BOOK REVIEW

REFLECTIONS ON THE ISSUES OF CAPITAL ACCUMULATION AND ECONOMIC INEQUALITY IN WESTERN COUNTRIES AS DESCRIBED IN THOMAS PIKETTY'S BOOK "LE CAPITAL AU XXI^{E} SIÈCLE[1]"

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Thomas Piketty is a French economist specialized in wealth and wealth inequality, professor of economics at the École des Hautes Études en Sciences Sociales (EHESS) since 2000, at the Paris School of Economics (PSE) (founder) since 2007[2], and at International Inequalities Institute, member of the London School of Economics and Political Science, between 2015 and 2016[3]. He graduated from the École Normale Supérieure (ENS) with a degree in economics and mathematics and obtained his PhD at EHESS in 1993.

In the field of economic inequality, Thomas Piketty has a new approach, combining the historical and statistical perspectives. Thus, he managed to collect, together with his colleagues from the PSE, data on capital accumulation in relation to economic growth over a period longer than two hundred years in France, the country with the most comprehensive archives in this respect, which has data since the French Revolution of 1789. Together with a British economist, Anthony Atkinson, and an American economist, Emmanuel Saez, he succeeded in a similar approach with regard to England and the United States.

Also, the three researchers, together with an Argentinian researcher, Facundo Alvaredo, have set up the World Top Incomes Database (today, World Inequality Database), an institution that aims to provide free access to the widest available data based on the historical evolution of global distribution income and wealth, both within and between countries[4].

The main works of Thomas Piketty are all related to this field of political economy (a name the author himself wishes to reintroduce in order to withdraw terms as economics and economic science as a result of his belief that the economy is a social science): *Les hauts revenus en France au XXème siècle, Inégalités et redistribution, 1901–1998* (Grasset, 2001), *Fiscalité et redistribution sociale dans la France du XXe siècle* (2002), *On the Long run evolution of inheritance. France, 1820–2050* (PSE Working Paper, 2010), *Pour une révolution fiscale* (Le Seuil, 2011) with Emmanuel Saez și Camille Landais.

In our opinion, the book that is the subject of this analysis, Capital in the 21st Century, which became an international bestseller immediately after its translation into English, is primarily a work of economic history that aims to build, for the first time in

[1] Thomas Piketty, Le capital au XXI^{e} siècle, Éditions du Seuil, Paris, 2013, 976 p, and Romanian edition, Capitalul în secolul XXI, editura Litera, 825 p., 2015.
[2] https://www.britannica.com/biography/Thomas-Piketty
[3] http://www.lse.ac.uk/website-archive/newsAndMedia/newsArchives/2015/05/Thomas-Piketty-joins-LSE-as-Centennial-Professor.aspx
[4] https://wid.world/wid-world/

history, series of data on the evolution of income distribution and wealth over a period that ranged from the beginning of the nineteenth century to present. These data series are mainly collected from France and England, countries that have established institutions with this objective since the end of the 18th century, but also from the United States, Germany and Japan since the end of the nineteenth century.

The book is the result of research efforts lasting more than a decade and in which the author, together with a team of researchers from the Paris School of Economics, managed to outline the evolution of inequality since the beginning of the industrial revolution.

Also, through the conclusions he draws from the study of the data series, the author gives an answer to the following two questions: the dynamics of private capital accumulation inevitably lead to an increasing concentration of wealth and economic power or the competitive forces of market economy, together with technical progress, lead to a reduction of inequalities and a long-term stabilization? What is really known about the evolution of income and wealth distribution since the eighteenth century and how can we use this knowledge in the 21st century? We also dare to ask two extra questions from the analysis of the data presented in Thomas Piketty's work. First, can be delimited two alternative phases with a continuous succession of the evolution of inequality, one in which it grows and another one when it shows a decrease? Second, how great is the importance of extremely tense debates on the optimal level of inequality, when the level of income and wealth of people situated in the inferior decile from developed countries today supports living conditions that are much higher than those of the middle class 100 years ago, for example?

The structure of the article will be as follows: in the first part we will present a summary of the book and analyze some of the concepts presented here, fundamentals, in our opinion, for the understanding the phenomena of production, reproduction and capital distribution, and in the second part we will present the main reactions, both positive and negative, to the book. The article will end with a section of the author's conclusions.

1. Summary

First, in order to give more color to the arguments used to support his ideas, Piketty uses the characters and intrigues of the novels written by Honoré de Balzac, Jane Austen and Henry James to describe the rigid structure of social classes based on accumulated capital and to illustrate and strengthen its arguments on the uneven distribution of income and wealth in France and England in the late 18th century. He brings to life the tables and charts of the book (many and potentially boring), illustrating Elizabeth Bennet's attempts to acquire a wealthy husband, her only way to avoid poverty or a servile situation as a governess or telling us Rastignac's dilemma: this one, a law student, has two options, to marry a rich but boring heir, and to take a careless life or pursue a career that will probably lead to poverty and mediocrity.

The issue of wealth distribution, the subject of this book, has, in the author's view, an exclusively subjective and psychological connotation, irreducibly political and conflictual, being the result of the intuitive knowledge that each person builds on the income and heritage of the period in which he lives. On this theme there were written books (as we said earlier, some of them mentioned by Mr. Piketty) describing the implications of inequality with a profound sense of reality and an evocative power that no statistics, no scholarly analysis could do equal. Moreover, the author notices: "Fortunately, democracy will never be replaced by the republic of experts."

We ask ourselves, why did he write this book if no economic analysis (to place ourselves strictly within the economic mediocrity in which we claim to be specialists) succeeds to overcome the subjective dimension of each observer? What does democracy represent without grounded and, we dare to say, fundamental choices, as far as possible, for which voters express their preferences? Is not the advance of nationalism and populism the result of rejecting the experts' opinion (from all social spheres) from the simple and devious reason that they see the world deformed from their ivory tower? Should there be no solidarity between experts and mutual promotion, despite divergent professional opinions?

Then the book is structured in four parts dealing with the following topics: a) *Income and capital*: presentation of capital concepts, national income, capital and income ratio, description of the evolution of world income distribution and production, and evolution of the population and production growth rates, from the end of the 18th century to the present; b) *Dynamics of the capital / income ratio*: its long-term evolution and the segregation of national income between labor and capital income, the analysis of the aforementioned report at the beginning of the 21st century, the evolution of the forms of existence of capital in the two centuries studied, in the cases of France and England, then in Germany and the United States, and finally expanding this analysis to the world; c) *The structure of inequalities*: the analysis of the structure of labor and capital gains, the evolution over time of the inequalities generated by these incomes in the United States and France, the dynamics of the inheritance importance over long time and the prospects for evolution of the global patrimony structure; d) *Capital regulation in the 21st century*: breaking out political and normative conclusions on inequality, drafting a social state model for the 21st century, redefining the progressive income tax, drafting a progressive capital tax project and comparing it with other ways of taxation in the process of implementation in some countries of the world and the advancement of a debt reduction solution (considered unsustainable in the long run).

The first part of the book introduces a series of definitions, also explained in terms accessible to non-specialists in the economy, to be used throughout the book: national capital (generally all assets existing on the territory of a country and owned by the citizens of that country), national income (in general, all incomes earned in a country by the citizens of that country), labor income (paid work), capital income (the income obtained by investments made), capital ratio (the ratio of national capital and national income, expressed as a percentage).

Also, in the first part, the author analyzes capital (statically and dynamically), both by studying the components of national income (income from capital and labor) and by introducing the two forces that influence this ratio: falling rates of income growth, especially as a result of the decline in population growth rates, and the normal recovery of capital accumulation following the destructions made by the two world wars.

The author introduces here the **first fundamental law of capitalism**, $\alpha = r \cdot \beta$, (where α represents the share of capital income in national income, r is the average return on capital, and β is the ratio of capital to income, a law that allows the association of the capital stock with the flow of capital incomes. For example, if $\beta = 600\%$ and $r = 5\%$, then $\alpha = 30\%$, that is, if the patrimony[5] represents the equivalent of six years of national income

[5] Here having the meaning of capital, being composed of agricultural land, and residential land, residential and commercial buidings, liquidities and stocks etc.

(as in the case of France at the beginning of the nineteenth century and in the majority of the developed countries at the beginning of the 21st century), and if the average capital yield is 5%, then the share of capital from the national income is 30%. The motivation to consider this equation as the first fundamental law of capitalism is to allow, in the author's opinion, the simple and transparent relationship of the three most important concepts necessary for analyzing the capitalist system: the capital / income ratio, the share of capital in income, and return on capital, even if this relationship is strictly accounting.

In the second chapter, after specifying that growth rates per capita were on average 0.8% per year between 1700 and 2012, of which 1.6% between 1913 and 2012 (as we see, a long-term growth rate of 3% or 4% per year is an illusion), Piketty believes that in the long run, advanced countries are unlikely to have an increase in production higher than 1.5% per year. The average scenario taken into account in the book is 1.2% per year. However, an annual increase of 1% corresponds to a cumulative increase of more than 35% in 30 years, which means that a company with an annual growth of 1% renews itself deeply and continuously; so this increase is more than enough, given the experience of the last 200 years.

The author's explanation of the very different opinions in various developed countries on capitalism in its current form and especially on the commercial, financial and technological globalization is very interesting and extremely plausible. In Europe, especially in the continental part, the post-war decades that have been marked by a very strong state interventionism are still characterized as a tremendous growth period (*les trente glorieuses*, where the average annual growth rate was 4%), the decline of which is most often associated with the economic liberalization movement launched around the 1980s. At the same time, the United States (with an annual growth rate of about 2% in the same period) and the United Kingdom were quickly caught up - or even overtaken, in the latter case - by the countries that had lost the war or who had been affected much more by the war, creating a feeling of frustration among the general public, feeling that played a major role in the emergence of the conservative revolution of Ronald Reagan and Margaret Thatcher, who promised in election campaigns to give up Welfare State (considered to be the cause of the economic slowdown) and to return to the pure capitalism of the previous century.

In fact, if things are studied from a historical perspective, the thirty glorious years are the exceptional period because Europe had accumulated an enormous delay in growth towards United States in the 1941-1945 period, delayed recovered in the next 30 years. Once recovery finished, United States and the countries of Western Europe positioned themselves among the most developed countries in the world, and their growth rates slowed down and became similar. Using the same reasoning, in our view, China's economic growth over the past 30 years would be characterized by the same phenomenon, with the growth rate catching similar values over an average time horizon.

The second part of the book analyzes the evolution of the ratio between capital and national income over the last two centuries in some of the most developed capitalist countries for which have been found sufficient data: France, England, USA, Canada, Japan, Italy and Australia, having the purpose of understanding the way and the reason of the different developments from country to country and continent to continent. It also analyzes the evolution of the national income structure (divided between capital income and labor income) from the end of the 18th century.

France and England followed a similar pattern in which the reported ratio had a relatively constant evolution of about 700% until the beginning of World War I, followed by a steep decline to the 200% threshold and a return and stabilization to the level of 500%. It is noteworthy the very changing structure of capital, with agricultural land having the largest share of capital (approximately 300% throughout the 19^{th} century) until the end of the nineteenth century, when the very strong industrialization forced it to decrease to a share of less than 100% of the national income at the beginning of the 20^{th} century and an almost insignificant one today.

The author believes that the great world wars of the previous century, the extremely powerful economic and political shocks they caused, and the public policies generated by these shocks were the forces that led to a sharp decline in income inequality everywhere in rich countries and not the convergence forces components of the market economy laws.

Germany, although pursuing a similar trajectory to that of France, has a number of differences: the rate of capital, although increased after the Second World War, has only reached around 400%; Germany's assets abroad were much lower than those of France or England by the time of World War I due to the lack of a colonial empire, but are much higher today (around 50% of the national annual income) than those of the countries mentioned above (due to permanent high trade surpluses registered since 2000).

In the United States, the capital has embraced different and unusual forms, for three reasons: first, agricultural land was abundant, and its price was extremely low; second, the population growth from three to 300 million inhabitants in less than two centuries has made capital accumulation smaller than in Europe (its level has not exceeded 500% of national income). Last but not least, the existence of slavery (people treated as objects and not human beings, therefore having a book value, as assets; in 1860 there were 4 million slaves in the US at a population of 30 million people, about 13.3% of the total population) made the structure of capital quite different in America towards the old continent: throughout the nineteenth century, the total value of slaves (considered as assets) was equal to almost a year and a half of national income, about the same values as the land had.

Further, Piketty introduces **the second law of capitalism**, which describes in principle an obvious and very important reality: a country that saves much and grows slowly accumulates a very big stock of capital on the long run. In other words, in a quasi-stagnant society (both in terms of population growth and economic growth), the assets accumulated in the past gain more importance than necessary.

Formally, the law is transposed as follows: $\beta = \frac{s}{g}$, where β represents the capital / income ratio, s is the saving rate of a country, and g is the rate of increase of the national income. The previous definition can be exemplified as follows: if a country saves each year, let's say, 12% (s) of national income and if the rate of increase of national income (g) is 2% per year, then, in the long run, the capital ratio / income (β) will be equal to 600%, meaning that country will accumulate a capital equivalent to six years of national income.

The importance of this law is given by the fact that low variations in the increase rate of national income can have important long-term effects on the capital / income ratio. For example, if the saving rate remains the same (12%) and the growth rate drops to 1.5% and 1% respectively, the capital / income ratio increases to eight years of national income, namely 12 years, which means, in author's opinion, a very large concentration of capital in the hands of a few people, and, implicitly, an increase in inequality. These effects are even more significant because the increase rate of national income is compound by the growth rate of the national income per capita and the population growth rate, namely countries with a demographic stagnation reach more quickly higher levels of capital / income ratio over a period.

In the long run, this law makes possible the explanation of the capital / income ratio recovery over the last 40 years to very high levels after the global wars and the rapid growth phase of the second half of the last century. The same law also explains why the US is gaining less capital than Europe.

Another problem observed by Piketty is that of the national income structure, namely, its division between capital and labor. In the long run, it is noticed that the share of capital in national income increases (from 15-30% in the 1970s to 25-30% in 2010 in developed countries), even though many economists, with Keynes among others ("the stability of capital-labor division is the best established regularity in all economic science"), claim something else. In other words, the author contradicts the mainstream idea that the triumph of human capital over capital defined in the traditional sense (land, real estate and financial) is a natural and irreversible process due to technology and forces in the market economy.

The third part of the paper studies the evolution of inequality at the level of individual incomes and wealth in the analyzed countries and period. Income inequality will be broken down and analyzed separately into three components: the inequality in labor income; the inequality of the ownership over the capital and the resulting income; the link between the first two dimensions, namely, to what extent people with high labor income are the same with the ones with a high capital income.

First, inequality in relation to capital has always been, and continues to be, much higher than labor inequality, the distribution of capital property and the resulting income is almost inevitably much more concentrated than the distribution of incomes from work. This assertion is proven for all countries and all the available data, with no exceptions.

For example, the decile representing the highest earnings is generally 25-35% of the total labor income, whereas the decile representing the highest wealth exceeds 50% of the total heritage, climbing sometimes to 90% of the total wealth in certain countries. Moreover, half of the lowest-paid people receive between 25% and 33% of total labor income (roughly equal to the highest decile), while 50% of the people with the lowest wealth hold no more than 10% of the total wealth.

In terms of labor inequality, a significant difference can be observed between the more egalitarian (Scandinavian) countries and the United States: the upper centile achieves 20% of total labor income in the first countries and 35% in the United States, the 40% situated in the middle class earn 45% and respectively 40% of the revenues, and the poorest 50% earn 35% and 25% of the total labor income.

As a parenthesis, it worth mentioning that, from a methodological point of view, Piketty subscribes to a series of experts' opinions on inequality who find it inconclusive to use the Gini coefficient, one of the most commonly used synthetic indicators in official reports and public debates. The reasons are that it is impossible to sum up a multidimensional reality through a one-dimensional indicator without a leveling and loss-making simplification, and that this coefficient does not distinguish inequality from labor and inequality in relation to capital. That is why the author uses the distribution tables showing the weights of the different deciles and centiles both in the total income, and in the total wealth, but also because these distribution tables are much easier to be understood by the non-specialist reader.

From the point of view of the evolution of the income structure, the contemporary society has moved from a society in which the upper centile was heavily dominated by annuitants, to a society in which the top of the revenue hierarchy consists predominantly of people who earn labor income. Moreover, there are several groups in the upper decile, the poorest half of it being constituted of 80-90% of people whose income is based on the salary (super managers).

Another point worth mentioning, the most important in the case of unequal income from work, is that of the emergence of super managers, namely, a group of people who lead large companies that have reached extremely high incomes, not seen in history. For example, in the United States, in many companies, at least five people in each company have an annual remuneration that places them in the top 1% of revenue ($ 352,000 in 2010) or even the highest 0.1% of revenue ($ 1.5 million in 2010).

The most important reason for producing this "mutation" is generally considered to be the tracking race between education and technology, built on two hypotheses: (a) the salary of an employee is equal to his marginal productivity; (b) the productivity depends above all on his qualification and the status of demand and supply of similar qualifications in a company. The author disagrees with this explanation, considering that the concept of individual marginal productivity is poorly defined, being transformed into a purely ideological construction that allows the justification of a higher status.

Instead, the author offers his own explanations for this growth. The first is "meritocratic extremism", namely, the need of the American society to designate the winners themselves and to offer them more extravagant remunerations as they seem to be elected due to their own merits. However, Piketty believes, above all, that the main explanation is the massive reduction of the upper-income marginal income tax in the Anglo-Saxon countries since the 1980s, which has completely transformed the way managers are paid, and they are much more stimulated to struggle to get important increases.

The author signals the emergence of a neglected reality, namely the patrimonial middle class (assuming we divide the society into three categories: the richest 10% of the citizens, the next 40% and the poorest 50%), considered the most important structural transformation of wealth distribution in developed countries in the 20th century. This intermediary group in the wealth hierarchy has become clearly wealthier than the whole poorest half of the population, accounting for between a quarter and a third of the national wealth in all developed countries. The reason for the emergence of this middle class is the introduction in the last century of massive taxation on capital and its associated income, one of the most beneficial measures ever taken by states, the author considers.

Also, it deserves noting the total change in the perspective of inequality in the United States over the course of 100 years: when around 1910, the level of inequality in the United States reached the level in Europe, due to the accumulation of unprecedented industrial and financial assets, public perception was of worrying because their country could lose their innovative and egalitarian spirit. This fear partly explained America's invention of progressive taxation on very large inheritances and incomes considered excessive. Today, the excessive American inequality is described as a condition of entrepreneurial dynamism, being an opportunity of pride, as Piketty notes: "The modern meritocratic society, especially in the United States, is much harder for losers because it tries to justify domination by justice, virtue and merit, as well as the insufficient productivity of losers", although the reality is very different, luck and the environment of origin being extremely important, in our opinion.

Wealth inequality is considered very important by the author because of its long-term impact, especially in the actual context of increasing of current capital / income ratio (even if the level of this ratio has not yet reached the level from the early 20th century) and slow growth. This situation is more worrying than the process of divergence induced by the rise of super-executive’s wages, which remains a geographically restricted reality.

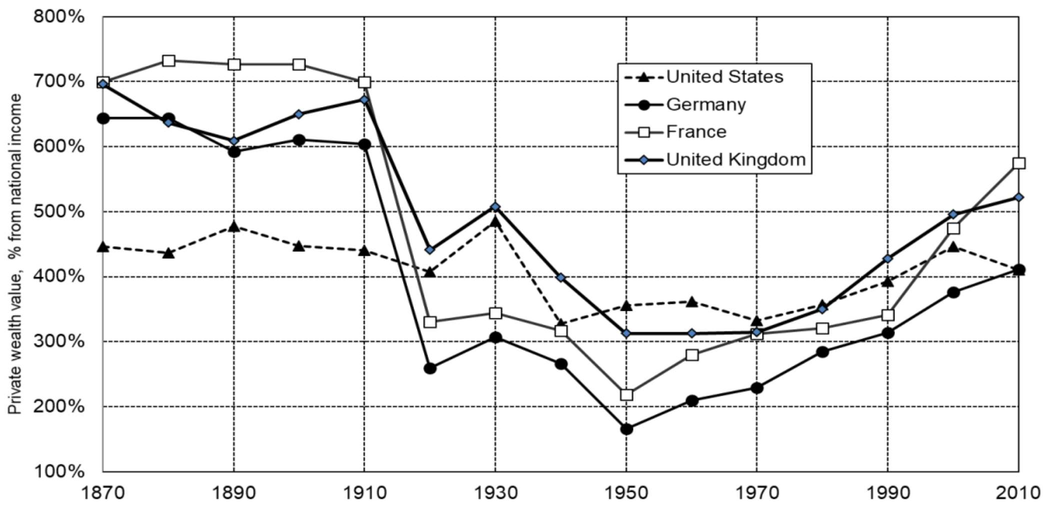
Therefore, the increase in the level of taxation of inherited wealth has a good reason: labor income is currently taxed at a much higher level (around 30% in developed countries), while the average rate of taxation of inherited wealth is less than 5%, the current perception being that inheritances are not meritocratic created.

Based on all the data presented so far, as well as the evolution of the capital / income ratio (represented in Figure 1 - for European countries characterized by population stagnation, the curve is U-shaped), Piketty builds the most important concept of the book, **a fundamental mechanism of divergence** describing the relation between the return on capital (*r*) - which produces capital in the form of profit, dividends, interest, rents and other capital gains, as a percentage of its total value - and growth rate (*g*) - the annual increase in income and output, as a percentage of its total value. In his opinion, the relationship between the two indicators is inequality: $r > g$.

The author claims that this inequality relationship has been usually valid, except for a few decades of the 20th century, and the likelihood of being true in the 21st century is high. This implies that inherited wealth recapitalizes faster than the growth rate of output and income, and it is almost inevitable that "inherited wealth will largely dominate the assets created during a working life, and the concentration of capital will reach extreme levels, high and potentially incompatible with meritocratic values and with the principles of social justice that are the foundations of our modern democratic societies".

This mechanism of divergence can be strengthened by additional mechanisms if the saving rate increases strongly in proportion to the level of wealth and/or if the average yield actually obtained is higher in the case of large fortunes than in the case of the smallest. The author himself gives such an example by comparing the capital returns of the 800 US universities grouped into four categories of wealth: less than \$ 100 million, between \$ 100 million and \$ 500 million, over \$ 1 billion, and four richest universities (Harvard, Yale, Princeton, and Stanford). Between 1980 and 2010, the average annual real-world capital yield of all universities was 8.2%, while the richest four had 10.2%, those over \$ 1 billion had 7.8%, the group between \$ 100 and 500 million had 7.1 % and the last group under \$ 100 million had 6.2%.

Figure 1. Evolution of capital / income ratio in the period 1870-2010 (in %)



Source: Author’s graph based on available data at http://piketty.pse.ens.fr/capital21c

The highly controversial issue regarding the influence of the increase of inequalities on the start of the economic and financial crisis in 2008 is also addressed in this book, in the chapters in which the data gathered by the author are presented, and the conclusion reached by the author -yes, it is an important cause of the crisis- is apparently based only on the fact that the higher deciles in the US national income had two absolute maximum in the last hundred years, one in 1928 (the year before the crisis of 1929) and the other in 2007 (the year before the start of the 2008 crisis), even if he notices two more important determinants in the last sentence of the section entitled "Financial growth caused the financial crisis?": the structural increase in the capital / income ratio (an indicator of increasing inequality, in our opinion) and the amplifying of the gross financial positions.

Taking into account the evolution of wealth distribution, the structure of inequality since the 18th century as well as the laws and mechanisms outlined in the first three parts, *in the fourth part* the author tries to provide solutions for improving the existing situation based on his arguments and ideas regarding state role, redistribution, health, education and pensions.

Many left-wing observers denounce and regret the absence of an increase in the state's importance in the economy and accuse the market economy, underlining that, following the economic crisis of 1929, there have been radical changes in fiscal and budgetary policy that have led, for example, to the application of a almost confiscatory tax (with a rate of more than 80%) on excessively high incomes. Piketty rejects this idea, claiming that today the state's share in the economy is much higher than it was at that time, through the emergence of complex systems of education, health and pensions.

On the other hand, there are forces demanding a drastic reduction of the state's role in the economy, the dismantling of central banks and the preservation of truly important functions, those related to citizens' safety and property guaranteeing.

In the author's view, the two views, anti-market and anti-state, both have their own part of the truth in the sense that it is necessary to invent new tools that will allow the resumption of control over wild financial capitalism, and, at the same time, to renew and deeply and continuously modernize the taxation and spending systems that are the essence of the modern social state, sometimes difficult to understand and apply.

As far as redistribution is concerned, this is built around a logic of rights and a principle of equality of access to a certain number of goods considered fundamental. Throughout society, rights have expanded from the right to contract, and the right to be equal in front of the markets, to the right to education, health, retirement, and could further extend to the right to culture, own home or free traveling. The author believes that fundamental rights and material advantages must be extended to everyone's reach, if they confer an advantage to those with fewer rights and opportunities. "To the extent that the inequality of living conditions is caused, at least in part, by some factors that individuals do not control, such as the inequality of family endowments (inheritance, cultural capital, etc.) ... then it is fair for the government to try to decrease as far as possible these inequalities of condition."

In order to secure these rights, one of Piketty's solutions is the rethinking of progressive income tax, the most important tax breakthroughs of the twentieth century, in the sense of applying it to global income (sum of labor income, salaried and non-salaried, and income from any kind of capital: rents, interest, dividends, profits or even surplus value).The motivation of this approach is that taxation is not a technical matter, but rather a political and philosophical one, which contributes to achieving a common destiny and a joint capacity to act. Taxation gives citizens the opportunity to choose democratically the resources they want to allocate to their joint projects, such as education, sustainable development, pensions, infrastructure, etc. The objective is to determine who and what to pay, and for whose principles.

Another way to regulate the 21st century patrimonial capitalism is the introduction of a global and progressive capital tax, accompanied by the establishment of international financial transparency, technically feasible in the contemporary world. The author’s hope would be that the introduction of this tax would avoid an endless spiral of inequality, as well as the effective regulation of the worrying dynamics of the global concentration of wealth.

Even if the global capital tax is an utopia, even in the author's conception, this utopia is useful because it is important that this landmark exists in our minds, and because, in the absence of a solution of this nature, it is likely that different forms of national refolding to reappear, such as various options of protectionism and capital control (a visionary idea from the author). In his opinion, "the main role of the capital tax is not financing the social state, but the regulation of capitalism", trying to avoid an unequal spiral and the expansion of wealth inequalities, as well as the effective regulation of the financial and banking crises.

Moreover, there are two ways of thinking that justify the need for a global capital tax: a contributory one and an incitement one. Contributing logic results from the fact that income is, in practice, a concept not always well defined for people with very large wealth, and the fact that only direct capital taxation allows a correct appreciation of the contributing capacity of the possessor of an important fortune. Incentive logic is based on the fact that a progressive tax on capital can force heritage owners to get the best return from it, forcing those who use their assets in an unappropriated way to sell them gradually in order to pay their taxes and to convey them others, more dynamic.

In order to give it a practical side, Piketty proposes the establishment within the European Union of a progressive annual capital tax, permanently applied, whose rates are necessarily relatively moderate and has four thresholds: 0.1% for wealth smaller than € 200,000, 0.5% for € 200,000 to € 1 million, 2% for those between € 1 million and € 5 million, and over 5% for assets over € 5 million. Thus, the returns from the progressive capital tax would amount to 3-4% of GDP, compared to 1-2% of land taxes, which they would replace.

The capital tax would also be the best solution, of the three advanced ones -the other two being inflation (which strikes the most in those that the state wishes to protect by reducing the incomes and reserves held) and austerity (the worst in terms of social justice and efficiency)- for the biggest European problem today: the huge public debt. Its solution would be to apply an exceptionally progressive tax to private capital (averaging 1.5% of the value of capital) over a period of about ten years, which would lead to the elimination of public debt.

Finally yet importantly, we consider as very adequate the author's idea of thinking the economy as a sub disciplinary of social sciences, along with history, sociology, anthropology, political science and so on. He considers the expression "economic sciences" very arrogant, leaving the belief that the economy has reached a superior and specific scientific level distinct from that of social sciences. Therefore, he prefers the expression "political economy", even if he is slightly out of date, because he has the merit of illustrating his political, normative and moral orientation.

The author condemns the so-called scientific methods used by a large number of economists, methods based on a useless use of mathematical models, which is often an excuse for lack of ideas. He also believes that it has been lost too much energy for purely theoretical speculation without having clearly defined the economic facts they explain or the social or political issues they can solve. This does not mean that these methods cannot be very useful if they are used with moderation and discernment, in guiding a part of this profession into practical questions or testing certain theories formulated earlier.

2. Reactions to the book

Considering the contribution of this book at filling (many) empty spaces in the evolution of income, wealth and inequality over such a long period, corresponding to a large number of countries (the most important work of its kind after the book of Simon Kuznets, Economic Change, published in 1953, the continuation of which is intended to be, but only in the sense of collecting data on inequality), it was natural for it to have praiseworthy views on this labor, so laborious, both from left-wing economists, as well as those on the right.

For example, Robert Solow, Nobel laureate for economics in 1987, wrote about *Capital in the 21st Century* in *The New Republic*[6]: “This is a serious book… Piketty’s main point, and his new and powerful contribution to an old topic: as long as the rate of return exceeds the rate of growth, the income and wealth of the rich will grow faster than the typical income from work... This interpretation of the observed trend toward increasing inequality... is not rooted in any failure of economic institutions; it rests primarily on the ability of the economy to absorb increasing amounts of capital without a substantial fall in the rate of return. This may be good news for the economy as a whole, but it is not good news for equity within the economy… There is yet another, also rather dark, implication of this account of underlying trends. If already existing agglomerations of wealth tend to grow faster than incomes from work, it is likely that the role of inherited wealth in society will increase relative to that of recently earned and therefore more merit-based fortunes… The arithmetic suggests that the concentration of wealth and its ability to grow will favor an increasing weight of inheritance as compared with talent… If the ownership of wealth in fact becomes even more concentrated during the rest of the twenty-first century, the outlook is pretty bleak unless you have a taste for oligarchy… Wouldn’t it be interesting if the United States were to become the land of the free, the home of the brave, and the last refuge of increasing inequality at the top (and perhaps also at the bottom)? Would that work for you?”

Paul Krugman, also a winner of Nobel Prize for Economics, had very favorable comments on Mr. Piketty's book in his article *Why we are in a new gilded age* in the New York Times[7]. Krugman believes that this book appeared at the right time, when the concentration of wealth and income in the hands of few people became a major political issue, providing valuable documentation and an unparalleled historical depth. The book also provides a solution to the issue of increasing inequality: applying public policies to reversing trends. Moreover, this book "has transformed our economic discourse; we will never talk about wealth and inequality as we used to".

As mentioned before, an Austrian school economist, Deirdre Nansen McCloskey, has a favorable reaction (among many other unfavorable ones) in his essay *Pessimism measured, unmeasured, wrongly measured and unjustified: an essay on the Capital of*

[6] https://newrepublic.com/article/117429/capital-twenty-first-century-thomas-piketty-reviewed
[7] https://www.nybooks.com/articles/2014/05/08/thomas-piketty-new-gilded-age/

Thomas Piketty[8]. She believes that Mr. Piketty's work will attract many young people interested in studying the history of the economy, one of the few quantitative branches of the economy in which economists look at facts, contrary to the case of current macroeconomics, trade theory, or industrial organization.

In addition, the book provides an example of good practice in the study of the past, not using the analysis of statistical regression in the processing of data collected by someone else, nor statistical significance tests when analyzing the link between, for example, the rate of taxation and economic growth. Also, McCloskey specifies that the book does not use other theories rejected by the Austrian school, the theory of non-cooperative games and the theory of general equilibrium. Another commendable thing is that Piketty builds or uses statistics of aggregate capital and inequality, then subjecting them to examination, similar to physicists who make experiments and then make observations on them.

James K. Galbraith, an another recognized expert in the economic inequality and coordinator of the University Texas Inequality Project (UTIP), believes that Piketty's theory consisting in capitalism's general tendency to generate increased inequality based on income from financial assets (this income’s interest rate) r is not very clear[9], for two reasons.The first is that the taxation of the interest income reduces the difference between r and g, while the consumption of interest income can reduce the degree of accumulation of long-term imbalances. The second is that inequality $r > g$ is not true for the most part of the 20th century, at least between 1914 and 1980, with income tax being introduced on a large scale during this period, while interest rates have entered under the jurisdiction of national banks, being influenced by them. Thus, not only the aforementioned relationship is not verified during this period, but it has not even increased the level of inequality in the countries that form the main subject of study, on the contrary. The hypothesis that there is a long-term trend requires faith in the return of the conditions of the nineteenth century and the 21st century. Secondly, Piketty’s second fundamental law of capitalism, according to which a higher rate of savings by the rich people is an advantage over others, increasing their income at a higher rate, suffers from the same drawback: taxes and inflation can lower the value of the accumulated wealth compared to new earnings, history often demonstrating this.

Similarly, Acemoglu and Robinson in their article *The Rise and Fall of General Laws of Capitalism*[10] first argue that there is no inexorable law of capitalism, with the exception of accounting identities. Then, based on data gathered from two countries, Sweden and South Africa, they believe that although inequality is too weak to convince someone who is not already convinced of its long-term truthfulness, the book may be a starting point for other researches, due to its valuable results.

Another criticism of Mr. Piketty's book is raised by French economists Bonet, Bono, Chapelle and Wasmer in the article *Does housing capital contribute to inequality? A comment on Thomas Piketty's Capital in the 21st Century*[11] and refers to the inappropriate use of house prices as a quantification of wealth, suggesting instead the use of rent prices that would lead to a lower capital / income ratio in the period following the Second World

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8 https://www.deirdremccloskey.org/docs/pdf/PikettyReviewEssay.pdf
9 https://archive.intereconomics.eu/downloads/getfile.php?id=977
10 https://economics.mit.edu/files/11348
11 http://spire.sciencespo.fr/hdl:/2441/30nstiku669glbr66l6n7mc2oq/resources/2014-07.pdf

War, but keeping the trend. This would contradict Piketty's idea that patrimonial inequality would be self-reliant.

The economist Gregory Mankiw, professor at Harvard University, using the neoclassical model of economic growth, demonstrates in his article *Yes, r > g. So What?*[12] that the force of fundamental divergence enunciated in the book does not necessarily lead to the increase of inequality, even if the expression is true. In addition, even if inequality decreases by applying a global (or European) capital tax, it will also reduce economic growth.

In their article *Capital Taxation in the Twenty-First Century*[13], Auerbach and Hasset professors recalculate the value of *r*, introducing the risk premiums built-in in asset prices, which would reduce it even below the growth rate of the economy. Regarding the introduction of capital tax, the two authors argue that in the literature there is almost a consensus on the higher efficiency of taxation of capital consumption to reduce inequality.

These criticisms have not remained without echoes for Mr. Piketty, which, in the article entitled *About Capital in the Twenty-First Century*[14], attaches greater importance to the effects of institutional change and political shocks on the level of inequality than the effects of the $r > g$ inequality. He also continues to claim the applying of a progressive tax on capital at the expense of a consumption tax because, in its view, the former is more easily defined, measured and tracked.

3. Conclusions

The paper analyzed in this article represents a mandatory object in the arsenal of an economist who wants to understand the world in which we live, the contributions of the book studied to the history of the formation and distribution of income and capital being remarkable, representing a pioneering in the field. Moreover, the book is the result of more than 10 years of work made by dozens of researchers who have built substantial databases on the structure of individual and national wealth, national income, as well as the evolution of income and wealth distribution in over 20 countries and over two hundred years.

The first three parts of the paper introduce, with few exceptions, fundamental notions and phenomena for the study, serious and politically independent, of the evolution of the inequality’s level over time, which can be taken over by any other interested researcher, especially since the results of all researches the group led by Mr. Piketty are available online for anyone who desires.

In the fourth part, the author uses these data to justify the introduction of certain measures to reduce the inequalities deemed necessary by him. This approach seems to me subjective and partisan, and I will try to explain why.

First, the need for state intervention to mitigate inequalities is justified, we believe, by the fear of the outbreak of revolutions, the author making analogy with Marx's era in which capitalists accumulated very high fortunes, and the standard of living of workers remained below the level of subsistence. The approach of some bad times (strictly from this point of view) is unlikely for at least two reasons: the overall economic situation of all citizens from the developed countries has improved considerably (their living standards

[12] https://scholar.harvard.edu/files/mankiw/files/yes_r_g_so_what.pdf
[13] https://www.aeaweb.org/conference/2015/retrieve.php?pdfid=421
[14] http://piketty.pse.ens.fr/files/PikettyAER2015.pdf

being much higher than that of the rich persons in Jane Austen’s or Honoré de Balzac’s novels), and the rich are no longer a subject of the hatred of underprivileged classes, although envy has not disappeared and will not disappear from the arsenal of human feelings, but rather become a model to follow. In other words, they no longer have to be stripped of wealth, but just imitated. We think that the dangers that can lead to the dissolution of the world, otherwise imperfect, in which we live, are different, besides wasting natural and human resources and environmental destruction, nationalism and populism being more present and more acute in our lives.

Secondly, as the author himself notes, "the dynamics of wealth distribution engage strong mechanisms that alternately push towards convergence and divergence." In addition, the unpredictability of historical events that may have unsuspected effects on the level of inequality (see great world wars that destroyed wealth in a non-discriminatory way and economic crises that have led to the invention of inequality-reducing methods) make us reserved when we have to predict a trajectory of income and wealth inequality.

Another example of historical unpredictability is "creative destruction" in business, where some sectors (financial, ICT) are experiencing an unprecedented development, while others are moving towards a visible eyesight bankruptcy (traditional production industries). We believe that the general rise of inequality was also generated by the fact that a handful of new capitalists are the winners of this process, while a larger group (as well as their employees) has been eliminated, not to mention that the former represent the new components of the higher income centiles, replacing the latter.

Ultimately, two things are very important: the moral side of the building process of the individual and common good in the long run, and the degree of adherence of most citizens to this theoretical construct. This happens because, as we have seen in this book, what is today considered a desideratum of society, may become a hindrance for tomorrow's golden dream of mankind, whatever it is, and vice versa.