Bogliacino, Francesco; Maestri, Virginia

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Francesco Bogliacino and Virginia Maestri*

Wealth Inequality and the Great Recession

Over the last few decades, wealth has taken on increased importance with respect to income. Despite this changing relationship, the study of wealth has received far less attention than income or earnings, which can be partly attributed to problems related to data availability and quality, and partly to policies that target income more than wealth (such as taxation). Two main factors may be behind this growth in the wealth-to-income ratio: i) price developments of financial assets and houses, and ii) income dynamics. As experience shows, price bubbles in financial and housing markets significantly impact wealth holdings due to abnormal rates of return. In Italy, for example, the increase in the wealth-to-income ratio can be explained by increases in the rate of homeownership and the revaluation of housing and financial stocks. The fall in the financial wealth-to-income ratio after 2001 has been caused by falling prices and falling stock market participation. Looking at Sweden, the wealth-to-income and financial wealth-to-income ratios are closely tied to the evolution of real estate prices and credit expansion after financial liberalisation.

The evolution of the wealth-to-income ratio over time has been affected by the unsatisfactory macroeconomic performance of a number of OECD countries. As shown by Piketty, the development of this ratio over time is positively correlated with the difference between the rate of return on capital and the economy’s rate of growth. In periods of stagnant growth, the flow of savings is low and the relative importance of accumulated wealth (transmitted across generations) increases, in turn translating into income inequality via the rate of return on capital and differences in capital ownership. Similarly, if the rate of return on capital exceeds the rate of growth, the relative importance of existing wealth holdings surpasses the possible acquisition of assets by those lacking wealth, thereby exacerbating the inequality of wealth distribution.

Generally speaking, wealth is systematically distributed more unequally than income. There are essentially two reasons behind this. First, as stocks are accumulated over the years, demographic structure significantly impacts wealth distribution (older adults tend to be richer than younger adults). Second, wealth can be negative due to access to debt, which exacerbates the profile of wealth distribution. If we look at asset composition, net wealth is the sum of housing and financial assets, minus liabilities. Housing assets are generally distributed more equally than financial assets, while the distribution of debt is murkier and more diverse across countries.

Measuring wealth and wealth inequality poses several challenges related to data availability, data quality, methodological issues and source comparability. For instance, measures of wealth inequality may include student loans, whereas its investment counterpart – human capital – is not included, nor are accumulated public pension entitlements. Accounting for negative values becomes problematic, and general practice dictates that household wealth is not equivalised (as if wealth were a non-rival good).

Housing and debt largely contribute to explain the distribution of wealth, though financial wealth is concentrated at the top. Depending on the country, financial wealth is owned by only 15-30% of households. The use of top wealth shares better illustrates inequality at the top. This measurement is generally based on tax records, as the top rich are not easily included in surveys. Gini coefficients of net worth are a useful measure, especially if wealth is to be compared with income inequality. However, the presence of a considerable share of households with negative net worth in a few countries may be problematic. If negative values are taken into account, the Gini coefficient is no longer bounded to one. An alternative measure of wealth inequality is the ratio between median and mean wealth.

* The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.


6 V. Maestri et al., op. cit.

What is the recent evolution of wealth inequality? Wealth inequality is widely perceived to have increased in the richest economies over the last few decades. This was coupled with increased wealth polarisation and a rising share of households with nil or negative net worth. The aforementioned situation is mostly the result of the evolution of capital and financial assets (along with fiscal treatment of the two) and debt.

Wealth represents an important dimension of well-being, especially in times of crisis. When households face negative shocks, the availability of wealth-based assets provides an instrument for absorbing negative consequences without incurring abrupt lifestyle changes. Moreover, wealth is associated with social status and, for the one per cent, political influence. This influence can, in extremis, affect the regulation of financial markets and the tax system, ultimately shaping wealth distribution. Therefore, it comes as no surprise that financial and housing bubbles, the two key factors explaining the increasing importance of wealth, were also at the root of the latest financial crisis. The resulting depression of GDP may have led to further diverging indicators for wealth and income. Despite this, there is some evidence of a drop in wealth-to-income ratios in the wake of the financial crisis.

As discussed extensively in a recent contribution by Maestri, Bogliacino and Salverda, cross-country drivers of wealth inequality are not equally explanatory for within-country trends. In fact, since history explains patterns to a large extent, changes in wealth inequality are usually observed over the “very long” run, and, when significant changes do occur, these tend to be caused by specific (national) events or shocks. Consequently, between-country differences and within-country trends will be addressed separately in the following two subsections.

After the aforementioned discussion, the following section includes our attempt to map the changes in the patterns of wealth inequality during the crisis. Although financial and economic crises tend to wipe out a sizable amount of assets, major shocks generally do not affect social groups homogeneously, hence the overall distribution is not affected uniformly. The diverse range of national-policy interventions undertaken following the Great Recession profoundly reshaped debt profiles, with equally profound distributive effects. Yet, the impact of a financial crisis on asset prices may be quickly recovered, in contrast to the longer persistence of the repercussions of an economic crisis in terms of macroeconomic dynamics. In short, the combined effects of the crises should not be expected to be neutral insofar as inequality is concerned.

Cross-country differences in wealth inequality

The share of households with negligible assets is usually quite large. With regard to net worth, it is not uncommon to find entire deciles with an amount of debt larger than the value of their owned assets (e.g. in Denmark and the Netherlands). For most families, the home represents their main asset. House property is standard in the Mediterranean and in Eastern Europe. As we have stated, the amount of households with financial assets is usually less than one-third of the population (although there is significant variation among countries), and stocks and other high-return assets do not represent more than one to seven per cent of household wealth, except for in the US.

Access to debt also presents significant variations across the distribution. Different sources of debt may be included, which leads to measurement issues and thus hampers comparability. Mortgages are the largest entry in total debt, in particular in countries with favourable fiscal policies (for mortgage tax relief) and favourable credit market conditions (e.g. low down payments). This is especially true in times of low interest rates, such as observed when the euro was introduced. On one hand, specific types of debt are not homogeneous across countries. Student loans are not common in every country, household-held business debt is not always included in measurements (for example, student and business debt partially explain the high amount of debt in Sweden), and debt for durable consumption goods tends to reduce net worth because the corresponding purchases are not considered assets. Finally, fiscal policies that favour homeownership disproportionately affect the overall pattern of net worth.

As we have mentioned, cross-country differences tend to reflect structural features. The first factor that accounts for differences in wealth inequality is the demographic structure. Age is an important determinant of asset accumulation. The age of family formation is also very important: in international statistics, wealth is not equivalised, which makes a country like Italy look more egalitarian in...
terms of wealth. Although the impact of socio-economic factors can help explain cross-country differences in wealth inequality, a significant amount of variability remains unexplained.\textsuperscript{15}

The characteristics of institutional systems, especially the structure and depth of social expenditure, also influence wealth inequality insofar as they shape incentives to accumulate assets and liabilities. Sweden’s high level of wealth inequality is the result of the country’s comprehensive pension system and relatively generous welfare system (a system whose future is in doubt), given that these two factors reduce the need for private household wealth accumulation for life-cycle and precautionary reasons.\textsuperscript{16}

Public pensions are considered an important factor in explaining cross-country differences in wealth inequality. However, Davies notes that Finland has a welfare state similar to Sweden yet has low wealth inequality. Davies points to Finland’s higher rate of homeownership and lower incidence of negative net worth.\textsuperscript{17} Maestri, Bogliacino and Salverda provide evidence of the relationship between wealth inequality and social housing expenditure, as higher spending may leave less margin for wealth accumulation at the bottom of the income distribution.

Means-tested housing benefits and the provision of social housing diminish poorer households’ need to acquire real estate. The United Kingdom, France, Denmark and Germany have higher inequality with relatively high spending, while countries spending less (e.g. Italy, Spain) display lower levels of inequality. Former communist countries do not follow this pattern, likely because the widespread outright homeownership seen in these countries makes housing expenditure less relevant. It is worth noting that this same mechanism may be in place in countries with rent controls (Sweden, the Netherlands), although this measure is not included in housing expenditure.\textsuperscript{18}

The level of indebtedness varies widely across countries and may help explain cross-country differences in wealth inequality. The data do not offer a clear correlation, which may be partly due to measurement issues.\textsuperscript{19} Cowell et al. show that debt holdings account for a meaningful portion of differences in wealth inequality across countries.\textsuperscript{20} For Sweden, the explanation is again partly attributable to a measurement issue not germane to other countries: the inclusion of household-held business debt contributes to the country’s higher debt holdings. Another important factor in Sweden’s high wealth inequality is educational loans: the exclusion of these loans entirely explains the difference in wealth inequality between Sweden and the US. Moreover, lower average levels of wealth holdings may go together with higher levels of inequality of wealth.\textsuperscript{21}

**Within-country wealth inequality trends**

In the decades prior to the crisis, wealth inequality trends were mostly characterised by national stories. However, that does not mean we cannot identify predominant patterns.

According to non-harmonised national data, most countries experienced both increased wealth and income inequality in the 1980s and 1990s, while the following decade witnessed a much more varied pattern until the crisis.\textsuperscript{22} In the 2000s, the UK and Italy reported decreases in wealth inequality, and Canada remained stable.\textsuperscript{23} Germany faced an increase in wealth inequality after reunification in the 1990s that continued into the decade immediately preceding the crisis.\textsuperscript{24} A typical pattern observed in the pre-crisis decades is increased polarisation: more households with negative net worth, e.g. South Korea, Italy or Germany (or a more negative balance, e.g. the Netherlands), and increased wealth concentration at the top.\textsuperscript{25}

Whereas housing wealth is an important channel to explain differences in wealth inequality (directly or indirectly via taxation and social policies) at the cross-country level, trends in financial inequality have significantly contributed to the change in within-country wealth trends. Together, booming stock markets and the relatively high concentration of financial assets have had a disproportional effect, especially in the US.\textsuperscript{26} Debt has also played a role in generating the underlying trend in wealth inequality. Popular policies designed to promote homeownership – within a context of stagnant real wages in many countries and increasing income inequality almost everywhere – have es-
sentially escalated indebtedness. Nevertheless, the effect of debt on wealth inequality is country- and time-specific. For example, it has had an equalising effect in Poland and a disqualifying effect in Denmark.

Additionally, the labour market has had an impact, albeit through a very peculiar mechanism: the emergence and consolidation of billionaires and other high-earning superstars.27

Last, but not least, taxation accounts for a significant portion of the phenomenon. Several tax instruments became popular in the pre-crisis period and appear to have a non-progressive effect. Mortgage tax reliefs have been used extensively to promote homeownership (especially in Northern European countries, such as the Netherlands and Denmark), but such tax reliefs disproportionately favour the rich and can encourage the undertaking of excessive debt.

Taxation of finance, both the ownership of financial assets and returns from financial activities, is certainly not up-to-date, given the growing role finance has played in advanced economies and the corresponding lack of significant changes in its taxation. The increasing importance of finance has favoured capital accumulation at the very top and had a clear role in deepening the fault lines that precipitated the financial crisis.

Another channel through which taxation may increase accumulation at the very top is the unbalanced taxation of functional incomes (i.e. the taxation of capital versus labour). For example, since the late 1980s, Nordic European countries have introduced a dual income tax, taxing capital at flat rates. Declines in the taxation of capital have been widespread28 and have been complemented by the role of tax havens, where eight per cent of total wealth is now held.29 This stylised fact suggests that real inequality has been significantly underestimated.

Overall, the lack of flexibility in tax structures into an inability to keep pace with the increasing importance of wealth and finance. When coupled with the innovation in tax relief mechanisms that promote house-related debt holding, we can clearly identify the role played by the tax structure in favouring increasing inequality trends at the national level (when and where such trends are observed).

**Link between income and wealth inequality**

The link between income and wealth is not necessarily intuitive. At the individual level, the correlation between earnings and wealth is high, but not perfect. In the US, this correlation is stronger (greater than 50%) than in other OECD countries (between 27% and 36%).30 The fact that the link is weaker than expected may be explained by three main factors. First, wealth holdings typically peak around retirement age, when earnings drop. Second, inheritance (and inter vivos transfers) perform an important function, as stressed by Piketty.31 Third, the most indebted households are not necessarily the poorest in terms of income, especially in countries that offer generous mortgage-interest tax relief (e.g. Denmark and the Netherlands). Increasing household indebtedness has been a key component in changing the correlation between wealth and income distributions. Other factors may include the cheap privatisation of housing during the post-communism transition in Eastern Europe.

Across countries, high income inequality is not necessarily associated with high wealth inequality. Indeed, a group of countries (typically Mediterranean and OECD Asian countries) exhibited a relatively high level of income inequality and a relatively low level of wealth inequality in 2010. That being said, countries usually considered to be quite equal (e.g. the Scandinavian countries) had low levels of income inequality in spite of very skewed distributions of wealth. These stylised facts are shown in Figure 1, where the Gini of wealth is plotted for 2010 and 2015. The Gini coefficient is an inequality indicator: the higher the value, the more unequal the distribution.

The “weaker than expected” correlation between income and wealth served to cushion inequality. In fact, the dispersion of wealth according to income deciles is smaller than according to wealth deciles.32

**Effect of the crisis on previous inequality patterns**

The Great Recession caused an initial drop in the shares of financial and housing assets. In Denmark, Italy and

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30 V. Maestri et al., op. cit.; OECD: Growing Unequal?, op. cit.

31 T. Piketty, op. cit.

Switzerland, the post-2008 period saw a clear decline in the share of financial assets in portfolios. In other countries, the depression of housing prices left the share of financial assets more stable, such as in the UK and US. The only increase was observed in New Zealand. However, the depressive effect of the financial crisis was short-lived almost everywhere, meaning that financial prices recovered more rapidly than property prices. The only cases of a steady decrease in the importance of financial assets in portfolios since the 2000s have been France (from 45% to 36%) and Italy (from 47% to 39%).

In light of the fact that financial assets are often distributed more unequally than housing assets, a further increase in wealth inequality could have been expected during the crisis. This expectation came to fruition: wealth inequality as measured by the Gini coefficient increased in most countries between 2010 and 2015 (Figure 2). Key exceptions include Slovakia and Belgium, where wealth inequality did not increase before the crisis and has since decreased. For its part, Sweden recorded a considerable increase in wealth inequality in the decades leading up to the Great Recession, but has since seen a decrease.

It is also interesting to look at changes in different parts of the wealth distribution. For instance, the OECD calculates changes in top and bottom wealth inequality between 2006 and 2012 for a subset of countries. Top wealth inequality increased in the Netherlands, US and UK, while it decreased in Australia and Canada. Bottom wealth inequality increased in the entire set of countries considered, except the UK. More recent data (from 2010 to 2015) do not universally confirm these trends. However, in this more recent data, the share of adults with more than $100,000 increased both in Australia and in Canada, while the trend for the UK is confirmed, as the share of people with less than $10,000 decreased.

The widespread increase in wealth inequality shifted several countries down from the “high income, low wealth inequality” group to the “high income, high wealth inequality” group, notably European countries that underwent a macroeconomic adjustment programme (such as Greece, Ireland and Spain). Figure 2 shows the pattern of income and wealth inequality in 2014: on the y-axis, the wealth Gini is plotted and on the x-axis the income Gini. The median values for 2010 are also indicated.

Furthermore, some of the virtuous countries (low income, low wealth inequality) joined Sweden and Denmark in the group “low income, high wealth inequality”, such as Aus-

34 V. Maestri, op. cit.
35 OECD: In It Together…., op. cit.
The level of wealth inequality varies widely from country to country. Anglo-Saxon and Scandinavian countries re-
port the highest levels of wealth inequality, whereas East Asian and Mediterranean countries report the lowest. The combination of institutional factors and policies – such as social expenditure on housing, taxation, and the design of credit markets and financial products – play a critical role in determining a country’s wealth inequality. In some cases, increasing household debt helps explain the increasing trend in wealth inequality, and this form of debt undoubtedly contributed to the financial crisis. What is more, the increasing indebtedness and the reshaping of asset holdings brought about by the crisis provide further incentive to dig deeper into the micro-level cross-distribution of income and wealth.

Wealth inequality increased over the last few decades and has continued increasing since the Great Recession in the majority of rich economies, with exceptions such as Belgium and Slovakia. In countries with relatively high levels of income inequality and low levels of wealth inequality, wealth at the bottom of the income distribution may have served a crucial function in cushioning the impact of the crisis. Regardless, as we have discussed, most of these countries shifted to the group of countries with high income and wealth inequality, thus suggesting that poor households’ incomes will undergo tighter economic constraints in the persistence of economic downturns and in future crises. As a matter of fact, we already see this happening in Greece, Ireland, and Spain. Since these countries have already been hit by austerity policies, the combined worsening of income and wealth inequality should raise some alarms in policymaking circles.

Interventions at the policy level did not convincingly address the drivers of increasing wealth inequality. There were some exceptions, most of which were related to debt, such as reductions in the generosity of mortgage tax relief in some countries. Even so, policies continue to target income more than wealth. In cases where wealth was directly targeted, the preferred instrument was to tax houses, rather than taxing finance. We would argue that taxing the latter could be more effective in reducing income and wealth inequality, possibly limiting the potential for future financial crises.

Table 1
Summary patterns of income and wealth inequality

<table>
<thead>
<tr>
<th>2010</th>
<th>2014</th>
<th>High income, high wealth</th>
<th>Low income, high wealth</th>
<th>Low income, low wealth</th>
<th>High income, low wealth</th>
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<td>High income, high wealth</td>
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<td>Low income, low wealth</td>
<td>Japan</td>
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Note: “High” and “Low” levels are defined with respect to the 2010 median values. Gini coefficients of income for non-European countries refer to 2012 instead of 2014, for which data is not available; for Canada, it refers to 2011; for Japan, both data points refer to 2009.


Conclusions

The increasing importance of wealth, debt and wealth inequality, especially in times of crisis, means closer attention must be paid to their concomitant dynamics. In addition, there is a pressing need to improve the measurement of these variables, as current measurement techniques are weak, cover short time spans and provide limited cross-country comparability. A step in the right direction can be found in the Household Finance and Consumption Network, coordinated by the European Central Bank. However, data are limited to euro area countries and, at present, only account for one year (2010).

The level of wealth inequality varies widely from country to country. Anglo-Saxon and Scandinavian countries re-