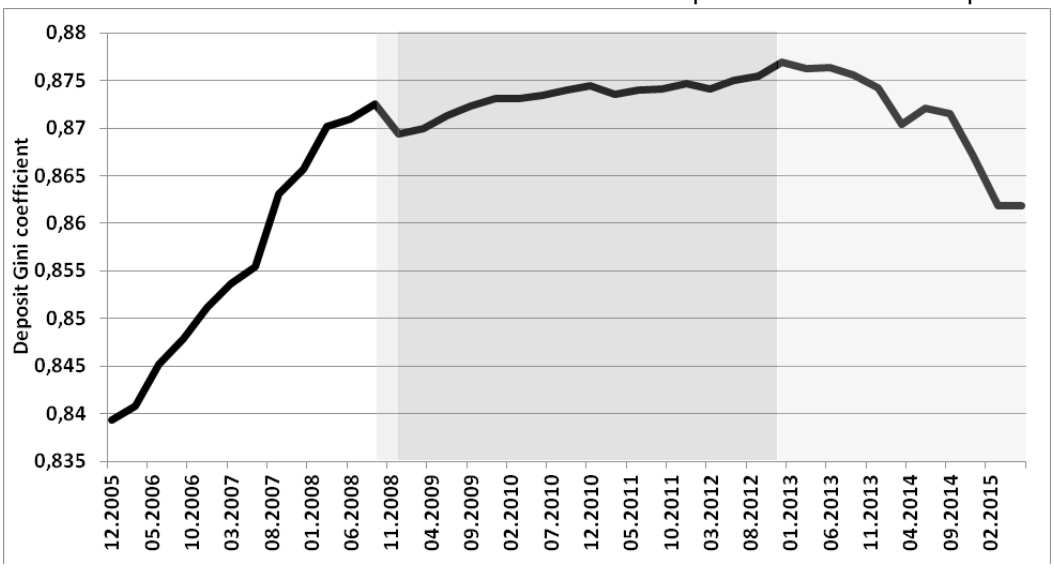

Fig. 2. Gini coefficient using household bank deposits distribution in Bulgaria

Source: Own calculations, BNB.

high-degree of wealth inequality with 91.9% of households owning 25% of deposits' value, while the rest 8% of households are in possession of 75% of all households' deposits value, with the top 1.2% holding 37.4% of households' deposits value.

Starting at the end of 2005 the deposit Gini coefficient ascended intensively until the end of the third quarter of 2008. Following a short drop the Gini coefficient bottomed out and continued its uptrend, however at slower pace, and then peaked at the end of 2012 at 0.877, when started to decline more visibly at the end of 2013 (at 0.874), while descending to almost 0.862 in the next period (12.2013-06.2015)[5]. The reason for the decline in the deposit Gini coefficient is not that equality in gross wealth distribution improves; however most probably it is due the structural break for the Corporate Commercial Bank's crisis. Deposits with higher than EUR 100 000 nominal are split in to smaller nominal and allocated by their owners in different banks, so to be insured by the Deposit insurance fund.

4. Bank loans as a proxy for wealth inequality

This paper argues that bank loans are a good proxy of gross wealth. The main reason households' bank loans may signal wealth distribution is due the fact that loan officers scrutinize debtors' ability to service their loans in the future, by considering current and prospective income and current wealth (financial assets, properties, other forms of wealth). Banks in Bulgaria are the main source of external financing for households and they act as conservative lenders, requiring high level of security and guarantees on loans. Most of the bank loans are secured either by property and other assets, or by written consent for obligation of a guarantee, which steps in as a debtor and is liable with his income and assets to the amount of the defaulted loan. The number of bank loans and their distribution (2.68 mln. as of June 2015) is assumed to give a fair representation of

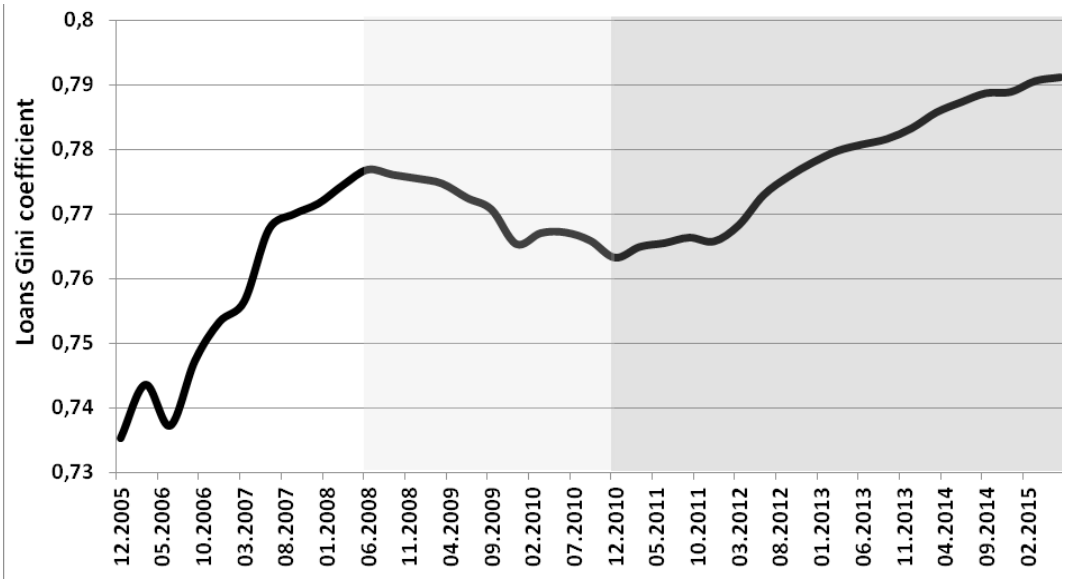

Fig. 3. Gini coefficient using household bank loans distribution in Bulgaria

Source: Own calculations, BNB.

[5] Andreasch and Lindner (2014) derive a deposit Gini index value of 0.68 in a one period calculation for Austria, suggesting that deposit inequality in Bulgaria is higher.

gross wealth distribution. It is uncommon wealth inequality to be gauged by the distribution of bank loans (the liabilities site of the family balance sheet), however in this paper it is assumed that bank loans distribution gives a good approximation of the gross wealth distribution.

The loan Gini is even better proxy for wealth and income inequality than the deposit Gini, because of the fact that often individuals have more than one deposit, mostly due risk management.

In the period of q4.2005-q2.2015 usually more than 48% of all households' loans fall in the first group of below BGN 1 000 loans. The loan Gini coefficient doesn't share exactly the same value and dynamics as the deposit Gini coefficient, peaking earlier (in the middle of 2008 year) and bottoming out later (at the end of 2010) and then ascending to new highs. A distinct divergence emerges between both measures in the post-2012 period. Yet the loan Gini coefficient should be more respected, not only in terms of value, but in terms of direction and trend. Nothing in the structure of the economy and its conjuncture suggest that wealth inequality is declining, confirming the steady uptrend in the loans Gini coefficient. On the contrary, economic activity is improving in the last quarter of 2014 and in the first half of 2015 and taxes are kept unchanged in structure and rates.

5. Conclusions

The analysis of deposit Gini coefficient suggests that gross wealth inequality has been declining in the post-2013 period due the Corporate commercial bank's crisis. However, wealth inequality measured through the liabilities side of the households' balance sheet, i.e. the bank loans Gini coefficient implies that gross wealth inequality is actually raising. No circumstances suggest that inequality in gross wealth is diminishing, thus confirming the calculation and the trend of the derived loans Gini coefficient.

The problem of rising inequality should be addressed sooner than later. Minor groups living in poverty, left without access to education, health and social services are considerable threat to economic development, even to individuals benefiting the most by high inequality.

Progressive taxation of personal and corporate incomes and earned and inherited wealth should be reconsidered and updated to the new reality. A viable policy against wealth and income inequality will help Bulgaria to become a better place for living and entrepreneurs.

References

Andreasch M. and P. Lindner, 2014. Micro and macro data A comparison of the Household Finance and Consumption Survey with Financial Accounts in Austria, ECB Working Paper Series, NO 1673 / May 2014.

Dabla-Norris, M. E., Kochhar, M. K., Suphaphiphat, M. N., Ricka, M. F., & Tsounta, E., 2015. Causes and consequences of income inequality: a global perspective. International Monetary Fund.

Piketty T., 2014. Capital in the Twenty-First Century, The Belknap Press of Harvard University Press, p. 696.

Kuznets S., 1955. Economic growth and income inequality, *American Economic Review*, Vol. 49 (1955), pp. 1–28.

Other sources:

Harvard Income Gini Dataset-SWIID, version 4.1.

Global Wealth Databook 2014, Credit Suisse Research Institute, October 2014.

Allianz Global Wealth Report 2015

World Bank Global Findex (Global Financial Inclusion Database)