*Andrea Brandolini*[1]

# *Preface. The unusual concern for inequality*

## Heightened concerns

Currently, there is an unusual concern for the inequality of income and wealth. Not one day passes without the report of an international organisation, a journalist's investigation, a blog article emphasising the high level of inequality or its relentless tendency to grow, globally or in advanced countries. A good example is the worldwide attention of mass media for the headline message of the Oxfam report "An economy for the 1%": "In 2015, just 62 individuals had the same wealth as 3.6 billion people – the bottom half of humanity".[2] The expression "1%" has entered the everyday language to indicate the very rich, as opposed to the much poorer mass of those making up the remaining 99% of the population. The widespread success of the monumental volume of Thomas Piketty *Capital in the Twenty-First Century* is perhaps the most significant example of an attention which would have been unthinkable until few years ago.[3]

Unquestionably, there are great economic disparities within and between countries around the world. The Oxfam estimate is based on heroic calculations and fragmentary statistical sources, but its economic and moral significance would not change if the number of the wealthiest individuals was 100 or 1,000 times that indicated.[4] Estimates of the distribution of income among the world's inhabitants,

---

[1] Bank of Italy, DG Economics, Statistics and Research. Paper prepared for the Giorgio Rota Conference 2017 "Economic consequences of inequality", Centro di Ricerca e Documentazione Luigi Einaudi and Dipartimento di Economia e Statistica Cognetti de Martiis, Turin, 4th May 2017. The views expressed here are mine and do not necessarily reflect those of the Bank of Italy or the Eurosystem.

[2] Oxfam, *An economy for the 1%. How privilege and power in the economy drive extreme inequality and how this can be stopped*, Oxford, Oxfam Briefing Paper 210, 2016, p. 2.

[3] T. Piketty, *Capital in the Twenty-First Century*, Cambridge, Belknap, 2014.

[4] For estimates of the global distribution of net wealth among adults, see J.B. Davies, R. Lluberas and A.F. Shorrocks, *Estimating the Level and Distribution of Global Wealth, 2000-2014*, «Review of Income and Wealth», 63, pp. 731-759.


*ISBN 978-88-941152-5-3 [www.centroeinaudi.it]*

which are also to be taken with caution, indicate that global inequality is much higher than that observed in any single nation. Christoph Lakner and Branko Milanovic calculate that for the distribution of income or expenditure per capita in 2008 the Gini index, an inequality measure that varies between 0 and 1 for positive values, was equal to 70.5% for the world as a whole compared to 41.9 in high-income economies, 42.7 in China, or 58.3 in Sub-Saharan Africa.[5]

It is not a new fact, however. Global income inequality peaked around the early 1990s. It has declined ever since. The improvement has been even more significant for poverty. According to World Bank estimates, the number of people in extreme poverty, that is, living with less than $1.90 per day (at 2011 purchasing power parities) more than halved between 1990 and 2012, from 1,959 to 897 millions; their share in the world population decreased from 37.1 to 12.7%.[6]

Hence, why did the concern for inequality heighten only recently? Why did it not happen before?

## THE GREAT RECESSION

The prime suspect is the Great Recession of 2008-2009, and the difficulty of many economies to return to sustained growth afterwards. Some authors have seen growing income inequality as contributing to the sub-prime crisis in the United States and more generally as a factor depressing aggregate demand.[7] Even abstracting from this causal explanation, there is little doubt that the downturn and

---

[5] C. Lakner and B. Milanovic, *Global Income Distribution: From the Fall of the Berlin Wall to the Great Recession*, «World Bank Economic Review», 30, pp. 203-232, Table 3 at p. 212. See also F. Bourguignon, *The Globalization of Inequality*, Princeton, Princeton University Press, 2015, Figure 1 at p. 27.

[6] F.H.G. Ferreira, S. Chen, A. Dabalen, Y. Dikhanov, N. Hamadeh, D. Jolliffe, A. Narayan, E.B. Prydz, A. Revenga, P. Sangraula, U. Serajuddin and N. Yoshida, *A global count of the extreme poor in 2012: data issues, methodology and initial results*, «Journal of Economic Inequality», 14, pp. 141-172.

[7] R. Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton, Princeton University Press, 2010; J.E. Stiglitz, *Macroeconomic fluctuations, inequality, and human development*, «Journal of Human Development and Capabilities», 13, pp. 31-58; M. Kumhof, R. Rancière and P. Winant, *Inequality, leverage, and crises*, «American Economic Review», 105, pp. 1217-1245; see also P. Lucchino and S. Morelli, *Inequality, debt and growth*, London, Resolution Foundation, 2012; A. Jayadev, *Distribution and crisis: Reviewing some of the linkages*, in *The Handbook of the Political Economy of Financial Crises*, ed. by G. Epstein and M. Wolfson, Oxford, Oxford University Press, 2013, pp. 95-112; T. van Treeck, *Did inequality cause the U.S. financial crisis?*, «Journal of Economic Surveys», 28, pp. 421-448.

subdued subsequent growth have increased the concern for economic disparities within advanced countries. In the aftermath of the Great Recession Martin Wolf, an influential commentator at the «Financial Times», wrote that reducing inequality is one of the seven challenges that capitalism faces in order to survive.[8] A few months later, the Managing Director of the International Monetary Fund (IMF), Christine Lagarde, listed inequality and quality of growth among the three priorities for world economic policy: "Growth is essential for the future global economy, but it must be a different kind of growth. A growth that is not simply the fallout from unfettered globalization. A growth that is inclusive".[9] This revision of the IMF policy priorities seems not to have vanished as the economic climate improved. Indeed, Lagarde remarked at the 2017 Annual Meetings: "Nor should we miss this opportunity to address more decisively – and more directly – the issue which has so damaged our peoples and societies. I am talking about excessive inequality. It hinders growth, erodes trust, and fuels political tensions".[10]

The Great Recession was "the first contraction in the global world economy since the Second World War".[11] Yet, despite the unprecedented trade collapse, the output drop, and the extensive job losses across OECD countries, it had a relatively modest impact on income inequality.[12] This still holds, with few exceptions, when one includes the years of the Sovereign Debt Crisis which hit some European countries in 2011-2013. For instance, between 2007 and 2013 GDP fell by 26.5% in Greece, but the Gini index increased by 1.1 percentage points, more or less like in Luxembourg where GDP rose instead by 5.5%. The weak relationship between macroeconomic and inequality changes is shown in Figure 1 which plots the absolute difference in the Gini index against the percentage variation in GDP between 2007 and 2013. Each point represents a country. The points are scattered around the four quadrants. In several countries the drop in GDP was associated

[8] M. Wolf, *Seven ways to fix the system's flaws*, «Financial Times», 22th January 2012.
[9] C. Lagarde, *The Road Ahead. A Changing Global Economy, A Changing IMF*, Annual Meetings Speech, Tokyo, 12 October 2012, https://www.imf.org/en/News/Articles/2015/09/28/04/53/sp101212a.
[10] C. Lagarde, *Towards a More Secure Recovery Shared by All*, 2017 Annual Meetings Plenary Speech, Washington, 13 October 2017, http://www.imf.org/en/news/articles/2017/10/13/sp101317-md-am-plenary.
[11] B. Keeley and P. Love, *From Crisis to Recovery. The Causes, Course and Consequences of the Great Recession*, Paris, OECD, 2010, p. 11.
[12] For an early assessment see S.P. Jenkins, A. Brandolini, J. Micklewright and B. Nolan, *The Great Recession and the Distribution of Household Income*, Oxford, Oxford University Press, 2013.

with rising inequality, but the intensity of the increase was different; in other countries it was instead associated with a decline in inequality. A negative relationship is found by fitting a simple linear regression to the data, but the goodness of fit is rather poor ($R^2$ = 0.06). The economic downturn did raise, however, absolute poverty levels. In the euro area as a whole, the proportion of people at risk of poverty, calculated by "anchoring" the poverty line at the 2008 real level, rose by over a fourth from 2007 to 2013, from 16.1 to 20.7%. The increase exceeded a half in Cyprus, Greece, Ireland and Spain, but also in Iceland.

The economic mess of the past decade caused widespread suffering in several countries, but did not lead to substantially higher inequality levels. We are then back to the initial question. Why did the concern for inequality surge recently?

## INEQUALITY TRENDS IN ADVANCED COUNTRIES

By observing long-term tendencies, income inequality appears to have been growing in most advanced countries for some decades.[13] This emerges by looking at both tax returns and sample surveys.[14]

Tax returns are the source used by Tony Atkinson, Piketty and co-authors to estimate the income shares going to the top of the distribution in a great number of countries around the world. These estimates provided the basis for Piketty's *Capital*.[15] They show that the share of before-tax income of the top 1% of the

---

[13] A. Brandolini and T.M. Smeeding, *Income inequality in richer and OECD countries*, in *The Oxford Handbook of Economic Inequality*, ed. by W. Salverda, B. Nolan and T.M. Smeeding, Oxford, Oxford University Press, 2009, pp. 71-100; S. Morelli, T.M. Smeeding and J. Thompson, *Post-1970 trends in within-country inequality and poverty: Rich and middle-income countries*, in *Handbook of Income Distribution*, vol. 2A, ed. by A.B. Atkinson and F. Bourguignon, Amsterdam, Elsevier, 2015, pp. 593-696.

[14] Information on income distribution is imperfect and incomplete: only the joint analysis of all available sources can lead to reliable conclusions. Neither survey data nor tax data are free from shortcomings. The former are affected by respondents' reticence, especially for financial incomes, suffer from discontinuities due to changes in survey methods and often fail to adequately represent the tails of the distribution, particularly the top one. On the other hand, tax returns depend on administrative rather than economic criteria: they can exclude important components such as the financial incomes subject to separate taxation and do not cover people exempt from paying taxes; values are distorted by tax evasion; changes in tax law introduce breaks in historical series. For a reconciliation of the two types of evidence for the United Kingdom, see R.V. Burkhauser, N. Hérault, S.P. Jenkins and R. Wilkins, *What has Been Happening to UK Income Inequality Since the Mid-1990s? Answers from Reconciled and Combined Household Survey and Tax Return Data*, National Bureau of Economic Research, Working Papers 21991, 2016.

[15] *Top Incomes Over the 20th Century. A Contrast Between Continental European and English-Speaking Countries*, ed. by A.B. Atkinson and T. Piketty, Oxford, Oxford University Press, 2007, and *Top*

population decreased from the inter-war years until the end of the 1970s (Figure 2, top panels). In the United States, the United Kingdom and Canada, this downward trend abruptly reversed in the 1980s and today the top 1% share is back to the levels prevailing before the Second World War. Even in Italy and Sweden the dynamics changed during the 1980s, but the subsequent increase was smaller. In Germany, the trend reversal occurred later, in the early 2000s. In France, there is a barely perceptible ascending tendency.

Sample surveys provide information at the level of the household rather than the tax unit. They account for resource sharing within the family, allowing also for the adjustment of income to economies of scale in consumption (for example, heating costs) and differences in needs within the household. The "equivalised" income is a better proxy of living standards as it is derived by adjusting incomes including transfers and net of taxes for differences in household size and composition. Despite the many conceptual differences, the indications about long-run movements provided by the Gini index for equivalised disposable income are qualitatively similar to those provided by top income shares (Figure 2, bottom panels). Detailed examination reveals, however, that there are also noticeable differences. For instance, in Canada the increase in inequality appears to occur later and to be lasting shorter for the Gini index than for the top 1% income share, most likely as a reflection of public redistribution.

In the seven rich countries considered in Figure 2, the movements in inequality share a U profile. This hints at the influence of common factors which have attracted considerable attention in the literature: de-industrialisation, skill-biased technological progress, globalisation, demography. However, at a closer look the U shape differs from country to country: there are differences in the timing of changes and the intensity of inequality growth; the profiles are not smooth but segmented. Large variations may take place in relatively short times, with little change occurring over lengthy periods. National factors, such as changes in tax and social protection systems, labour market institutions or ownership structure, also play a role, sometimes offsetting, sometimes amplifying market forces. As Atkinson observed, "… it is misleading to talk of 'trends' when describing the postwar evolution of the

*Incomes. A Global Perspective*, ed. by A.B. Atkinson and T. Piketty, Oxford, Oxford University Press, 2010.

income distribution. […] It may be better for a number of countries to think in terms of 'episodes' when inequality fell or increased".[16]

Even though national experiences vary and there is no overarching common story, over the last three decades income inequality did rise in many advanced countries. As inequality tended to fall at the global level, it often increased at the national level. These divergent patterns may help to explain the growing concern for inequality.

## INTERNALIZING INEQUALITY AND THE TUNNEL EFFECT

During the last three decades, the integration of real and financial markets and the revolution in information and communication technologies have radically transformed the functioning of the global economy.[17] This transformation has brought about an improvement in living standards in many regions of the world, particularly in Asia – the large fall in extreme poverty rates being a clear manifestation of this progress. The convergence process that saw emerging economies growing much faster than mature economies contributed to reducing the level of the global inequality at the same time as inequality was rising within many countries. According to Lakner and Milanovic's estimates, the Gini index fell from 72.2% in 1988 to 70.5 in 2008 in the world as a whole, but rose from 38.2 to 41.9 in mature economies, from 32.0 to 42.7 in China, and from 31.1 to 33.1 in India. François Bourguignon suggests that we may be facing "a process of 'internalizing' global inequality within national communities", in which "inequality between Americans and Chinese would be partly replaced by more inequality between the rich and the poor in America and China".[18]

This "internalizing" is the other face of the changes triggered by globalisation and technological progress. The Golden Age of capitalism – the thirty years of rapid economic growth experienced by Western countries after the Second World War – had led to a profit squeeze and a strengthening of unions' bargaining power that

[16] A.B. Atkinson, *Bringing income distribution in from the cold*, «Economic Journal», 107, 1997, pp. 297-321, citation at p. 303. See also A.B. Atkinson, *The distribution of income in the UK and OECD countries in the twentieth century*, «Oxford Review of Economic Policy», 15, 1999, pp. 56-75.

[17] R. Baldwin, *The Great Convergence Information Technology and the New Globalization*, Cambridge, Belknap, 2016.

[18] F. Bourguignon, *The Globalization of Inequality*, cit., p. 38.

challenged the autonomy of businesses to decide over investments and work organisation.[19] Businesses responded by outsourcing activities, by off-shoring and gradually shifting production to "emerging" countries, by adopting labour-saving technologies. Globalisation and technological revolution are not only the outcome of scientific progress and improved international relations after the fall of the Berlin Wall, but also of corporate strategic choices that allowed businesses to regain bargaining power.[20] In mature economies, these changes progressively weakened the ability of unions to oppose a shift in the division of the surplus to managers and shareholders, at the expense of low- and middle-skilled workers.[21] Automation hit many manual and clerical middle-skill jobs performing routine tasks that could be easily substituted by computers.[22]

Confronted with high capital mobility and growing financialisation, governments liberalised goods markets, deregulated the labour market, reduced marginal tax rates, and rolled back the welfare state in order to regain competitiveness. These trends were more pronounced in the United States and the United Kingdom, where economic forces interacted with a pro-market revival associated with the anti-Keynesian reaction in economics and culminated in the electoral victories of Ronald Reagan and Margaret Thatcher.[23] In both countries, the impact of widening earning disparities on the distribution of household incomes was amplified by government policies aimed at reducing social spending and taxes on top incomes.[24] In continental European countries, these tendencies developed more slowly and in

---

[19] A. Glyn, *Capitalism Unleashed. Finance, Globalization, and Welfare*, Oxford, Oxford University Press, 2006, pp. 1-2.

[20] On the interaction between technological change, unionisation and inequality see D. Acemoglu, P. Aghion, and G.L. Violante, *Deunionization, technical change and inequality*, «Carnegie-Rochester Conference Series on Public Policy», 55, pp. 229-264.

[21] F. Jaumotte and C. Osorio Buitron, *Inequality and Labor Market Institutions*, IMF Staff Discussion Note SDN/15/14, 2015.

[22] D.H. Autor, L.F. Katz and M.S. Kearney, *The polarization of the US labor market*, «American Economic Review Papers & Proceedings», 96, pp. 189-194; M. Goos and A. Manning, *Lousy and lovely jobs: The rising polarization of work in Britain*, «Review of Economics and Statistics», 89, pp. 118-133; M. Goos, A. Manning and A. Salomons, *Job Polarization in Europe*, «American Economic Review Papers & Proceedings», 99, pp. 58-63.

[23] A change in the intellectual climate had been actively pursued for years by many conservative think-tanks. The self-celebratory account of the story of the Institute for Economic Affairs in London given by its director John Blundell in a lecture at the Heritage Foundation in 1989 is revealing of the systematic worldwide effort of pro-market activists. See J. Blundell, *Waging the war of ideas: Why there are no shortcuts*, in J. Blundell, *Waging the War of Ideas*, London, The Institute of Economic Affairs, 3rd ed., 2007, pp. 33-46.

[24] A.B. Atkinson, *Income Inequality in OECD Countries: Data and Explanations*, «CESifo Economic Studies», 49, pp. 479-513.

different forms, possibly due to the diverse productive structure and to the resilience of their corporatist social model. However, they pushed unions to assume increasingly defensive positions, mostly aimed at defending their membership rather than pursuing objectives of general interest. Also for this reason, the costs of social security and labour market reforms mainly fell on new entrants and were largely borne by younger cohorts.[25]

These changes in the functioning of capitalist economies during the last three decades generated winners and losers. It took a major economic and social disruption such as the Great Recession to expose the surge in inequality and the fundamental unfairness of the growth process. As Albert Hirschman explained in 1973, the social tolerance for inequality depends on the characteristics of the growth process. He used the metaphor of the "tunnel effect", which he described as follows:[26]

> Suppose that I drive through a two-lane tunnel, both lanes going in the same direction, and run into a serious traffic jam. No car moves in either lane […] I am in the left lane and I feel dejected. After a while the cars in the right lane begin to move. Naturally, my spirits lift considerably, for I know that the jam has been broken and that my lane's turn to move will surely come any moment now. Even though I still sit still, I feel much better off than before because of the expectation that I shall soon be on the move. But suppose that the expectation is disappointed and only the right lane keeps moving: in that case I, along with my left lane cosufferers, shall suspect foul play, and many of us will at some point become quite furious and ready to correct manifest injustice by taking direct action (such as illegally crossing the double line separating the two lanes).

Hirschman introduced the tunnel effect in the debate on the development policies of the 1950s and 1960s in order to show that an unequal distribution of the fruits of economic growth need not create political instability, popular rebellions, and authoritarian responses. However, the intuition of the tunnel effect is more general and can help us understand how the current concern for inequality has

[25] P. Emmenegger, *The politics of job security regulations in Western Europe: From drift to layering*, «Politics & Society», 43, pp. 89-118.

[26] A.O. Hirschman, *The changing tolerance for income inequality in the course of economic development*, with a Mathematical Appendix by M. Rothschild, «Quarterly Journal of Economics», 87, pp. 544-566, citation at p. 545. See also A.O. Hirschman, *Essays in Trespassing: Economics to Politics and Beyond*, Cambridge, Cambridge University Press, 1981.

emerged. The growing divergence in the dynamics of personal incomes experienced over the last thirty years in many countries was initially tolerated in the expectation of some rebalancing, sometimes relying on indebtedness to support living standards. As the rebalancing failed to materialise, in line with the tunnel effect, this state of affairs could not last. The Great Recession was the breaking point. Triggered by speculative behaviours on deregulated financial markets, its heavy repercussions on the real economy and household finances made it clear that not everybody in rich countries was benefitting from globalisation and technological progress. The growth of populist and anti-establishment positions is the political outcome of the tunnel effect, and the likely reason why the concern for inequality has spread to circles typically reluctant to consider it (such as the IMF).

This outcome was not unpredictable. Dani Rodrik presciently warned twenty years ago that "the most serious challenge for the world economy in the years ahead lies in making globalization compatible with domestic, social and political stability – or to put it even more directly, in ensuring that international economic integration does not contribute to domestic social *dis*integration".[27] Neither was it inevitable, as Atkinson argued in the Third WIDER Annual Lecture in 1999.[28] Part of the problem lies with economics.

## THE EQUALITY AND EFFICIENCY TRADE-OFF IN ECONOMICS

Income distribution has never featured prominently in mainstream economic thinking. The idea that any attempt to make income distribution less unequal is bound to jeopardise the good functioning of the economy is deep-seated in economics. Edwin Cannan explained it neatly (and critically) in 1905:[29]

> The economist regards the existing inequality of distribution as in itself extremely wasteful, but sees that it must in the main be retained for the present, because it provides both the motive force and the regulator for the existing system of

---

[27] D. Rodrik, *Has Globalization Gone Too Far?*, Washington, Institute for International Economics, 1997, p. 2.

[28] A.B. Atkinson, *Is Rising Income Inequality Inevitable?: A Critique Of The Transatlantic Consensus*, WIDER Annual Lecture 003, Helsinki, UNU-WIDER, 1999.

[29] E. Cannan, *The Division of Income*, «Quarterly Journal of Economics», 19, pp. 341-369, citation at pp. 367-368.

> production; and, even if it were practicable, it would not be worth while to make and introduce the ideal of distribution if it led to a considerable fall in produce per head. The existing inequality, regarded broadly, is, in fact, a necessary evil. But there are many good reasons to suppose that it is greater than is necessary, and for hope, at any rate, that it may in the course of time be largely reduced, if not altogether abolished, without any appreciable injury (or even with advantage) to production.

In the same vein, but with a more pessimistic twist, Arthur Okun wrote seventy years later in his *Equality and Efficiency. The Big Tradeoff*:[30]

> In an economy that is based primarily on private enterprise, public efforts to promote equality represent a deliberate interference with the results generated by the market-place, and they are rarely costless. When the question is posed as: 'Should the government tamper with the market?' the self-evident answer is a resounding 'No.' Not surprisingly, this is a common approach among anti-egalitarian writers […] with these blinders firmly in place, egalitarianism in economics can be investigated as though it were an idiosyncrasy, perhaps even a type of neurosis.
>
> A democratic capitalist society will keep searching for better ways of drawing the boundary lines between the domain of rights and the domain of dollars. And it can make progress. To be sure, it will never solve the problem, for the conflict between equality and economic efficiency is inescapable.

The trade-off apparently finds a formal basis in the first basic theorem of welfare economics due to Kenneth Arrow and Gérard Debreu. The theorem establishes that under certain conditions a competitive equilibrium is Pareto optimal, that is, there exists no alternative allocation of goods that would make someone better off without making anyone worse off.[31] The efficiency of a competitive equilibrium, however, does not imply its fairness, because its allocation depends on an original distribution of resources that can be very unequal. "If the lot of the poor cannot be made any better without cutting into the affluence of the rich," commented Amartya Sen, "the situation would be Pareto optimal despite the disparity between

[30] A.M. Okun, *Equality and Efficiency. The Big Tradeoff*, Washington, The Brookings Institution, 1975, pp. 4-5 and p. 120.

[31] K.J. Arrow and G. Debreu, *Existence of an Equilibrium for a Competitive Economy*, «Econometrica», 22, pp. 265-290.

the rich and the poor".[32] This normative limitation notwithstanding, the theorem is often seen as the justification for not interfering with market mechanisms.

Yet, this is unwarranted. Angus Deaton observed recently that "It is notable, if ironic today, that the man who was so central in proving the basic theorems of competitive equilibrium [Ken Arrow], saw his own achievement, not so much in what markets might achieve, but in the clarification of the assumptions necessary for the validity of the theorems. The negative result is at least as important as the positive one".[33] Indeed, the conditions underlying the theorem are never met in reality and subsequent economic research has long investigated how results change when information is imperfect, goods are not homogeneous, firms have market power, entry barriers exist, and so forth.

Nonetheless, a stylised notion of general economic equilibrium has become the basis of the anti-Keynesian macroeconomic theory developed since the 1970s and centred on the concept of "representative agent".[34] By construction, explaining the economy based on the optimising behaviour of a single agent, which "represents" all persons (or firms) interacting in the society, means ignoring heterogeneity. As Robert Solow commented in a hearing at the US House Committee on Science and Technology in 2010, "the DSGE [Dynamic Stochastic General Equilibrium] school populates its simplified economy […] with exactly one single combination worker-owner-consumer-everything-else who plans ahead carefully and lives forever. One important consequence of this 'representative agent' assumption is that there are no conflicts of interest, no incompatible expectations, no deceptions".[35] There is hardly any possibility for analysing income distribution by adopting this approach, which has become dominant in macroeconomics.[36] The underlying view is well captured

[32] A. Sen, *On Economic Inequality*, Oxford, Clarendon Press, 1973, p. 7.

[33] A. Deaton, *Letter from America - Counting our losses*, «Royal Economic Society Newsletter», 179, October 2017, pp. 3-4, citation at p. 3.

[34] R.E. Lucas, Jr. and T. Sargent, *After Keynesian Macroeconomics*, «Federal Reserve Bank of Minneapolis - Quarterly Review», vol. 3, n. 2, pp. 1-16.

[35] R. Solow, *Statement prepared for the House Committee on Science and Technology, Subcommittee on Investigations and Oversight, 'Building a Science of Economics for the Real World'*, 20th July 2010, https://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/072010_Solow.pdf. DSGE models evolved from the New Classical macroeconomics associated with the work of Robert Lucas, Thomas Sargent, Edward Prescott and followers.

[36] DSGE models have come under attacks for their difficulty to understand the global financial crisis and the Great Recession. For a discussion see, among others, S. Wren-Lewis, *Unravelling the New Classical Counter Revolution*, «Review of Keynesian Economics», 4, pp. 20-35, and O. Blanchard, *Do DSGE Models Have a Future?*, Peterson Institute for International Economics, Policy Brief, PB 16-11, August 2016.

by the following terse statement by Robert Lucas, a leading figure in this camp: "Of the tendencies that are harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution […] The potential for improving the lives of poor people by finding different ways of distributing current production is nothing compared to the apparently limitless potential of increasing production".[37]

Even outside the representative agent's world, two reasons have been put forward to explain why inequality is necessary for economic growth.[38] First, an egalitarian distribution could create disincentives for individual effort. It is Cannan's motive force. Second, as financial markets are imperfect, capital accumulation may need a higher concentration of wealth because many investments are indivisible and require a large initial amount of resources that cannot be collected in the market.

The link between the distribution of resources and economic growth is however much more complex.[39] First, the distribution can influence aggregate demand. Greater inequality could reduce demand through Keynesian effects, since the propensity to consume is negatively correlated with income.[40] Moreover, during industrial take-off, the existence of a large middle class may be a condition for the consolidation of industrialisation if the adoption of more advanced technologies requires a critical level of internal demand: industrialisation would be hindered both by an excessive concentration of wealth, as the demand of property owners would turn to imported luxury goods, and by an egalitarian distribution, as it would not generate sufficient demand to activate domestic production.[41] Second, assuming that individuals have well-defined preferences which are function of their income, the combination of taxes and transfers chosen in a democratic majoritarian system is the one preferred by the "median" voter, which is exactly halfway through the

---

[37] R.E. Lucas Jr., *The Industrial Revolution: Past and Future*, Federal Reserve Bank of Minneapolis - The Region, May 2004, https://minneapolisfed.org/publications/the-region/the-industrial-revolution-past-and-future.

[38] P. Aghion, *Inequality and economic growth*, in P. Aghion and J. Williamson, *Inequality, Growth, and Globalization. Theory, History and Policy*, Raffaele Mattioli Lectures, Cambridge, Cambridge University Press, 1998, pp. 5-102.

[39] R. Bénabou, *Inequality and growth*, in *NBER Macroeconomics Annual 1996*, ed. by B.S. Bernanke and J.J. Rotemberg, Cambridge, The MIT Press, 1996, pp. 11-92.

[40] T. Jappelli and L. Pistaferri, *Fiscal policy and MPC heterogeneity*, «American Economic Journal: Macroeconomics», 6, pp. 107-136; A. Auclert and M. Rognlie, *Inequality and aggregate demand*, mimeo, 2016, and *Aggregate demand and the top 1 percent*, «American Economic Review Papers and Proceedings», 107, pp. 588-592.

[41] K.M. Murphy, A. Shleifer and R. Vishny, *Income distribution, market size, and industrialization*, «Quarterly Journal of Economics», 104, pp. 537-564.

distribution of income. The poorer the median voter is, the greater the chosen level of redistribution, and the lower economic growth, as taxes negatively affect the incentives to invest. Thus, inequality, as measured by the distance of the median from the mean, is harmful for growth.[42] Third, imperfections in financial markets can prevent poor individuals from exploiting investment opportunities when they do not have enough capital to offer as collateral. Due to their inability to borrow, they could for example find themselves unable to invest in education and be forced to accept low-skill and less paid jobs. By hampering the accumulation of human capital, an unequal distribution would also hinder economic growth.[43] The interaction between informational asymmetries and unequal distribution can lead to inefficient resource allocations in other ways.[44]

The theoretical developments just sketched show that there is no necessary trade-off between equality and economic growth, once the basic model is enriched with more realistic features. The question hence becomes essentially empirical. Several papers published in the 1990s found a negative link between inequality and growth, but overall the literature reached conflicting results.[45] The most recent studies

[42] G. Bertola, *Factor shares and savings in endogenous growth*, «American Economic Review», 83, pp. 1184-1198; R. Perotti, *Political equilibrium, income distribution, and growth*, «Review of Economic Studies», 60, pp. 755-776; A. Alesina and D. Rodrik, *Distributive politics and economic growth*, «Quarterly Journal of Economics», 109, pp. 465-490; T. Persson and G. Tabellini, *Is inequality harmful for growth?*, «American Economic Review», 84, pp. 600-621; A. Alesina and R. Perotti, *The political economy of growth: A critical survey of the recent literature*, «World Bank Economic Review», 8, pp. 351-371. The result depends crucially on the assumption that taxes are distortionary; if this was not the case, the conclusion would be reversed, as shown by G. Saint-Paul and T. Verdier, *Historical accidents and the persistence of distributional conflict*, «Journal of the Japanese and International Economies», 6, pp. 406-422; G. Saint-Paul and T. Verdier, *Education, democracy and growth*, «Journal of Development Economics», 42, pp. 399-407; G. Saint-Paul and T. Verdier, *Inequality, redistribution and growth: A challenge to the conventional political economy approach*, «European Economic Review», 40, pp. 719-728.

[43] P. Aghion and P. Bolton, *Distribution and growth in models of imperfect capital markets*, «European Economic Review», 36, pp. 603-611; O. Galor and J. Zeira, *Income distribution and macroeconomics*, «Review of Economic Studies», 60, pp.. 35-52; R. Torvik, *Talent, growth and income distribution*, «Scandinavian Journal of Economics», 95, pp. 581-596; P. Aghion and P. Bolton, *A theory of trickle-down growth and development*, «Review of Economic Studies», 64, pp. 151-172.

[44] For instance, when information is imperfect and lobbying provides information to policymakers, wealth inequality may distort the signals transmitted by economic agents to the government. Profitable sectors have an incentive to lobby intensively but sectors dominated by wealthy interest groups find it easier to lobby more intensively. Even honest policymakers can make bad resource allocation decisions as a consequence. J. Esteban and D. Ray, *Inequality, lobbying, and resource allocation*, «American Economic Review», 96, pp. 257-279.

[45] For estimates on cross-sectional data see Alesina and Rodrik, "Distributive Politics"; R. Perotti, *Income distribution and investment*, «European Economic Review», 38, pp. 827-835; Persson and Tabellini, "Is Inequality"; G.R.G. Clarke, *More evidence on income distribution and growth*, *journal of development economics*, 47, pp. 403-427; R. Perotti, *Growth, income distribution and democracy: What the data*

confirm that the relationship is complex and it is difficult to detect a robust unambiguous link. For instance, at the Organisation for Economic Co-operation and Development (OECD), Federico Cingano concludes that "Drawing on harmonised data covering the OECD countries over the past thirty years, the econometric analysis suggests that income inequality has a sizeable and statistically significant *negative* impact on growth, and that redistributive policies achieving greater equality in disposable income has no adverse growth consequences".[46] Likewise, using a sample covering countries world wide, the IMF economists Jonathan Ostry, Andrew Berg and Charalambos Tsangarides find that lower income inequality is associated with faster and more durable growth for a given level of public redistribution, while the latter seems to have generally positive effects on growth, except in extreme cases (which include most of the advanced economies).[47] On the other hand, the variation in changes in income quintile group shares are on average small and less volatile than the variation in growth, and do not appear to be correlated with the latter according to research by David Dollar, Tatjana Kleineberg and Aart Kraay.[48] Sutirtha Bagchi and Jan Svejnar estimate that the effects on economic growth are nil or at most weakly positive for income inequality, but tend to be negative for wealth inequality, particularly when the latter mainly reflects the acquisition of billionaires' fortunes through political connections.[49] Leaving aside the problems posed by data quality, this lack of firm conclusions may reflect the fact that the relationship between resource distribution and economic growth depends on the interaction of a variety of political, social and economic institutions.

The concrete possibility that a highly unequal distribution has negative consequences for economic growth, together with the awareness that there is a need

---

*say*, «Journal of Economic Growth», 1, pp. 149-187; A. Alesina and R. Perotti, *Income Distribution, Political Instability, and Investment*, «European Economic Review», 40, pp. 1203-1228. For estimates on longitudinal data see: A. Brandolini and N. Rossi, *Income distribution and growth in industrial countries*, in *Income Distribution and High-Quality Growth*, ed. by V. Tanzi and K. Chu, Cambridge, The MIT Press, 1998, pp. 69-105; K. Deininger and L. Squire, *New ways of looking at old issues: Inequality and growth*, «Journal of Development Economics», 57, pp. 259-287; K.J. Forbes, *A Reassessment of the relationship between inequality and growth*, «American Economic Review», 90, pp. 869-887.

[46] F. Cingano, *Trends in Income Inequality and its Impact on Economic Growth*, OECD Social, Employment and Migration Working Papers 163, 2014, p. 28.

[47] J.D. Ostry, A.Berg and C.G. Tsangarides, *Redistribution, Inequality, and Growth*, IMF Staff Discussion Note SDN/14/02, 2014.

[48] D. Dollar, T. Kleineberg and A. Kraay, *Growth still is good for the poor*, «European Economic Review», 81, pp. 68-85.

[49] S. Bagchi and J. Svejnar, *Does Wealth Inequality Matter for Growth? The Effect of Billionaire Wealth, Income Distribution, and Poverty*, «Journal of Comparative Economics», 43, pp. 505-530.

to account for the heterogeneity of economic agents, given the failure of macroeconomic models based on the representative agent,[50] contributes to explain the unusual interest for inequality in mainstream economics since the Great Recession. It is an "instrumental" interest. The level of inequality is important for its potentially destabilising effects, not because of its unfairness.

## CONCLUSIONS

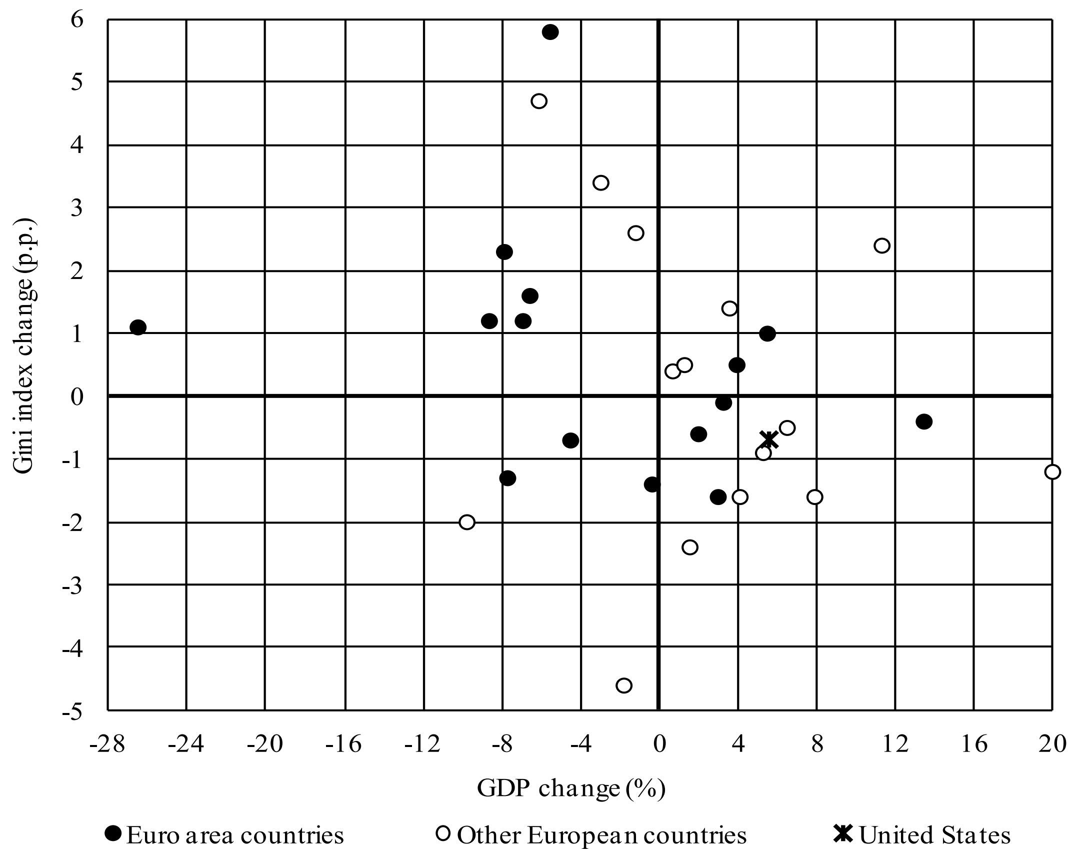
Borrowing the title of a famous Atkinson's lecture, the Great Recession of 2008-2009 has brought income distribution in from the cold. Not so much for its direct impact on inequality, that was all in all limited, but rather for two indirect consequences. On the one side, the suffering caused by the downturn has made manifest the high levels of inequality in many advanced countries, revealing how unfair economic growth had been in the twenty or more years preceding it. This has turned inequality into a political problem. On the other side, the failure of mainstream macroeconomics to understand the crisis has exposed the weakness of modern economic modelling ignoring heterogeneity and imperfections of real economies. This has turned inequality into a conceptual problem worth investigating in economics. These considerations illustrate that the concern for inequality responds to both intrinsic reasons – its fairness – and to instrumental reasons – the consequences it may have on other relevant objectives. The two aspects are not independent each other.

All three papers winning the 5th Giorgio Rota Best Paper Award deal with inequality, but take rather different perspectives. Alica Ida Bonk investigates how capital account liberalisations affect income inequality using country-level data and shows that the effects vary if the reforms are targeted to inward or outward flows. Madina Kurmangaliyeva studies Russian data on individual court cases and finds that the judicial system tends to be more indulgent with rich defendants, in part owing to the design of the legal system. Clara Martínez-Toledano Toledano uses information from tax records, national accounts and sample surveys to estimate a wealth distribution series for Spain over the period from 1984 to 2013 and

[50] E.g. O. Coibion, Y. Gorodnichenko, L. Kueng and J. Silvia, *Innocent bystanders? Monetary policy and inequality*, «Journal of Monetary Economics», 88, pp. 70-89.

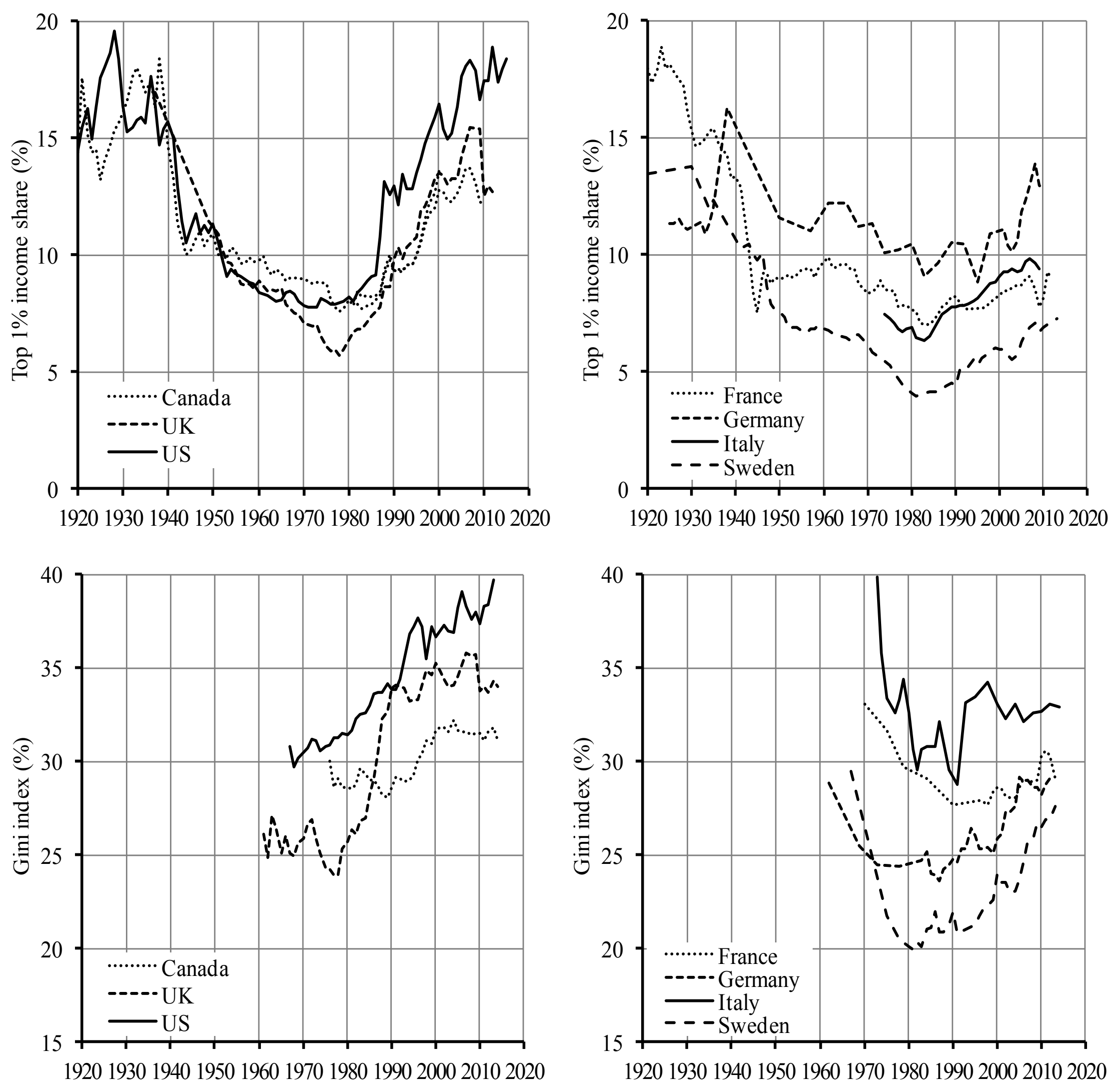
concludes that housing bubbles and assets held offshore led to a rise in inequality. Despite their many differences, these papers provide intriguing examples of how taking seriously inequality can enhance our understanding of how modern economies work.

FIGURE 1 • GDP AND INEQUALITY CHANGE, 2007-2013




Source: elaboration on data from Eurostat, US Bureau of Economic Analysis and B. Andrews, J. Thomas and N. Palesch, *Estimation of EU-Comparable Poverty-Related Variables in the United States, 1995-2014*, CSLS Research Report 2015-2012, September 2015. Inequality of the distribution of equivalent disposable income among persons (modified OECD scale).

FIGURE 2 • THE EVOLUTION OF INCOME INEQUALITY IN SEVEN RICH COUNTRIES IN THE LAST CENTURY




Sources: *Top 1% income share*: elaboration on data from The World Wealth and Income Database - WID (http://www.wid.world, as of 28th August 2016) for taxable income; for Canada, the series 1920-2000 is based on tabulated tax data and relate to adults aged 20+, while the series 1982-2010 is based on administrative database for tax-filers; for the United Kingdom, estimates relate to married couples and single adults until 1989 and to adults from 1990. *Gini index*: elaboration on data from national sources for equivalent disposable incomes; some statistical discontinuities are ignored by merging the underlying sub-series. For both statistics, levels are not comparable across countries due to differences in the income concept.