Piketty or Marx?

Capital in the Twenty-first century: a fundamental criticism

James Miller, 2019

Preliminary remarks

Thomas Piketty's book, *Capital in the Twenty-first Century,* made a big splash among economists and the major media when it was released in 2013. Weighing in at over 750 pages, and with several appendices, it gave the appearance of being a solid piece of work. It shot to the top of the best-seller list of Amazon.com, the *New York Times* and the *Wall Street Journal.* It received many glowing reviews, and some critical ones. It seemed to focus on the growing gap between the rich and the poor, and offered a remedy. The problem with the book is that, in terms of its analysis of capitalism, it offers nothing new, and in terms of the remedy, there's nothing new there either. By 2018 the hullaballoo had long since subsided, and millions of copies of Piketty's book, perhaps partly read or leafed through, had been quietly set aside.

But, given that Piketty had called his book *"Capital …"* it led some to believe that, at last, here was book that could be regarded as an answer to that old, long-repudiated, yet not quite forgotten *"Capital"* of yesteryear, the one by Marx, published in 1867. But this, too, proved to be a forlorn hope, since Piketty decided not to say much about Marx's theories. But perhaps, at any rate, this is the occasion to compare the two *Capitals,* Piketty's and Marx's. So that's the task before us in this essay. Naturally, the reader cannot expect a full explanation of Marx's views, but are many thumbnail sketches of Marx's ideas included here, as well as a selection of relevant quotes from his works. These will have to serve the purposes of this essay. For a more complete understanding it's good to go to the source, and read *Capital*.

Accumulation

Piketty begins with the question: "do the dynamics of private capital accumulation inevitably lead to the concentration of wealth in ever fewer hands, as Karl Marx believed in the nineteenth century?" Of course, he recognizes that the concentration of wealth in ever fewer hands has already advanced considerably in the capitalist world. But what Marx was explaining was **not** "*whether* private capital accumulation would inevitably lead to the concentration of wealth in ever fewer hands." Marx recognized that such a process *had already taken place* in the development of capital, and would continue. He wanted to explain how and why this had developed. Marx also explained why it would turn out, in the long run and in the final analysis, that such a process would *run up against an insurmountable barrier*. What Marx provided was the answer to why capital accumulation, and the concentration of wealth in ever fewer hands, had become a powerful social force, increasingly determining the fate of billions of human beings.

Indeed, Marx explained it, but Piketty's book does not. If an economist sets out to analyze the concentration of wealth or inequality of wealth, he or she should begin at the beginning: how did it get started in the first place? And what is it that keeps it going? This way we will have a better idea of what we are talking about. (By the way, Piketty does provide historical material, which, for many, will appear to satisfy the need to explain the origins of wealth accumulation. We will examine this below.)

Today most people are aware of this continuously growing gap between wealth and poverty. The growth of inequality in the world today, whether between nations or between classes, has elicited widespread commentary and alarm, including from Piketty, who indeed, documents it, quantifies it, and feels the need to do something about it. But he does not attempt to explain how it all got started. Having mentioned Marx in his Introduction he gives the impression that he knows something about Marx's theories. The reader who expects Piketty to provide a sketch, or summary, of Marx's thinking on the topic will be disappointed. None of this appears in his book. It is probable that he has familiarized himself to a certain extent with Marx's main economic work, *Capital*. In Volume I of that trilogy we find

Chapter 25, "The General Law of Capitalist Accumulation," wherein Marx indicates what drives accumulation:

> The law of capitalistic accumulation, metamorphosed by economists into pretended law of Nature, in reality merely states that the very nature of accumulation excludes every diminution in the degree of exploitation of labour, and every rise in the price of labour, which could seriously imperil the continual reproduction, on an ever-enlarging scale, of the capitalistic relation. It cannot be otherwise in a mode of production in which the labourer exists to satisfy the needs of self-expansion of existing values, instead of, on the contrary, material wealth existing to satisfy the needs of development on the part of the labourer.

The capitalists abhor any mechanism that interferes with the expansion of the values they maintain as their property. Marx points to the exploitation of labor as a means to achieve "the needs of self-expansion of existing values." If we limit ourselves, for the moment, to the assumption that capital is the property of the capitalist, then it is *this* capital Marx is talking about. It is existing value in the hands of the capitalist (any member of the capitalist class), and this capital must expand itself to satisfy his needs. If it does not expand, he eventually finds himself on the breadlines (or at least at the unemployment office). Another way of looking at it is that the capitalist is the personification of the capital that is his property. The capitalist, as an individual, finds himself immersed in social relations that he himself did not create, but were already established before he was born, and in order to become a full-fledged capitalist he must step into a role that stands ready-made for him. For the most part, that means the young people of capitalist families assume the roles of their parents. (Piketty also dwells on this topic.) Marx pointed to the relationship of the capitalist to his capital:

> But, so far as he is personified capital, it is not values in use and the enjoyment of them, but exchange-value and its augmentation, that spur him into action. Fanatically bent on making value expand itself, he ruthlessly forces the human race to produce for production's sake; he thus forces the

> development of the productive powers of society, and creates those material conditions, which alone can form the real basis of a higher form of society, a society in which the full and free development of every individual forms the ruling principle. (*Capital,* Vol. I, Chap. 24)

Note that Marx points to the long-term consequence of the growth of capital accumulation as the “real basis of a higher form of society.” We shall return to this theme later. But while enmeshed in capitalist relations of production, these “masters of the universe” are in reality prisoners of their own wealth; the rulers turn out to be the ruled, not by others, and not by their own desires, but by the *social straitjacket that has been fastened around their lives*. Driven to expand the value of their property, the owners of capital become permeated with the all-encompassing compulsion that is the nature of capital, their own property.

And thus, the capitalist cannot avoid exploiting labor power to the highest degree possible. His own imprisonment clamps an even more oppressive vise on the lives of the exploited wage laborers. The reality of everyday life in capitalist countries illustrates this: from India to Canada and from Belgium to Thailand, the boards of directors and the executive leadership of corporations ceaselessly search for ways to improve the return on investment for the company and for the shareholders. They employ armies of economists, accountants and planners to realize this end. They employ police and guards to keep the workers in check. They lengthen working hours, accelerate the pace of production and lower wages as they seek to expand the company, to maximize the return on investment. Marx argues:

> Use-values must therefore never be looked upon as the real aim of the capitalist; neither must the profit on any single transaction. The restless never-ending process of profit-making alone is what he aims at. This boundless greed after riches, this passionate chase after exchange-value, is common to the capitalist and the miser; but while the miser is merely a capitalist gone mad, the capitalist is a rational miser. The never-ending augmentation of exchange-value, which the miser strives after, by seeking

> to save his money from circulation, is attained by the more acute capitalist, by constantly throwing it afresh into circulation (*Capital,* Vol. 1, Chap. 4).

Piketty, distinguished Centennial Professor at the London School of Economics, would not likely be comfortable using such irreverent terminology to describe the motives of the captains of industry, although he is certainly familiar with the concept of the "maximization of return on investment." As he explains on p. 267,

> A capital market is said to be "perfect" if it enables each unit of capital to be invested in the most productive way possible and to earn the maximal marginal product the economy allows, if possible as part of a perfectly diversified investment portfolio in order to earn the average return risk-free while at the same time minimizing intermediation costs.

Of course Piketty goes on to explain that through careful cost-accounting the master of production manages to work out the optimal ratios of capital to labor in the successive cycles of investment. Piketty never hints at any other motive than the maximum profit. He also points to the "imperfections" in market systems, and how capitalists often find themselves obliged to resort to "creative accounting" to achieve the sought-after maximization. Search as you will you will not find Piketty pointing to any other motive than the accumulation of wealth, and not just accumulation at a leisurely pace, but at the highest possible pace. In this he confirms the impressions of millions of people, and at the same time fails to differentiate himself from Marx's more forthright characterizations of just what kind of person is Mr. Moneybags.

Accumulation of Capital

Piketty has familiarized himself to some extent with Marx's analysis of productivity and the concentration of capital. However, he doesn't want to overtly contradict central positions that Marx elaborated in *Capital.* As for the accumulation of wealth into ever fewer hands, first we have to consider, in the words of Marx, the technological basis for the concentration of the means of production:

> In Part IV, it was shown, how the development of the productiveness of social labour presupposes co-operation on a large scale; how it is only upon this supposition that division and combination of labour can be organised, and the means of production economised by concentration on a vast scale; how instruments of labour which, from their very nature, are only fit for use in common, such as a system of machinery, can be called into being; how huge natural forces can be pressed into the service of production; and how the transformation can be effected of the process of production into a technological application of science. ... Everywhere the increased scale of industrial establishments is the starting point for a more comprehensive organisation of the collective work of many, for a wider development of their material motive forces — in other words, for the progressive transformation of isolated processes of production, carried on by customary methods, into processes of production socially combined and scientifically arranged (*Capital,* Vol. 1, Chap. 25).

It is pretty well recognized nowadays that production on a large scale allows for the realization of economies of scale. It allows for a more finely subdivided division of labor, for the most expeditious introduction of new productive methods and technology, and for the most rational allocation of the workforce to the tasks of production. But once we have a grip on these features of capitalist evolution, we should sit back and address the question of capitalism as a unique and distinctive system of social relations. How did it all get started in the first place? It exists as a part of history, and once its origin is explained, it can be clearly demarcated from previously existing systems of social relations. But Piketty does not do this; he avoids making distinctions between capitalism and previous forms of society.

In the Middle Ages in Europe feudal social relations prevailed, but that began to break down in the 16th century. Early forms of capitalism slowly evolved out of the pre-capitalist environment in Europe, then developed more rapidly in the 17th century, and then, in the late 18th century, with the industrial revolution, it took off with explosive speed. The early phase of capitalist development, viewed from the standpoint of production for the market, witnessed the growth of manufacturing from small workshops to larger factory operations. This occurred as merchants increasingly invested their profits in the workshops, mines and other productive operations. The capitalists, as managers of industrial processes, quickly learned how to acquire the most modern tooling, machinery, and productive methods they could find, and repeated cycles of modernization and upgrading of equipment were institutionalized. The capitalists, acutely aware of the new discoveries in science and technology, promoted these discoveries. This process provided an ever-improving foundation for the amassing of profits on an expanding scale. And of course, there is the question of the broad-based organization of this increasingly integrated, complex industrial edifice on a national and international scale. Marx again:

> Hand in hand with this centralization, or this expropriation of many capitalists by few, develop, on an ever-extending scale, the cooperative form of the labour process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labour into instruments of labour only usable in common, the economizing of all means of production by their use as means of production of combined, socialized labour, the entanglement of all peoples in the net of the world market, and with this, the international character of the capitalistic regime (*Capital,* Vol. 1, Chap. 32).

The gradual building up of a socialized productive apparatus is a great achievement in human history. In this way, capitalism has prepared the ground for a higher mode of production that will supersede it and build on its successes. With socialized production already achieved, the associated producers can utilize this as a foundation for consciously eliminating the inhuman atrocities caused by the dominion of the propertied ruling class, and can go ahead to form new humanized social relations. Today, more people than ever before recognize that production should be directed to serve human needs, not subordinated to the profit interests of the private owners of capital.

Inequality

Piketty continues, "Modern economic growth and the diffusion of knowledge have made it possible to avoid the Marxist apocalypse but have not modified the deep structures of capital and inequality—or in any case not as much as one might have imagined in the optimistic decades following World War II" (p. 1). Perhaps he should have said that this "apocalypse" has been avoided so far—the future of capital remains open for a range of possible outcomes. And in fact, this open future is his main concern. Furthermore, Marx's vision was not apocalyptic at all, but one of a future society that would make the wealth produced by workers available to all, thus ending poverty, and at the same time liberating the capitalists from the degrading enslavement to their own property.

Marx's writings became widely popular among literate working people in the 19th and 20th centuries, *not* because he predicted an "apocalypse" but because he inspired the struggle of working people for a future social order that would inscribe on its banner: "from each according to his ability; to each according to his needs." And it must be pointed out that, with all the much-touted glories of private ownership and the free market system, the propagandists of private wealth do not attempt to make the claim that capitalism will provide a good life for all, but rather that capitalism will provide a level playing field in which the more "talented" can rise to the top, leaving others behind. (And of course, the so-called "level playing field" never existed under the dominion of capital.)

Marx thought that the evolution of capitalist production would create the basis for overcoming the dog-eat-dog capitalist system and thus do away with the divisive competition among the workers. Instead of fighting each other, whether in the job market or in the wars between nations, workers can and do forge bonds of solidarity and mutual aid. We should add that within capitalist society various forms of social insurance, medical insurance and unemployment compensation have been developed, to a greater extent in the economically advanced capitalist centers. These have come about as the consequences of the advances provided by science, together with the struggles of working people, demanding a greater share in the wealth produced by their labor. The average level of wage and benefit compensation increased spasmodically throughout the 19th and early 20th centuries, until it began to stagnate in the 1970s throughout in the advanced capitalist countries. All these forms of social collaboration and mutual support can serve as starting points for an expansion of benefits for all in the society of the future.

Piketty is concerned about the quality of public discourse around these critical social issues, saying: "intellectual and political debate about the distribution of wealth has long been based on an abundance of prejudice and a paucity of fact." And it is to his credit that he makes this observation. But whence comes all this prejudice—now that the science of economics has been developing for more than 200 years? How is it that Alan Greenspan, former Chairman of the Federal Reserve, at one time considered to be one of the most responsible and knowledgeable guardians of capitalist wealth, could be so far off course as to act as cheerleader to the toxic assets bubble in the period preceding the 2008 crash? He was able to concede there was a distressing "flaw" in his thinking, as he stated in his testimony to a congressional committee under the chairmanship of Representative Henry Waxman in 2008:

> "You had the authority to prevent irresponsible lending practices that led to the subprime mortgage crisis. You were advised to do so by many others," said Representative Henry A. Waxman of California, chairman of the committee. "Do you feel that your ideology pushed you to make decisions that you wish you had not made?" Mr. Greenspan conceded: "Yes, I've found a flaw. I don't know how significant or permanent it is. But I've been very distressed by that fact." (*Atlantic* magazine, March 11, 2009) https://www.theatlantic.com/politics/archive/2009/03/the-evolution-of-alan-greenspan/1403/

I'm sure many of us feel Mr. Greenspan's distress. Perhaps we should feel even more concern about the uselessness of Congressman Waxman's committee. It turned out that Greenspan was perhaps the most authoritative acolyte worshipping at the altar of the "efficient market hypothesis," which is just the sort of prejudice

Piketty is talking about. (See http://www.investopedia.com/terms/e/efficientmarkethypothesis.asp) So when it comes to “an abundance of prejudice and a paucity of fact,” it's not only a matter of the “intellectual and political debate,” it's a question of the beliefs and practices of those who hold the reins of the economic institutions of the modern capitalist state. These are the people whose decisions are no more than a smokescreen for their impotence in the face of market pressures that determine the fate of billions of workers around the world.

The prejudice that Piketty deplores is, to a greater or lesser degree, characteristic of all modern capitalist economic thinking, including Piketty’s own. Modern bourgeois economics has developed in the shadow of a capitalist ruling power, and has adopted the world-view and habits of thought of this class. Its mission is to provide authoritative support to the notion that capitalism is the only possible economic system in which all the individuals within the world's population can seek and find material satisfaction. This pro-capitalist economic theoretical tradition grew throughout the 19th century, breaking away from the scientific works of Smith, Ricardo and Marx, and then disintegrating into a variety of conflicting schools of thought with a range of scientific-seeming explanations for the continuing social and economic success of modern capitalism, as well as for its panics and crises. But all of these schools of thought developed the notion that capitalism is the permanent mode of existence of modern society, and because of this there can be no fundamental challenge to the social and political dominance of the capitalists, whom they refer to as "investors," “business leaders,” “shareholders,” etc. Marx explained why, after Ricardo, there was a departure of bourgeois political economy from scientific inquiry:

> In France and England, the bourgeoisie had conquered political power. From this time on, the class struggle took on more and more explicit and threatening forms, both in practice and in theory. It sounded the knell of scientific bourgeois economics. It was thenceforth no longer a question whether this or that theorem was true, but whether it was useful to capital

> or harmful expedient or inexpedient in accordance with police regulations or contrary to them. In place of disinterested inquirers there stepped hired prizefighters, in place of genuine scientific research, the bad conscience and evil intent of apologetics (*Capital*, Vol. 1, Afterword to Second German Edition).

Value

The illusion that capitalist property relations brings prosperity to the masses clashes with the reality that the mass of the working population is subjected to oppressive conditions of life and labor. This discord between image and reality necessitated that the economists develop an elaborate cover-up, a socioeconomic ideology that flatters the capitalists and applauds their vital role in economic life, but at the same time camouflages their dominant political role, making it seem like economic issues are resolved through a democratic decision-making process. But economic analysis, if it is to be a scientific endeavor, must reject the biases that result from submissiveness to the ruling class. It must objectively examine the root causes, the "internal relationships," the underlying currents, that produce the day-to-day events of economic activity. To develop the theories that explained these forces, classical political economy, as Marx said, beginning with William Petty (1623–87), needed to comprehend basic elements, for example, value. What is value? Is it a thing, a quality, or a social relationship? How does money relate to value? What is production? What is exchange? How did these things develop? What determined the course of evolution of human societies from one stage to the next? What is capital? What is profit, rent, interest? Marx familiarized himself with world history and the history of economic thought, and made reference to the attempts in ancient society to arrive at a definition of value. Value appeared initially, in ancient Greece, as a question of how one should estimate the exchange ratios of two different products of labor. Marx singled out the efforts of Aristotle in this regard:

> In the first place, he clearly enunciates that the money form of commodities is only the further development of the simple form of value—i.e., of the expression of the value of one commodity in some other commodity taken

> at random; for he says:
>
> 5 beds = 1 house – (*clinai pente anti oiciaς*)
>
> is not to be distinguished from
>
> 5 beds = so much money. – (*clinai pente anti ... oson ai pente clinai*)
>
> He further sees that the value relation which gives rise to this expression makes it necessary that the house should qualitatively be made the equal of the bed, and that, without such an equalisation, these two clearly different things could not be compared with each other as commensurable quantities. "Exchange," he says, "cannot take place without equality, and equality not without commensurability" (*Capital*, Vol. 1, Chap. 1).

As for commensurability, indeed the house and the beds have something in common, they are both the products of human labor. We recognize that human labor can be directed to a variety of useful purposes, but all products of human labor that enter into exchange, whether for money or as barter for other products, can be understood as representing varying quantities of human labor in the abstract. Abstract human labor is labor considered as labor in general, measured in units of time, without regard for its specific useful effect. The quantity of labor that serves as measure of value is determined by the time required for producing any given object, under normal conditions. The house can be exchanged for five beds because an equal amount of labor time is expended for the house as for the five beds (assuming Aristotle had the ratio right).

Marx pointed out that Aristotle was not able to identify human labor in the abstract as the source of the commensurability of products in exchange.

> There was, however, an important fact which prevented Aristotle from seeing that, to attribute value to commodities, is merely a mode of expressing all labour as equal human labour, and consequently as labour of equal quality. Greek society was founded upon slavery, and had, therefore, for its natural basis, the inequality of men and of their labour powers (*ibid*).

In a slave society, the labor of a slave cannot be considered as equal to the labor of a free artisan. The product of the slave is stamped with servility. This does not mean that the law of value is null and void in slave society; only that the theoretical interpreters of social phenomena were unable to fully appreciate it as long as the slave system was the dominant social form. Marx further explained that as commodity exchange developed more systematically in the European early modern period, and as the labor of free artisans more and more predominated in the markets, it became increasingly possible to recognize abstract human labor as the basis for the value of commodities. As the exchange of commodities evolved, economic theorizing was revived around questions of exchange and money. Mercantile economy developed in the 17th century out of the struggle among different maritime nations to attract wealth to their shores, and this process led to a more advanced stage of the economic analysis of production and exchange in the 18th century—first in France with the Physiocrats (Quesnay), later in England with the work of Adam Smith. As the forms of social production and exchange evolved, the capacity of educated persons to recognize the meaning of these changes developed in accord with the changing social reality. The activities of production and exchange became increasingly regularized, and the patterns of workshop and marketplace interactions impressed themselves more systematically on the minds of the participants and theorists alike.

Piketty attributes to Marx a genuine scientific intent, but then runs into difficulty trying to define just what Marx was getting at. He says:

> In fact, his principal conclusion was what one might call the "principle of infinite accumulation," that is, the inexorable tendency for capital to accumulate and become concentrated in ever fewer hands, with no natural limit to the process. This is the basis of Marx's prediction of an apocalyptic end to capitalism: either the rate of return on capital would steadily diminish (thereby killing the engine of accumulation and leading to violent conflict among capitalists), or capital's share of national income would increase indefinitely (which sooner or later would unite the workers in

revolt). In either case, no stable socioeconomic or political equilibrium was possible.

Piketty says, in trying to explain what Marx meant, “capital's share of national income would increase indefinitely (which sooner or later would unite the workers in revolt).” If it really were to increase *indefinitely*, then there would be endless millennia of capitalist growth. But if it increases *until* it produces a workers' revolt, then the growth process falls short of infinity. But if it is going to produce a workers' revolt, why would that be? In the first place, why would capital's share keep increasing that way? What was it that supposedly made Marx come to that conclusion? In the second place, why would the workers revolt? What would be the cause of such a revolt? What would be the workers' motivation? Furthermore, have there ever been “workers’ revolts” in the past? If so, then why not take the opportunity to explain why they arose, and whether they had any connection to capital accumulation, and what they portend for the future?

Marx did not project an *indefinite increase* in capital, or in capital's share of national income. Marx analyzed the process of capital accumulation, and pointed out that it spontaneously generated a *barrier* to its continued self-expansion. This barrier developed hand-in-hand with the normal progress of the capitalist system itself. Like the life of any society, any biological species, any individual animal—as it develops it generates the processes that end in its extinction. But fortunately, the processes of reproduction give rise to successor societies, to daughter species, and to animal offspring. So life goes on. For capital, this self-extinguishing barrier expresses itself as *the tendency of the rate of profit to fall*. It is this tendency that produces ever more threatening economic crises, which then find their expression in social and political conflict. And, as Marx indicated, capital prepares the ground for a higher form of society.

If it were merely a question of workers’ revolts, then the problem would not necessarily be a failure of capitalism itself, but a failure on the part of the workers to tolerate this kind of capitalism—i.e., there's something wrong with the workers themselves—which is an explanation favored by many. But if it’s a failure of capitalism itself, then one can more readily understand that a workers' revolt is produced *as a result* of the failure of capitalism. But what does this mean? What kind of failure? What would bring it about? Of course, Piketty does not believe in the failure of capitalism—on the contrary, he believes in the immortality of capitalism, at least in principle. However, he does believe it is faltering, primarily as a result of growing inequality in income, and that it is his task is to explain how to patch it up or reinvigorate it. This is to be done, in part, through taxation (a theme he introduces later in the book).

The question of whether and how the workers will continue to tolerate the forms of exploitation to which they are subjected is an important theme that needs to be taken seriously. Suffice it to say that we have a wealth of historical material available to us that can greatly illuminate our knowledge of the modern class struggle. It's not a question of a hypothetical "workers' revolt," but of understanding how the ongoing workers' revolt, *in its many real forms*, has developed up to this point so that we can recognize how it can develop in the future. We are still in the midst of an ongoing process, which not only involves the faltering, flagging and stagnation of capital's reign, but the growth of the worker's resistance, unity and strength.

Then there is the other side of Piketty's characterization of Marx's analysis, that "the rate of return on capital would steadily diminish (thereby killing the engine of accumulation and leading to violent conflict among capitalists)." Yes, Marx did predict a decline in the rate of return on capital, as already noted. As for the violent conflict among the capitalists, if by this Piketty means destructive imperialist wars with the goal of destroying the power of rival nations to protect the position of the capitalists of each individual country, we have already witnessed this taking place several times, regardless of what Marx might have said on the topic: the colonial wars in the 18th century, the Spanish-American war, WWI, WWII, Vietnam and the Mideast. Again, Piketty speculates on the *possibility* of "violent conflict among the capitalists," without mentioning these *actual* wars. But perhaps Piketty is thinking of different form of "violent conflict among the capitalists," of cutthroat competition, cheating, bribing, insider trading, Ponzi schemes and fraudulent practices. Needless to say, we have seen plenty of that. Special luxury prisons are set up to house the capitalists whose crimes against their competitors have gone too far. Instead of worrying about the "violent conflict" of the future, we should be saying, yes, we see the wars, we see the cutthroat competition, we see the criminality—but Piketty doesn't feel that he, as an award-winning Harvard economist, bears the responsibility of explaining why the world has come to be this way. Better to approach these ugly realities as if they were future possibilities.

In order to drive the wedge deeper between himself and Marx, Piketty reiterates, "Marx's dark prophecy came no closer to being realized than Ricardo's. In the last third of the nineteenth century, wages finally began to increase: the improvement in the purchasing power of workers spread everywhere, and this changed the situation radically, even if extreme inequalities persisted and in some respects continued to increase until World War I." Piketty seems to be saying, Marx made a prediction, it didn't come true, capitalism thrived, the workers thrived—what a relief it is to relegate Marx's "dark prophecy" to the archive of failed theories—to the dustbin of history!

But the last third of the nineteenth century, here singled out by Piketty, witnessed some of the most massive and dramatic class struggles in the history of capitalism. The workers of North America and Europe built powerful trade unions that developed the practices of workers' solidarity, striking again and again as they resisted the depredations of the robber barons and other exploiters. The U.S. Civil War, which emancipated the slaves, is the foundation stone for labor in subsequent years in the U.S.: the strike battles of 1877, the organization of the miners, the union fights of the rail workers, steel workers, miners and many others. In Europe the 1870 struggle of the workers of Paris that launched the Paris Commune established the first workers' government in the world. (See: *The Civil War in France,* by Marx.) The European workers not only forged labor unions, but also built the political parties that formed the First and Second Internationals. This process of workers' resistance and combativity led to the Russian Revolution of 1917.

Productivity of labor

Piketty again (p. 428): “Like his predecessors, Marx totally neglected the possibility of durable technological progress and steadily increasing productivity, which is a force that can to some extent serve as a counterweight to the process of accumulation and concentration of private capital.” This notion has some basis in reality. As accumulation proceeds, the prices of commodities consumed by workers are cheapened. This occurs as a result of the growth in the productivity of labor which lowers the amount of socially-necessary labor required to produce these consumer goods. But this by no means implies that the wage increases which enable workers to enjoy an improvement in their standard of living flow automatically from the cheapening of consumer goods. The employers always strive to maximize value of the commodities issuing from the production process. There is no way to calm their urge to increase the level of exploitation. The apocryphal story about Henry Ford giving his workers a raise so that they could all buy a new Ford automobile is often taken to mean that all employers are, or were, inclined to give raises to help workers provide for their needs. But an article on the early years of Ford Motor Co. in *Forbes* magazine (March 4, 2012) explains that,

> At the time, workers could count on about $2.25 per day, for which they worked nine-hour shifts. It was pretty good money in those days, but the toll was too much for many to bear. Ford's turnover rate was very high. In 1913, Ford hired more than 52,000 men to keep a workforce of only 14,000. New workers required a costly break-in period, making matters worse for the company. Also, some men simply walked away from the line to quit and look for a job elsewhere. Then the line stopped and production of cars halted. The increased cost and delayed production kept Ford from selling his cars at the low price he wanted. Drastic measures were necessary if he was to keep up this production.
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> That level of turnover is hugely expensive: not just the downtime of the production line but obviously also the training costs: even the search costs to find them. It can indeed be cheaper to pay workers more but to

reduce the turnover of them and those associated training costs. Which is exactly what Ford did.

We should recall that during the same period when Henry Ford was agonizing over his labor problems, John D. Rockefeller forced the mobilization of the Colorado National Guard to crush the striking miners in southern Colorado at Ludlow. As Ben Mauk wrote in the *New Yorker,* April 18, 2014,

> On April 20, 1914, members of the Colorado National Guard opened fire on a group of armed coal miners and set fire to a makeshift settlement in Ludlow, Colorado, where more than a thousand striking workers and their families were camped out. … Today, the Ludlow massacre, which Caleb Crain wrote about in *The New Yorker* in 2009, remains one of the bloodiest episodes in the history of American industrial enterprise; at least sixty-six men, women, and children were killed in the attack and the days of rioting that followed, according to most historical accounts.

In the same historical period, on March 25, 1911, a fire broke out at the Triangle Shirtwaist garment factory, killing 146 workers, according to a CBS report. The AFL-CIO website points out that,

> The next morning, throughout New York's garment district, more than 15,000 shirtwaist makers walked out. They demanded a 20-percent pay raise, a 52-hour workweek and extra pay for overtime. The local union, along with the Women's Trade Union League, held meetings in English and Yiddish at dozens of halls to discuss plans for picketing. When picketing began the following day, more than 20,000 workers from 500 factories had walked out. More than 70 of the smaller factories agreed to the union's demands within the first 48 hours.

And these conflicts are only some of the most noteworthy events occurring during one period in a century's long war between capital and labor. As has been pointed out, Piketty does not mention the brutal treatment of workers, nor the struggles of working people to achieve a better life. The harsh realities of the labor battles that Piketty prefers not to mention condemn his own book as a paean to a fantasy capitalism, rather than a serious look at capital's real historical record.

As for Marx's neglect of durable technological progress, in the first volume of *Capital* he explained not only the forces that drove the advancing productivity of labor, but also the technological and economic consequences of this progress. But in what way is "steadily improving productivity" a "counterweight to the process of accumulation and concentration of capital?" It is just the reverse. As the accumulated fixed capital builds up in machinery, buildings, tools, vehicles, and equipment, each productive unit operates with an increasing ratio of capital costs to labor costs. Purchases of all capital elements are allocated with the objective of attaining a perfect balance of the factors of production to avoid waste. Capital operates more and more in accordance with careful planning for each productive unit, often made in concert with suppliers and buyers, or with related corporate entities internationally. This process puts the directors and management of each company, or industrial combine, in the optimal position to achieve the highest levels of productivity by realizing economies of scale.

The biggest of the conglomerates in auto, aerospace, mining, petrochemicals, agribusiness, etc., have the best conditions to reposition themselves in international markets, to acquire and put into motion the latest technological innovations, to reorganize their productive units, and to reduce ever further their costs of production. With faster processing of raw materials and semi-finished goods, more material passes through the process per worker-hour, and the value added per worker-hour declines. This follows according to the general principles that apply to the realization of the benefits of economies of scale. These processes continue to reduce the labor time socially required to produce any given object of labor. As Marx explained,

> Production for value and surplus-value implies, as has been shown in the course of our analysis, the constantly operating tendency to reduce the labour-time necessary for the production of a commodity, i.e., its value, below the actually prevailing social average. The pressure to reduce cost-

> price to its minimum becomes the strongest lever for raising the social productiveness of labour, which, however, appears here only as a continual increase in the productiveness of capital (*Capital*, Vol. III, Chap. 51).

But Piketty has said that, "... steadily increasing productivity, which is a force that can to some extent serve as a counterweight to the process of accumulation and concentration of private capital." It is just the opposite. Increasing productivity of labor, or of capital (which is the same thing), accelerates the growth of the mass of capital under the command of its masters, diminishing the role of direct labor and stretching ever further the social distance between capitalist and worker. Increasing productivity is the engine of growth of private wealth accumulation.

Piketty seldom uses the phrase "productivity of labor" in his book, however, on p. 306, he says, "The increase in productivity, or output per hour worked, was even greater, because each person's average working time decreased dramatically …" Here he refers to "productivity of labor," which is what is generally understood by "productivity," although in bourgeois economics, this increase is explained using the marginal utility theory. But it is generally understood that the advance of productivity of labor goes hand-in-hand with the increasing ratio of capital costs to labor costs, so that in production more and more is laid out for machinery, tools, raw materials, etc., and proportionately less is spent on wages. The increasing productivity of labor is completely bound up with the accumulation and concentration of private capital. These are two sides of the same process. Increasingly there is more machinery per worker, more raw materials processed per worker hour. Marx stated it this way:

> This change in the technical composition of capital, this growth in the mass of means of production, as compared with the mass of the labour power that vivifies them, is reflected again in its value composition, by the increase of the constant constituent of capital at the expense of its variable constituent. There may be, e.g., originally 50 per cent. of a capital laid out in means of production, and 50 per cent in labour power; later on, with the development of the productivity of labour, 80 per cent in means of

production, 20 per cent in labour power, and so on (*Capital,* Vol. 1, Chap. 25).

Thus the accumulation of machinery at the expense of the living labor cannot help but increase output per worker hour, the very definition of productivity. This process of industrial productivity growth, far from being a "counterweight" to the accumulation and concentration of capital, as Piketty claims, is part and parcel of the same process. Piketty continues:

> Marx evidently wrote in great political fervor, which at times led him to issue hasty pronouncements from which it was difficult to escape. That is why economic theory needs to be rooted in historical sources that are as complete as possible, and in this respect, Marx did not exploit all the possibilities available to him. (p. 12)

Here we have two accusations that will appeal primarily to those who have not had the opportunity to examine Marx's work, or who are predisposed to dismiss Marx because of what they have heard about him and his ideas. In reality "fervor" comes naturally to any person who is seriously devoting time and effort to a scientific project and feels that they are on the right track. Whether an astrophysicist, biochemist, or social scientist, when a project, experiment, or investigation seems to correctly explain the observed facts, this can lead to elation, enthusiasm, passion, fervor. Passion is a word often used to describe the sentiments and motivations of someone involved in a creative and fruitful line of work. Marx was passionate about his work. He was deeply aware of the immense value of the ideas he was developing. He was confident that he was on the right track, and so far, history has demonstrated that he was. As for "hasty pronouncements," only Piketty, and not the readers of *Capital,* will be able to identify these.

Saying that "Marx did not exploit all the possibilities available to him" only serves to remind us of the differences in the investigative techniques between Marx and Piketty. Marx studied the history of the world which enabled him to recognize the different stages of social and economic history. Marx strove to get at a clear explanation of the underlying motive forces of capital's growth, as well as a recognition of the counterforces and obstacles that acted to retard, divert or modify course of evolution of the capitalist mode of production. Piketty, on the other hand, produces statistical tables and graphs and then speculates about what mysterious "forces" might have given rise to these accounting regularities.

World history

To explain capitalism, you need to begin at the beginning of human social organization. What was available to human groups at the early stages of social existence? How were they able to interact with each other and their environment in order secure their subsistence? How and why did they develop tools—and increasingly versatile tools? How did their social bonds and labor methods evolve? What kind of relations developed among them as patterns of behavior were developed that facilitated their survival and reproduction? Scientists involved in paleoanthropology, anthropology and archaeology have addressed these questions and continue to do so. This knowledge should be part of the education of a scientific economist. Other questions that must be addressed include the social division of labor and its development, industrial and agricultural production as they went through different stages and forms throughout history. How did exchange develop out of barter? What is a "commodity," and how did money emerge? How did money come to serve as the basis for the formation of capital? Everything that exists today has gone through a process of evolution. New generations don't remake the world anew, rather they are forced to deal the issues and problems of a world that came into existence before they were born. As Marx famously put it:

> Men make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past. The tradition of all dead generations weighs like a nightmare on the brains of the living. And just as they seem to be occupied with revolutionizing themselves and

> things, creating something that did not exist before, precisely in such epochs of revolutionary crisis they anxiously conjure up the spirits of the past to their service, borrowing from them names, battle slogans, and costumes in order to present this new scene in world history in time-honored disguise and borrowed language. (*The Eighteenth Brumaire of Louis Bonaparte*)

As for Piketty, there is nothing in his book to indicate whether he understands anything about these historical questions. But the fact remains that capitalism emerged from the feudal womb, the struggle between contending classes over property, resources and income grew hand in hand with the development of capitalism itself. Since capitalism emerged spontaneously, the rules governing the needs of capital had to be made and remade in the course of this historical development. In the early period more and more merchants and artisan masters, en route to becoming industrial capitalists, recognized their need to attain power and influence in the state, to have their needs met. They needed the state to facilitate the divorce between peasant labor and agricultural land, to satisfy the demand for factory labor. To maximize and secure their return on investments they needed power on the high seas to secure the mineral, land, slaves and other resources of the new world. For marketing and trade, they needed a sound national currency, a reliable system of weights and measures for commerce, secure guarantees of ownership of their land and movable property, etc. They needed as well the armies and police of the forces of law and order to enforce their interests at home and abroad. The bourgeois state became ever more knowledgeable in the arts and sciences of sustaining and enhancing the profit-making potential of the capitalist class as a whole.

As Engels explained, “Because the state arose from the need to hold class antagonisms in check, but because it arose, at the same time, in the midst of the conflict of these classes, it is, as a rule, the state of the most powerful, economically dominant class, which, through the medium of the state, becomes also the politically dominant class, and thus acquires new means of holding down and exploiting the oppressed class....” (*Origin of the Family, Private Property and the State,* 1884). But at the same time, the state does not restrict itself to the role of obedient servant to the dominant propertied class; rather, it strives to build its own independent role in society.

In the modern academic environment, the history of the rise of capitalism occupies a modest position, and has no influence on the pro-capitalist focus of the humanities. The scholars in each specialization: sociology, history, literature, art, politics, philosophy, economics, etc., often do not know much about what academics in the other departments are saying. In order to get a PhD, you need to show expertise in your chosen field, and prove it in writing. But you don't have to be any kind of specialist to recognize the disorder of the system we are living in now. The point of an education in the humanities is to be able to interpret the chaotic disarray and misery produced by capital’s rule as the functioning of the highest form of civilization, never to be replaced or surpassed.

Marx himself had a university degree, but he was primarily self-taught. In fact, many of the university students in those days, the 1840s, were encouraged to develop independent habits of study and were largely self-taught. Marx, Engels, and their companions read widely in history, learned about ancient Greek and Roman society, studied Hegel's logic, and discussed the history of philosophical thought. In this way, operating out of the control of their official mentors, they independently developed insights into social history that are unknown in the bourgeois university world of today. It became evident to Marx and Engels early on that in order to explain society one had to begin with some basic understanding of what society is, how it arose, and how it changed over time.

Marx and Engels together developed what is generally referred to as the “materialist conception of history.” Engels defined this method of analysis in the preface to the first edition of *Origin of the Family, Private Property and the State*, in 1884:

> According to the materialistic conception, the determining factor in history is, in the final instance, the production and reproduction of the immediate essentials of life. This, again, is of a twofold character. On the one side, the production of the means of existence, of articles of food and clothing, dwellings, and of the tools necessary for that production; on the other side, the production of human beings themselves, the propagation of the species. The social organization under which the people of a particular historical epoch and a particular country live is determined by both kinds of production: by the stage of development of labor on the one hand and of the family on the other.

Socialist society

Piketty then adds to the list of Marx's regrettable weaknesses:

> What is more, he devoted little thought to the question of how a society in which private capital had been totally abolished would be organized politically and economically—a complex issue if ever there was one, as shown by the tragic totalitarian experiments undertaken in states where private capital was abolished.

The phrase "tragic totalitarian experiments" falls very wide of the mark as a description of the Russian or Chinese revolutions—assuming those are what Piketty had in mind. But we should take note of the link he makes between abolition of private capital and totalitarianism. Many "totalitarian" regimes have existed as expressions of the urgent political needs of private capital—as under Hitler and Mussolini, and in many other countries at certain points in history. In Russia in the early years of the 1917 revolution there was an unparalleled flowering of democracy on the basis of the expropriation of private capital. It was only the rise of Stalinism that crushed the growth of working-class democracy. The Russian revolution was not an "experiment," nor was the Stalinist reaction which ensued. The word "experiment," when used to characterize the Russian revolution, can be freely employed only by those who are unable to explain how it came about that a

Marxist party was able to gain the leadership of the workers' movement, and how that movement, in conjunction with a mass peasant rebellion, was able to bring about a workers' and farmer's government. But for those who do wish to take it up, a good place to start would be Leon Trotsky's *History of the Russian Revolution,* to be followed up by Trotsky's *The Revolution Betrayed*.

As for Marx failing to give us the "plan" for the post-capitalist society, well, let's just say that Marx was aware that the working people of the future will be in a good position to work out their own plans. Once having destroyed the barbaric forces of capitalist rule; once having assuming the reins of power, working people of city and countryside will set about fostering new forms of collaboration to produce the necessities of life. They will govern and regulate production and distribution through decision-making processes organized to suit their needs. It's not too likely that following a "plan" written in the 19th century would help them out. In any case, what faces the working class and the toiling people of the countryside on a world scale now is not a question of making detailed plans for the post-capitalist future. It is a question of the workers building up their social strength and gaining the necessary political knowledge and leadership to put them on the road to the conquest of political power. Once politically united and mobilized, they will be in a position overcome the obstacles placed in their path by the ultra-wealthy minority and their supporters. Once in power, they will work together to organize production and distribution based on human solidarity. We have already seen this emerging in the early years of the Russian Revolution, and the processes of workers' power remain in effect in revolutionary Cuba. Necessary labor will gradually diminish, while the scope for the voluntary flowering of the human personality will widen. The residents of this future world will use their own methods and organizations, and will put behind them forever all forms of slavery—including wage slavery. In the *Critique of the Gotha Program* (1875) Marx argued (regarding the newly-born post-capitalist society):

> What we have to deal with here is a communist society, not as it has developed on its own foundations, but, on the contrary, just as it emerges

> from capitalist society; which is thus in every respect, economically, morally, and intellectually, still stamped with the birthmarks of the old society from whose womb it emerges. ... In a higher phase of communist society, after the enslaving subordination of the individual to the division of labor, and therewith also the antithesis between mental and physical labor, has vanished; after labor has become not only a means of life but life's prime want; after the productive forces have also increased with the all-around development of the individual, and all the springs of co-operative wealth flow more abundantly — only then can the narrow horizon of bourgeois right be crossed in its entirety and society inscribe on its banners: From each according to his ability, to each according to his needs!

Depression and war

Piketty then proceeds to consider the work of Simon Kuznets, economics professor at Harvard in the 1960s, who predicted that income inequality would decline as capitalism matures, with no need for state intervention. This projection reflected the conditions of the post-war boom (1950s) when the belief prevailed in U.S. bourgeois circles that economic prosperity was guaranteed, and there were few who could deny that growth is a rising tide that lifts all boats. This rosy optimism—flowing from the profits generated by the U.S. war conquests—influenced many, which in its turn gave rise to the popularity of the Austrian school of free-market economics among academic economists.

Kuznets drew on Internal Revenue Service tax returns for a wide statistical survey of income distribution. With these data, Kuznets demonstrated a decline of income inequality from 1913 to 1948, a period that includes the great depression and both world wars. Kuznets believed that such depressive conditions had been overcome. Piketty explains that the “sharp reduction in income inequality in almost all rich countries between 1914 and 1945 was due to the world wars and the violent economic and political shocks they entailed” (p. 15). However, it should be noted that Piketty leaves out the impact of the trade union movement. If you omit the independent activity of the working class, you will miss a powerful influence on the social distribution of wealth. At the same time as the Depression-era collapse in paper values pushed down the reported assets and income of the wealthy, especially from 1929 to 1935, the labor battles of 1933–40 pushed up labor's share of the total social product. Statistics from the St. Louis Federal Reserve Bank show that the average weekly wage in manufacturing rose from about $20 to $28 from 1932 to 1940. https://fraser.stlouisfed.org/files/docs/publications/bls/he_bls_1942.pdf

But between 1933 and 1940 there was an unprecedented upsurge of labor in all categories in the United States. Wage gains were registered in many industries in spite of the depressed economy. The principle of equal rights for all workers regardless of skin color was significantly advanced through the activity of the Congress of Industrial Organizations (CIO). The workers' political maturity extended beyond trade unionism to a movement of opposition to entry into the imperialist war, as well as a recognition of the need for a labor party. (See *Revolutionary Continuity,* by Farrell Dobbs, from Pathfinder Press.)

Beginning in 1939, war production, although it generated profits for the war goods contracting companies, produced few additional commodities for general consumption, and so did not contribute to the accumulation of capital in consumer goods sectors. Nonetheless there was great technological progress during the war which helped to lay the basis for a post-war boom, which followed, in part, as a consequence of the territorial gains of some countries—especially the U.S.—and the relative weakening of others.

My work, says Piketty, "has broadened the spatial and temporal limits of Kuznets' innovative and pioneering work" (p. 21). Piketty explains that he made use of the tax records and used the same methods as Kuznets to track income inequality. He argues that changes in income distribution are often attributable to temporary external factors: war, government intervention in the economy, etc. It's not just economics. Also, he thinks there are powerful forces that work towards wealth convergence as well as toward wealth divergence. For Piketty, war is an external factor, so he doesn't analyze the interconnection between economics and war, except insofar as war suddenly diverts the normal functions of the peacetime economy.

But, Piketty notwithstanding, wars do not come out of the blue, but develop as a result of economic conflicts within or among nations as they develop along pathways determined by the evolution of capitalist competition on a world scale. Capitalist development throughout the 19th century promoted a growth of nationalist aspirations among the European and North American countries, as they increasingly butted heads while unearthing new sources of profit throughout Latin America, Asia and Africa. The European powers, still stinging from the war of 1870, found themselves drawn into a feverish arms race in the 1890s, partly in efforts to defend their territorial gains in the semicolonial world, and partly as preparation for coming wars.

The ruling classes of the advanced capitalist nations could not ignore the growing strength of their rivals and tightened the screws on their respective governments for military appropriations. The Balkan wars of 1912–13 provided a testing-ground of the relative strengths among the European national powers, and served as a stepping-stone to World War I. The ruling classes of the big powers believed that if they did not act, they could lose both past and future gains in the world markets for cheap labor and low-cost minerals and agricultural produce. The free competition of the 19th century had evolved into a monopolization of the main branches of industry in the advanced capitalist countries and the formation of trusts, as well as completing the division of the world into spheres of influence over colonial areas. The growing competition, arms races and territorial strife laid the foundation for a series of imperialist wars. As V.I. Lenin explained,

> Monopolies, oligarchy, the striving for domination and not for liberty, the exploitation of an increasing number of small or weak nations by a handful of the richest or most powerful nations—all these have given birth to those distinctive characteristics of imperialism which compel us to define it as parasitic or decaying capitalism. (*Imperialism, the Highest Stage of Capitalism*)

But it is true that wars produce a predictable interruption of the peacetime patterns of capital accumulation, wealth distribution and income statistics. Piketty's charts demonstrate this. A war diverts production to military purposes, thus causing a change in the curve of income and wealth statistics. Further, the output of factories gets destroyed by artillery and bombs (though not in the United States in the 20^{th} century). Many valuable resources: machinery, roads, rails, steel mills, ships, planes and buildings are reduced to rubble. The government debt balloons. During WWII, the U.S. government sold "liberty bonds," thus raising funds from the entire population so as to win the war and, at the same time, reward the "patriotic" capitalists with "cost-plus" war contracts. In the process the U.S. federal debt rose to its highest level ever, at 120 % of GDP in 1945. Meanwhile wages for workers were frozen.

It must be admitted, in the final analysis, that when Piketty regards war as an "external" influence, negatively affecting economic progress, he is overlooking the fact that these wars themselves, in particular the imperialist wars of the past century, are the direct outcome and product of the forces that have driven the growth of capitalist competition itself. Every capitalist sees himself as engaging with his rivals in a competitive contest. Every capitalist nation sees itself surrounded by rival nations that repeatedly threaten to steal markets which they have claimed as their own. Why tariffs? And why tariff wars? … if not for the advancement of the interests of one capitalist nation against another? Why were the arms produced and the armies mobilized if not to defend national interests? From whom were these nations to defend themselves, if not from their rivals, who themselves were building arms stocks and mobilizing armies? How can war in the 20th century be explained apart from the defense of national interests?

These wartime disruptions should be seen as events that delay the complete maturation of the development of the inner contradictions of capitalism, since the destruction wrought by bombs and artillery destroy capital values, and in this way force capitalists to divert valuable resources to rebuilding and replacing their losses. The story of capitalist development on a world scale is reset back to a lower stage.

On the other hand, rebuilding after wartime destruction allows the more rapid introduction of new and more productive equipment for industry, and this is true as well of the period of war itself. The point here is that the distinction between the peacetime economic processes and the disruption of these processes by war is only useful for breaking down economic statistics. These considerations do not introduce important changes in the nature of capitalist social relations.

But the social and economic development of a society based on the exploitation of class by class, and the rivalry between classes and nations, creates the conditions for the outbreak of wars. In the 21st century these processes are still in effect, even though the pattern of warfare is different from that experienced in the past. Capitalism is a system that wreaks havoc on billions. Wars, mass poverty, mass unemployment, rampant illnesses, environmental contamination, and other catastrophes are the consequences of the normal, everyday functioning of capitalism. When all these devastating effects are taken into account, it can be seen that these multiple effects, themselves inevitable products of capitalist development, rob capitalism of its maximum growth potential and slow down the processes which cause the average profit rate to decline. If the rate of profit falls more slowly, whatever the cause, it still continues to fall, *and it is this fall that inexorably pushes toward economic instability and crisis*. The crisis, in its turn, lashes the workers into action.

Divergence

There is no "natural, spontaneous process to prevent destabilizing, inegalitarian forces from prevailing permanently," (p. 28) Piketty asserts. He does recognize some processes, perhaps not natural or spontaneous, that do provide some hope for the future. He argues that "knowledge and skill diffusion is the key to overall productivity growth as well as the reduction of inequality both within and between countries. We see this at present in the advances made by a number of previously poor countries, led by China."

It's true that knowledge and skill diffusion can help to increase productivity, if applied in the production process to increase the output per worker hour. But how is productivity growth the key to income equality? The development of capital continuously spurs innovation, automation, technological growth and the substitution of machinery for labor. All this shifts the expenses of production toward the side of material and away from the side of labor. Marx referred to this as *the increase in the organic composition of capital*. This increase, for its part, promotes *the tendency of the rate of profit to fall* (see below). This process stimulates efforts on the part of the employers to drive down wages, and the gap between rich and poor increases at the same time that the ownership of capital is concentrated in fewer and fewer hands. It is principally the trade-union movement that has enabled the workers to close the wage gap during certain periods, but statistics show that wage gains are not permanent. In today's economy wages are declining relative to profits and the gap is growing. This is a consequence the weakening of the unions, which allows wage gains to fall behind the rate of inflation, and this comes on top of the direct wage-cutting initiatives of the employers. Indeed the unions have been losing membership since the 1950s, but we should hasten to add that, although the unions are weak in comparison with past decades, the working class as a whole is in a much improved social condition compared with past periods. This is due to the great strides forward that have been achieved in racial, national and gender unity among the mass of industrial and service workers. A renewal of union organization in the United States will have less divisive obstacles to overcome as the union movement springs to life.

Piketty has pointed to the growth in inequality since the 1970s. The continued increase in the productivity of labor has resulted in an increase in the intensivity of capital: within the production process the ratio of the value of materials to the value of labor power grows. In fact, the rate of productivity growth has increased in the entire post WWII period, see the report posted on the website of the Center for Economic and Policy Research:

http://www.cepr.net/index.php/blogs/cepr-blog/new-cepr-issue-brief-shows-minimum-wage-has-room-to-grow

Piketty adds that inequality between countries is also being reduced: witness China, having acquired technical and engineering skills and improved labor productivity in the course of the expansion of private property in the means of production and the exploitation of wage labor in recent decades. But this growth of capital in China is conditioned by the unique circumstances of Chinese history. Private capital returned in a big way to China only through a government-managed process that began in 1978 under Deng Xiaoping. To the degree that capitalist production grows in China, the same problems that prevail in Europe are developing there and in other parts of the world that are experiencing an expansion of capitalist production. Within China there has been a growth of inequality, according to the University of Michigan: "The gap between China's rich and poor is now one of the world's highest, surpassing even that in the U.S., according to a report being released this week by researchers at the University of Michigan."

http://www.bloomberg.com/bw/articles/2014-04-30/chinas-income-inequality-gap-widens-beyond-u-dot-s-dot-levels

The findings reported by the University of Michigan are confirmed in a 2017 CEPR policy paper written by Piketty, together with Li Yang and Gabriel Zucman, "Capital accumulation, private property, and inequality in China, 1978-2015," the authors argue:

> For recent years, we find the income share of the top 10% to be around 41% of total national income (as opposed to the 31% suggested by surveys), and the income share of the top 1% to be approximately 14% of national income (as opposed to 7% suggested by surveys). According to our series, the share of national income going to the top 10% rose from 27% to 41% between 1978 and 2015, while the share for the bottom 50% fell from 27% to 15%.

https://voxeu.org/article/capital-accumulation-private-property-and-inequality-china-1978-2015

The rapid expansion of possibilities for self-enrichment through private property in China has led to the same compulsions and fears as have developed in other capitalist countries. Evan Osnos, in his book, *Age of Ambition,* tells the story of a public official who managed to build a fortune of $1.5 million through a combination of bribes and investments. “If I made $3 million or $5 million one year, all I'm thinking about is how to make more the next year. If I'm number 3 in town, how do I get to be number 1? It's like you're running, and once you're running, there's no stopping. You just run and run and run. You don't think about the philosophical implications. Psychologically you are in a world of your own.” Marx had his own description of the compulsive behavior driven by the lust for accumulation:

> Accumulate, accumulate! That is Moses and the prophets! ... Therefore, save, save, i.e., reconvert the greatest possible portion of surplus-value, or surplus-product into capital! Accumulation for accumulation’s sake, production for production’s sake: by this formula classical economy expressed the historical mission of the bourgeoisie, and did not for a single instant deceive itself over the birth-throes of wealth.

As mentioned above, Piketty believes that within the mass of capital there are forces that promote divergence between countries, as well as forces for convergence. Regarding the divergence of wealth within countries, he maintains,

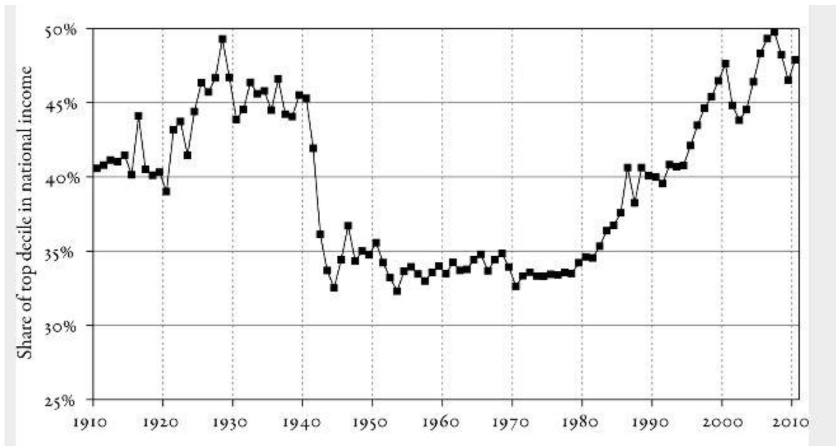
> I will pay particular attention in this study to certain worrisome forces of divergence—particularly worrisome in that they can exist even in a world where there is adequate investment in skills and where all the conditions of “market efficiency” (as economists understand that term) appear to be satisfied. What are these forces of divergence? First, top earners can quickly separate themselves from the rest by a wide margin (although the problem to date remains relatively localized). More important, there is a

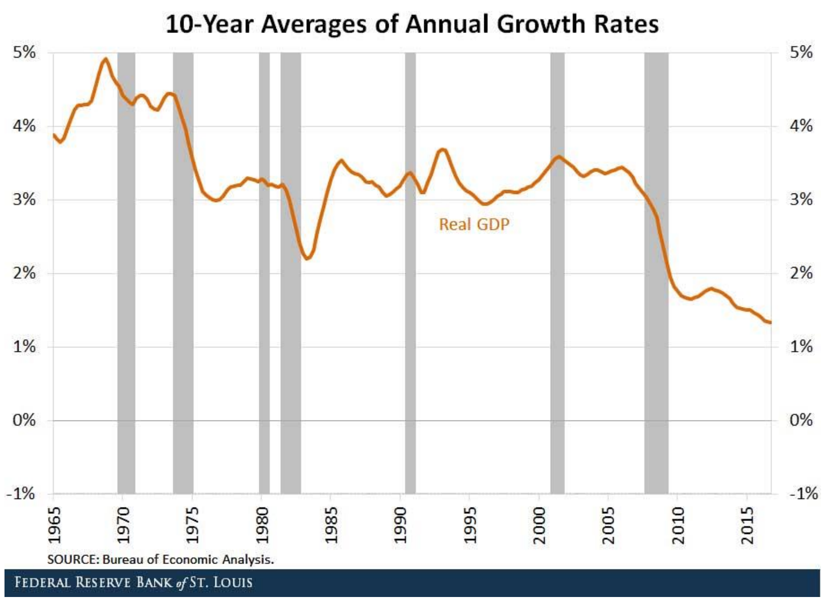
> set of forces of divergence associated with the process of accumulation and concentration of wealth when growth is weak and the return on capital is high. This second process is potentially more destabilizing than the first, and it no doubt represents the principal threat to an equal distribution of wealth over the long run (p. 32).

But Piketty does not explain what these "forces" of divergence are; he only traces statistically measured trends, regularities that have been duly recorded and archived, such as the share of the nation's wealth per decile of the population according to annual income, or the ratio of capital to income. Piketty's notion of "forces" begins with statistical trends which measure division of wealth or income, trends toward greater or lesser divergence, etc. But these trends are not "forces," they are the perceptible product of the operation of forces. Just as the force of gravity produces a measurable result every time we step onto the scale, we are obliged to recognize, as did Isaac Newton, that there is some "force" that needs to be analyzed, an invisible relationship that underlies the measurable result.

As the first force of divergence he points to the fact that "top earners can quickly separate themselves from the rest by a wide margin." This observation is sufficiently vague that we cannot be sure what he is talking about. But there are other forces that operate "when growth is weak and return on capital is high." But growth has weakened and strengthened for centuries. Return on capital varies as well. But Piketty has found a correlation between these tendencies occurring over a certain period. See the chart, p. 32. The chart shows a sharp rise in the share of the national income accruing to the families in the top income decile, during a period (1980–2010) when the annual growth of GDP per capita was lower than in the preceding period. During this period, in the U.S. the average annual GDP was around 3 % as compared to about 5 % in the preceding 30 years. After 2010, the GDP has declined still further.

But how is the statistical correlation between slower growth and higher income for the wealthy itself a "cause" or "force"? It doesn't occur to Piketty to look for other underlying economic changes, such as lower inflation-adjusted average wages, the decline of trade unions, speed-up of factory production, etc., as possible causes of higher profits and a rising share of the total national income going to the top decile. Nor does he look for a root cause for the slowdown in GDP.





Piketty returns to the divergence theme in Chapter 10 of his book, saying:

> This fundamental force for divergence, which I discussed briefly in the Introduction, functions as follows. Consider a world of low growth, on the order of, say, 0.5–1 percent a year, which was the case everywhere before the eighteenth and nineteenth centuries. The rate of return on capital, which is generally on the order of 4 or 5 percent a year, is therefore much higher than the growth rate.

Here Piketty assumes a very slow, nearly negligible, rate of growth of the national product of the countries he is considering, at least up until the eighteenth and nineteenth centuries. Instead of explaining what happened in those centuries to bring about this acceleration of growth, he continues to discuss the ratio between the growth rate and the rate of return on capital. Marx and Engels, on the other hand, developed an in-depth explanation of what was changing at that time in history. They gave an indication of this in a well-known passage in the *Communist Manifesto:*

> The bourgeoisie has through its exploitation of the world market given a cosmopolitan character to production and consumption in every country. To the great chagrin of Reactionists, it has drawn from under the feet of industry the national ground on which it stood. All old-established national industries have been destroyed or are daily being destroyed. They are dislodged by new industries, whose introduction becomes a life and death question for all civilised nations, by industries that no longer work up indigenous raw material, but raw material drawn from the remotest zones; industries whose products are consumed, not only at home, but in every quarter of the globe. In place of the old wants, satisfied by the production of the country, we find new wants, requiring for their satisfaction the products of distant lands and climes. In place of the old local and national seclusion and self-sufficiency, we have intercourse in every direction, universal inter-dependence of nations. And as in material, so also in intellectual production. The intellectual creations of individual nations become common property. National one-sidedness and narrow-mindedness become more and more impossible, and from the numerous national and local literatures, there arises a world literature.

For his part, Piketty doesn't mention the transition from feudalism to capitalism, which was a very slow process until the late 18th century, impeded by the persistent strength of medieval traditions, protected by the monarchy and the aristocracy. He does, however, provide statistical evidence of a passage from a more-or-less economically stagnant world to a world of accelerated national growth, although he doesn't recognize capitalism as fundamentally different from feudalism. Nor does he consider "capital" something uniquely associated with capitalism. Marx and Engels, on the other hand, did explain the historical transition to capitalism.

The underlying assumption in Piketty's analysis is that "capital" has existed since ancient times; indeed he has a chart showing the ratio of the rate of return on capital to the growth rate of the economy starting at the year zero. He explains in Chapter 10 (p. 446): "In order to illustrate this point as clearly as possible, I have shown in Figure 10.9 the evolution of the global rate of return on capital and the growth rate from antiquity to the twenty-first century." But this ignores the basic facts of the evolution of social systems since the birth of civilization. In previous forms of society (barbarism, slavery, feudalism) capital either did not exist, or existed only in primitive forms (merchant's and usurer's capital). In these earlier stages of social development the basic needs of the population were met by traditional practices of production and distribution that did not involve money. In slave societies production was carried out by slaves, and a portion of the product was given to them as survival rations. In feudal society the work was done by serfs who provided labor services or a share of the product to the aristocratic landowners.

In order for capital to play a role in the production and distribution of the most basic products of labor, the necessities of life, there was a need for the growth of exchanges among villages, regions and nations. Along with this kind of progress, the use of money as measure of exchange and means of payment had to increase. The growth of these historical economic processes is described by Marx and Engels (and many other historians as well), as the emergence of capital, which develops as a result of the evolution of the use of money for commodity exchange. But in the ancient world some forms of capital developed in limited spheres. Marx, explained it this way: "In ancient Rome, beginning with the last years of the Republic, when manufacturing stood far below its average level of development in the ancient world, merchant's capital, money-dealing capital, and usurer's capital developed to their highest point within the ancient form." (*Capital,* Vol. III, Chap. 36) In pre-capitalist societies, in which merchants' and usurers' capital maintain only a marginal presence, the foundation of social stability and economic progress lies with the dominant modes of production, slavery and feudalism.

Piketty's chart shows a slow growth rate for capital from year 0 to 1700, an uptick from 1700 to 1913, and even more accelerated growth rate from 1913 to 1950, and a decline after that. This is a graphical illustration of the kind of growth many economists have talked about, many of them attributing the historical upturn in 1700 to the growth of capitalism emerging within its pre-capitalist environment. But as we see, Piketty makes no distinction between capitalism and feudalism. Capitalism is a system in which capital, moneyed wealth invested in production, transport, finance and commerce, plays the central organizing role for economic activity. In the previous forms of society, the basic economic forms were based on production and distribution without the need for commodity exchange, and production for exchange was a subordinate feature.

Capital and wealth

Later, in Chapter 1, Piketty sums up his conception of capital.

> To summarize, I define "national wealth" or "national capital" as the total market value of everything owned by the residents and government of a given country at a given point in time, provided that it can be traded on some market. It consists of the sum total of nonfinancial assets (land, dwellings, commercial inventory, other buildings, machinery, infrastructure, patents, and other directly owned professional assets) and financial assets (bank accounts, mutual funds, bonds, stocks, financial investments of all kinds, insurance policies, pension funds, etc.), less the total amount of financial liabilities (debt).

Since he uses the term "residence," the total national wealth (the national capital) includes all the wealth of families of all classes, including workers, farmers and the middle classes. He adds up existing categories that are considered to be wealth, and makes no distinction between real wealth (commodities) and wealth that could be wholly, or in part, fictitious (bank accounts, stocks, bonds, derivatives contracts, etc.). (On fictitious capital, see below.) But Marx understood that wealth is the marriage of labor and nature. In *Capital,* Vol. 1, Marx states:

> The use values, coat, linen, &c., i.e., the bodies of commodities, are combinations of two elements—matter and labour. If we take away the useful labour expended upon them, a material substratum is always left, which is furnished by Nature without the help of man. The latter can work only as Nature does, that is by changing the form of matter. Nay more, in this work of changing the form he is constantly helped by natural forces. We see, then, that labour is not the only source of material wealth, of use values produced by labour. As William Petty puts it, labour is its father and the earth its mother. (*Capital,* Vol. 1, Chap. 1)

Here Marx analyzes "use values," which are the material products of labor, made to fulfill some human need, regardless of whether or not they are sold to others. If they are produced for sale to others on a continuous basis, then they are commodities. But as for capital, Marx argues that wealth becomes capital only in societies in which the capitalist mode of production prevails. As he put it:

> The wealth of those societies in which the capitalist mode of production prevails, presents itself as "an immense accumulation of commodities," its unit being a single commodity. (*Capital,* Vol. 1, Chap. 1)

Further:

> The purpose of capitalist production, however, is self-expansion of capital, i.e., appropriation of surplus-labour, production of surplus-value, of profit. (*Capital,* Vol. 3, Chap. 15)

Here we see that pre-capitalist societies do have wealth, because they have products of labor, but the mass of the wealth that they possess does not take the form of commodities. In subsistence-based societies, products that are produced and consumed within local communities (barbarian tribes, feudal estates, slave latifundia) are not commodities, they are "use values," i.e., they are objects people need, and are produced and consumed in accordance with the prevailing traditions that form the material foundation for their life and work. These products are made to satisfy the needs of the members of the community, as well as provide for the privileged social elements who feed off the surplus produced by the laboring peasants.

In these societies, various forms of exchange of products outside the bounds of the local community play only a subordinate role; but they evolve over time, and systems of production for exchange emerge and grow. In order for a use value to become a embrace wider categories of products and more frequent exchanges. A product that is considered a commodity is one that is regularly produced for exchange. In slave or feudal societies, there is a greater surplus of products above and beyond the needs of the laboring people, and this goes to the ruling classes and their personal retinues. In the late middle ages advances in farming methods and artisan productive techniques created the basis for larger surpluses, and there was a growth in exchanges of products between regions and nations. The role of merchant's capital expanded in the 16th and 17th centuries after the discovery of the new world and the growth of the slave trade. This enabled merchants to invest in production and gradually take over the production of the necessities of life, one sector after another.

In *Capital*, Vol. III, Chap. 20, Marx pointed out

> Since merchant's capital is penned in the sphere of circulation, and since its function consists exclusively of promoting the exchange of commodities, it requires no other conditions for its existence—aside from the undeveloped forms arising from direct barter—outside those necessary for the simple circulation of commodities and money. Or rather, the latter is

> the condition of its existence. No matter what the basis on which products are produced, which are thrown into circulation as commodities—whether the basis of the primitive community, of slave production, of small peasant and petty bourgeois, or the capitalist basis, the character of products as commodities is not altered, and as commodities they must pass through the process of exchange and its attendant changes of form.

Merchant's capital flourished in the middle ages and into the early modern period in Europe, providing one of the points of origin for capitalist production. It originated in the ancient Mediterranean, even earlier than the epoch in which the Phoenicians plied their vessels loaded with ivory, silk, ceramics, spices, etc. The objects traded were generally commodities, i.e., they were produced to be exchanged for money. The profits gained by the Phoenicians, and other traders of the ancient world, came from the difference between prices paid to the sellers (producers or their agents) and prices paid by the buyers of the goods. These price differentials were sufficient to cover the expenses and losses of the merchant, plus enough to allow some accumulation of wealth in the form of goods and money. This accumulation of wealth extracted from trading excursions is merchant's capital. At a later stage of historical development, with a higher evolution of the productive arts in Europe, as well as a further development of world trade, it became possible for merchant's capital to penetrate ever more deeply into the spheres of artisan and agricultural production, gradually taking control of all fields of agricultural and artisan production, converting the productive materials and equipment into their private property, and remaking the artisan laborers into wage-earning proletarians. As Marx put it:

> Within the capitalist mode of production — i.e., as soon as capital has established its sway over production and imparted to it a wholly changed and specific form — merchant's capital appears merely as a capital with a specific function. In all previous modes of production, and all the more, wherever production ministers to the immediate wants of the producer,

> merchant's capital appears to perform the function par excellence of capital. (*Ibid.*)

What is striking about Marx, in contrast to Piketty, is that he recognizes capital as a historical and social category that developed through various stages, along with the changing forms of social production. Piketty simply gives an abstract definition, which omits mention of how things came to be.

But capital did not take shape as the dominant force in production in social production until the transition to capitalism which began in the 16th to 17th century with the great expansion of world trade, and until its economic power was fully expressed in the period of the late 18th century industrial revolution.

Capital is self-expanding value. But Piketty has not addressed the problem of profit, or of how and why it expands, or of the relation between value and price. Piketty does not really attempt to define “value” either, but instead recommends the marginal utility theory, which a way of calculating ideal market prices based on supply and demand of goods and services that are subject to market competition. This theory leaves out of account the nature of “value” and treats price as the essential object of economic analysis. Price therefore no longer has any connection to the determining forces that give rise to prices, and the economists are left with just prices. Not having an understanding of value robs you of the possibility of understanding the foundation of prices, and the nature of capital as well.

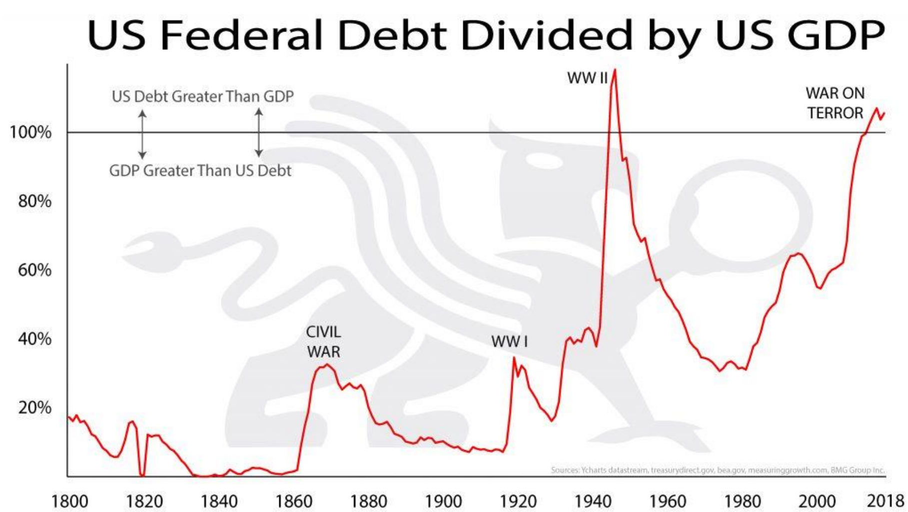
Piketty explains one reason why he doesn't draw a distinction between wealth and capital, saying,

> Some definitions of “capital” hold that the term should apply only to those components of wealth directly employed in the production process. For instance, gold might be counted as part of wealth but not of capital, because gold is said to be useful only as a store of value. Once again, this limitation strikes me as neither desirable nor practical (because gold can be a factor of production, not only in the manufacture of jewelry but also in electronics and nanotechnology). Capital in all its forms has always played a dual role,

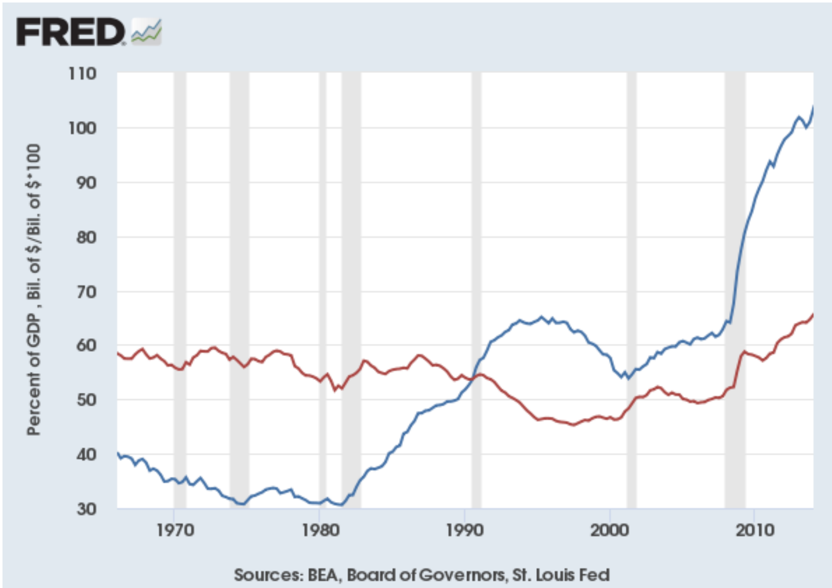
as both a store of value and a factor of production. I therefore decided that it was simpler not to impose a rigid distinction between wealth and capital.

Growth of credit and fictitious capital

As Piketty examines the capitalist economy in the present era of capitalist decline, he leaves out the overexpansion of credit in the capitalist economy and the growing accumulation of debts, whether household, governmental or corporate. This debt explosion can be seen in figures that track the growth of financial obligations as a percentage of total wealth, and the growth of the financial sector as a percentage of nominal GDP. The proliferation of forms of credit and their massive increase has greatly accelerated the growth of fictitious capital, both in public and private spheres. As the total of all debts grows, the divergence between real wealth and fictitious wealth grows. This means that statistics on assets of banks and corporations do not take into account the difference between real wealth and paper wealth. This is something that observant people were supposed to have learned in the aftermath of the 2008 financial crash (or perhaps before). But there is a growing mass of paper tokens of wealth which, in reality, represent very little wealth.



Source: BMG Group Inc. http://bmg-group.com/us-federal-debt-divided-by-us-gdp/



Source: St. Louis Federal Reserve Bank, https://fred.stlouisfed.org/series/GFDEGDQ188S

It should be understood that bank money is created out of nothing. Sums that are lent at interest, although they are regarded as assets for the bank and show up on the asset side of the ledger, do not represent money, but instead are potential future income streams for the bank. The borrower accepts the money and spends it, and (ideally) keeps up with the monthly payments representing principal and interest. A paper written by Michael McLeay, Amar Radia and Ryland Thomas for the Bank of England states as follows:

> Commercial banks create money, in the form of bank deposits, by making new loans. When a bank makes a loan, for example to someone taking out a mortgage to buy a house, it does not typically do so by giving them thousands of pounds worth of banknotes. Instead, it credits their bank account with a bank deposit of the size of the mortgage. At that moment, new money is created. For this reason, some economists have referred to bank deposits as 'fountain pen money', created at the stroke of bankers' pens when they approve loans.
> (https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2014/money-creation-in-the-modern-economy.pdf)

Much of the income from paper assets—interest, royalties, capital gains, dividends—is calculated on the basis of a nominal underlying value of a share of stock, or bond, or other security, that itself represents fictitious wealth. These are numbers in accounts—in most cases there is no method of ascertaining how much real value they represent. The payment checks being issued to the creditors or title-holders are as valid as any other check (leaving aside cases of fraud and larceny), which means that as long as the bank of issue is not legally bankrupt or in immediate danger of insolvency, the check will be honored by any acceptor. What is supposed to be considered an economic phenomenon, money, becomes transmuted into a legal phenomenon. What is called "wealth" is determined not by bankers or economists, but by courts, lawyers and the police.

The ease with which money changes hands convinces nearly everyone that there is solvency on all sides. It is only in a crisis that potential bankruptcy is converted into real bankruptcy and paper values suddenly vanish. At a time of cascading insolvencies, the government intervenes in the financial system to decide which banks and corporations were undercapitalized, which were light in their reserves, which must be liquidated and which must be bailed out. At least that's one of the takeaways of the 2008 crash; a different scenario could emerge in a future crash. In the long run, as fictitious assets accumulate, every bailout becomes an infusion of fictitious capital of a legally authorized variety in order to replace fictitious capital that has evaporated in a crash.

As is commonly known, publicly-traded companies issue shares of stock in various trading venues (NYSE, NASDAQ, S&P, etc.). The forces of supply and demand determine the stock prices, which are untethered from the underlying values of the companies' hard assets. A method of calculating the underlying values of shares of stock in companies based in the U.S. becomes increasingly urgent for investors, who see share prices driven higher and higher by growing demand. They recognize that the "market value" (total price of all outstanding shares of stock) of a company is much higher than its "actual value" based on the underlying value of the company's assets, referred to as the "book value." A useful definition of book value is provided by https://corporatefinanceinstitute.com: “The book value is the amount that would be left if the company liquidated all of its assets and repaid all of its liabilities. The book value equals the net assets of the company and comes from the balance sheet.”

As stock traders have shifted their portfolios towards companies that seem to have the brightest prospects for future growth in recent years, a number of media, communications and commercial companies (Facebook, Amazon, Apple, Netflix, and Google) have gained greater market share than old established companies in manufacturing , transportation and construction. Amazon, for example has reached a price to book ratio of 15.25 as of December, 2019, according to https://www.surveydone.info: “Price to book ratio in most recent quarter was 15.25 while trailing twelve months period, to sales ratio of the stock was 3.28.”

On a grand scale this reveals a large sum of money (much of it borrowed) invested in ownership of a relatively small underlying sum of value. In a bull market shares represent growing quantities of fictitious wealth. Amazon, for example has reached a market capitalization of 1.06 trillion. This valuation is largely fictitious since the share price reached that level only because investors were impressed by the company’s rapid growth and commercial success. Meanwhile its intrinsic value grew at a much slower pace. We should keep in mind that the underlying value of the company, the “book value,” itself contains a significant fictitious component, due to the overvalued prices of the bonds and other financial securities which are counted as assets on the company’s books. We should also keep in mind that in the context of a generalized financial downturn, both market value and book value will be substantially written down. Long ago Marx explained the reason for the hyperexpansion of the quoted values of the stocks:

> Titles of ownership to public works, railways, mines, etc., are indeed, as we have also seen, titles to real capital. ... To the extent that the accumulation of this paper expresses the accumulation of railways, mines, steamships, etc., to that extent does it express the extension of the actual reproduction process—just as the extension of, for example, a tax list on movable property indicates the expansion of this property. But as *duplicates* which

> are themselves objects of transactions as commodities, and thus able to circulate as capital-values, they are *illusory* [emphasis added], and their value may fall or rise quite independently of the movement of value of the real capital for which they are titles. Their value, that is, their quotation on the Stock Exchange, necessarily has a tendency to rise with a fall in the rate of interest—in so far as this fall, independent of the characteristic movements of money-capital, is due merely to the tendency for the rate of profit to fall; therefore, this imaginary wealth expands, if for this reason alone, in the course of capitalist production in accordance with the expressed value for each of its aliquot parts of specific original nominal value. (*Capital,* Vol. 3, Chap. 30)

The explosion of credit in the capitalist economies, coming on the heels of the downturns in the 1970s and early 1980s, then accelerating after the dot-com bust of 2000, injected fictitious capital on an unprecedented scale into the balance sheets of all major banks and corporations—all business entities that had access to the credit system. Financial companies developed new mechanisms (mortgage-backed securities and other derivatives) to produce titular assets with real values much lower than their book values The 2008 crash let a lot of air out of the balloon, bringing valuations closer to reality. But we should recall that the only way the financial system could be rescued was by the injection of more credit into the banking system through the operations of the Federal Reserve Bank (not just TARP, but also quantitative easing, which extended over several years after the crash). In order to restore the levels of business activity that existed before 2007, it was necessary to recreate the levels of debt which had precipitated the 2008 crash.

As for the outstanding treasury bonds of the U. S. government ($22 trillion as of February 2019), this mass of nominal dollars represents fictitious capital in the sense that the bond only represents a debt of the government to the creditor, who can only recover the money paid for the bond by selling the bond to another purchaser. In some theoretical sense, the real assets held by the government might be regarded as “collateral” for the outstanding government debt, but if the U.S.

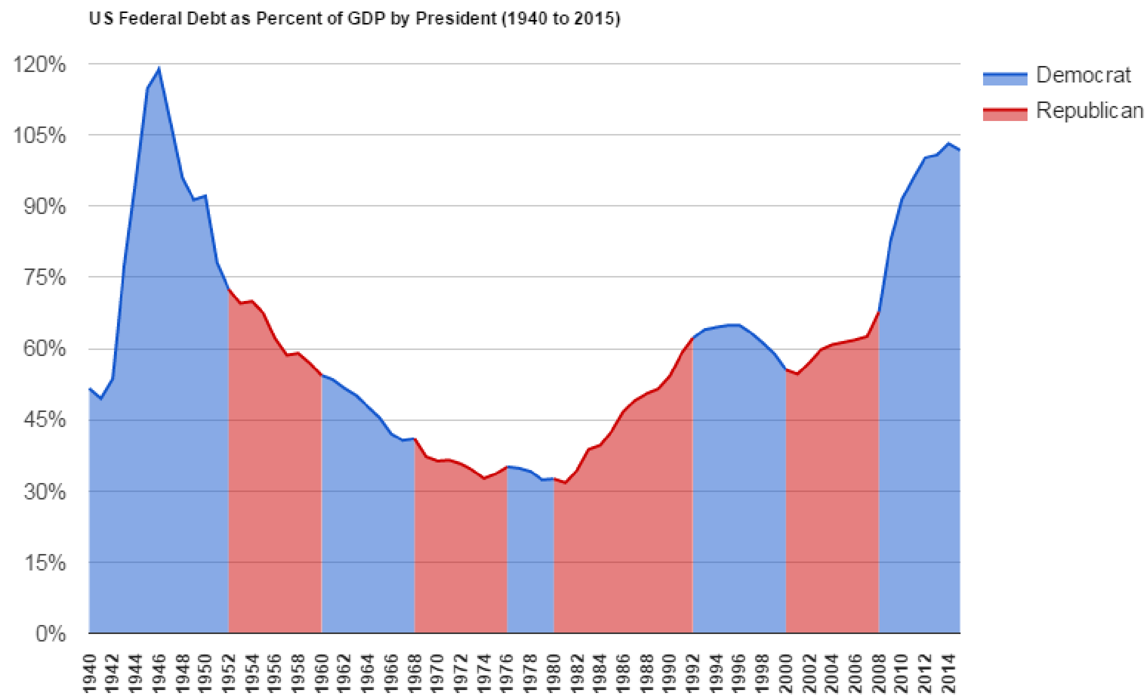
government goes into Chapter 11 bankruptcy, how many creditors would be satisfied with a cruise missile or an acre of land in the Arizona desert? In the real world these bonds are not wealth at all, only IOUs. In this connection Marx says,

> The state has to annually pay its creditors a certain amount of interest for the capital borrowed from them. In this case, the creditor cannot recall his investment from his debtor, but can only sell his claim, or his title of ownership. The capital itself has been consumed, i.e., expended by the state. It no longer exists. ... the capital of the state debt remains purely fictitious, and, as soon as the promissory notes become unsalable, the illusion of this capital disappears. As for the interest on bonds, this must be paid according to the terms of the obligation at the time of purchase (*Capital*, Vol. III, Chap. 29).

As of 2018 U. S. governments (federal, state and local) are paying an estimated $523 billion annually in interest on their debts, see: https://www.treasurydirect.gov/govt/reports/ir/ir_expense.htm.

Bondholders receiving this interest count it as income (or at least that's what the IRS says they must do), and it is so entered in the national accounts as private income. Piketty regards the outstanding government debt as an asset for private capital and a liability for public capital. Thus, for the total national capital it cancels out. Thus for Piketty the effective debt of the U.S. government is not $22 trillion, but $0, because for every dollar owed by the government there is another dollar asset in the hands of a bond holder. A bond is as good as a gold ingot. So, for Piketty, there are no factors that would undermine the credibility and convertibility of these federal debts. If the government wanted to issue an additional $20 trillion, or $200 trillion, in bonds—why not? The effective debt would still be 0.

But many observers see the debts inexorably mounting in a climate of the government's incapacity to significantly accelerate economic activity. The borrowing by federal, state and local governments helps these entities meet their budgetary targets without raising taxes, but the debt keeps growing. From 2008 to 2018 the debt to GDP ratio in the U.S. has grown from 67.7 % to 105 %.



The United States recorded a government debt equivalent to 105.40 percent of the country's Gross Domestic Product in 2017. Government Debt to GDP in the United States averaged 61.70 percent from 1940 until 2017, reaching an all time high of 118.90 percent in 1946 and a record low of 31.70 percent in 1981. https://tradingeconomics.com/united-states/government-debt-to-gdp

Many observers foresee the coming crash. The Sept. 14, 2018 issue of *Market Watch* features these comments from experienced market analysts:

Gary Shilling is particularly worried about the $8 trillion in dollar-denominated emerging-market corporate and sovereign debt, especially as the U.S. dollar rises along with interest rates. “The problem is as the dollar increases,” he said, “it gets tougher and tougher for them to service [that debt] because it takes more and more of their local currency to do so.” Of that, $249 billion must be repaid or refinanced through next year, Bloomberg reported.

> Jim Stack indicates that housing-related stocks "saw a parabolic run-up" in 2016-17, but in January his index "peaked and now it's coming down hard." That suggests "bad news on the housing market looking 12 months down the road," he said. But the biggest danger, Stack told me, is from low-quality corporate debt. Issuance of corporate bonds has "gone from around $700 billion in 2008 to about two and a half times that [today]."
>
> Raghuram Rajan, the chief economist of the IMF, believes "there has been a shift of risk from the formal banking system to the shadow financial system." He also told me the post-crisis reforms did not address central banks' role in creating asset bubbles through accommodative monetary policy, which he sees as the financial markets' biggest long-term challenge. "You get hooked on leverage," he said. "It's cheap, it's easy to refinance, so why not take more of it? You get lulled into taking more leverage than perhaps you can handle." Rajan also sees potential problems in U.S. corporate debt, particularly as rates rise, and in emerging markets, though he thinks the current problems in Turkey and Argentina are "not full-blown contagion." "But are there accidents waiting to happen? Yes, there are."

The balance sheets of corporations, banks and wealthy families contain trillions of dollars in public and private bonds reflecting the debt of the U.S. and other sovereign borrowers, as well as state and municipal bonds, and bonds issued by banks and corporations. These assets are the basis for interest income of the bondholders. Corporate bonds might have a better claim to represent real wealth than government bonds, but in a stock-market crash they tend to fall farther in price than do government bonds. (http://www.investopedia.com/university/credit-crisis/credit-crisis7.asp)

The assets columns of banks are growing as the total outstanding indebtedness increases. The more reserve assets claimed by a bank, the more money it can loan out. The main sources of private, non-commercial, non-financial indebtedness are grouped under "household debt." Household debt consists of home mortgages, commercial building loans, student loans, credit card debt, auto and appliance debt, and other. The New York Federal Reserve Bank reports (at the end of the second quarter of 2019) a total U.S. household debt of $13.86 trillion, and explains:

> The CMD's latest Quarterly Report on Household Debt and Credit reveals that total household debt increased by $192 billion (1.4 percent) to $13.86 trillion in the second quarter of 2019. It was the twentieth consecutive quarter with an increase, and the total is now $1.2 trillion higher, in nominal terms, than the previous peak of $12.68 trillion in the third quarter of 2008..
> (https://www.newyorkfed.org/microeconomics/hhdc.html)

Politicians and economists assume that the government will use its executive power to defend its own solvency, and prop up the market for its sovereign bonds. Also, the U.S. banks that are deemed "too big to fail" can expect a good price for their assets and capital holdings from the federal government, on the belief that in a crash the government will step in and rescue them, as in 2008. On this basis, they continue to build up their fictitious assets.

The *New York Times* of Sept. 12, 2018, carried a debt survey report as part of its "Crisis and Consequences" series. They pointed to the alarming rise of corporate, student, mortgage and financial sector debt, as well as pointing to the global character of the current debt expansion. The authors of the article, Matt Phillips and Karl Russell, point out:

> Another pocket of concern is the fast-growing market for so-called leveraged loans. Banks make these loans to companies, and then sell off slices that are packaged up and resold to investors, like hedge funds, mutual funds and pensions. The market is much larger than it had ever been, with more than $1 trillion of the loans currently outstanding.
>
> Investors are so eager to get their hands on these loans — because they have adjustable interest rates, they perform well when the Fed is hiking rates — that they're accepting lower-quality deals. Some 80 percent of

today's institutional leveraged loans are known as "covenant lite" deals, because they offer weaker protections for investors.

Piketty returns again to the divergence theme, claiming that, "high capital/income ratios in the past few decades" can be explained in part by the "return to a regime of relatively slow growth (p. 33)". Piketty has a point here. In slowly growing economies "past wealth naturally takes on disproportionate importance, because it takes only a small flow of new net savings to increase the stock of wealth. ..." If the "rate of return on capital remains significantly above the growth rate for an extended period of time ... then the risk of divergence in the distribution of wealth is very high." This is, at best, a truism, which adds nothing to an understanding of the crisis of the 21st century.

So to get the bottom of the slowing growth rate of capital, we need to recognize that there is a *tendency of the rate of profit to fall* (see below), which operates over the long process of maturation and senescence of the capitalist mode of production. Falling profit rates produce a slowdown in production and trade which strangle the motive forces of productive growth, reducing return on investment for the owners of capital. This increases the motivation of the ruling rich to cut the costs of production (wage cuts, reduction of workers' benefits, tax cuts, cutting of costly regulations, offshoring of bank accounts, growth of the shadow banking system, etc.).

Piketty argues that, "people with inherited wealth need save only a portion of their income from capital to see that capital grow more quickly than the economy as a whole. Under such conditions, it is almost inevitable that inherited wealth will dominate wealth amassed from a lifetime's labor by a wide margin, and the concentration of capital will attain extremely high levels". Granted, the new generation of the elite will take their inheritance and try to build on it. Workers, on the other hand, inherit very little, and if they save, they don't save much. But what does Piketty mean that "inherited wealth will dominate wealth amassed from a lifetime's labor"? In practice there is no "wealth amassed from a lifetime's labor." Paychecks are spent on the necessities of life and there is little or nothing left to

"amass." Apparently, he means that the capitalists will increase their wealth, while the workers will not, which is true. So, the gap between the rich and poor will grow. And, indeed, statistics continue to show this is happening.
http://www.wsj.com/articles/fed-gap-between-rich-poor-americans-widened-during-recovery-1409853628

Wages

The first chapter in Piketty's book, "Income and Output," opens with a discussion of the distribution of wealth between capital and labor. Piketty begins by recalling the massacre of 34 platinum miners in Marikana, S. Africa, in August 2012, in the midst of a strike. The question involved in this incident is wages. "How should the income from production be divided between labor and capital?" Piketty asks, as if it were a question to be settled by economists or governments. He continues, "... hopes for a more equitable distribution of income and a more democratic social order were dashed."

The Marikana miners pointed to the excessive profits of the mining company, Lonmin, and of the high compensation awarded to the mining company's top executives. In order to explain the sharpness of the battle at Marikana, Piketty says, "If the capital-labor split gives rise to so many conflicts, it is due first and foremost to the extreme concentration of the ownership of capital." He gives the impression that in workplaces of a *lower capital concentration* one would expect *more generous wage policies*. But the fight over wages has broken out time and again in workplaces both large and small throughout the history of capital. Many small shops live on the edge of commercial viability, and pinch every penny. They avoid unionization like the plague—as do the large corporations. Piketty seems to be promoting the notion that when capital becomes "extremely concentrated" bad things can happen. "Smaller is better," then. Is it that Piketty is proposing a less concentrated, perhaps more egalitarian, distribution of capital ownership? Not really, although he is inspired to imagine such possibilities.

He argues, “Indeed, if capital ownership were equally distributed and each worker received an equal share of profits in addition to his or her wages, virtually no one would be interested in the division of earnings between profits and wages.” His imagination runs away with him. Is he actually advocating a system of “equal distribution of capital”? Or is he fantasizing about the paradise of the equality between labor and capital? He seems to be hypothesizing that “equality” among the property owners would foster a more egalitarian society. He says, “Inequality of wealth—and of the consequent income from capital—is in fact always much greater than inequality of income from labor.” But again, he avoids explaining why this inequality has arisen. But he does have a remedy —a progressive income tax. He discusses this later in the book.

In Chapter 7, Piketty returns to the theme of inequality between capital and labor, saying, “by definition, in all societies, income inequality is the result of adding up these two components: inequality of income from labor and inequality of income from capital. The more unequally distributed each of these two components is, the greater the total inequality.” Inequality of income distribution is always higher for capital that than income inequality for labor, Piketty says. However, “this regularity is by no means foreordained, and its existence tells us something important about the nature of the economic and social processes that shape the dynamics of capital accumulation and the distribution of wealth.” But the arguments Piketty makes in this section really have nothing to do with how it is that the society has come to be divided between the owners of wealth and those who must work for a living. This remains unexplained.

We should recall how Piketty defined “capital,” (see above) “To summarize, I define ‘national wealth’ or ‘national capital’ as the total market value of everything owned by the residents and government of a given country at a given point in time, provided that it can be traded on some market.” Piketty is not talking about sectors of production, but the property owned by families. He is referring to the inequality of income from capital (stocks, bonds, real estate, etc.) among all those families who receive income from capital. So, when Piketty says, “… whereas the top 10 percent of the capital income distribution always owns more than 50 percent of all wealth (and in some societies as much as 90 percent)" he is talking about the concentration of wealth in the society as a whole, with the richest families owning the biggest share. Marx, on the other hand, focused on the production of commodities and the distribution of profit among the owners of the means of production.

But, as Piketty says,

> The third decisive factor is the relation between these two dimensions of inequality: to what extent do individuals with high income from labor also enjoy high income from capital? Technically speaking, this relation is a statistical correlation, and the greater the correlation, the greater the total inequality, all other things being equal.

So now we have better-off individuals within the working class: those who earn income from property as well as from labor. Perhaps these individuals should be categorized as the working wealthy (which is how many of the ultra-rich see themselves.) As he reviews the statistics, his preliminary conclusion is that:

> the first regularity we observe when we try to measure income inequality in practice is that inequality with respect to capital is always greater than inequality with respect to labor. The distribution of capital ownership (and of income from capital) is always more concentrated than the distribution of income from labor.

In other words, if you look at the income tax returns you find a wide range of income variation among that class of taxpayers whose principal sources of income are rent, interest, dividends, capital gains and royalties. Some of them are quite rich, but many are very middle-income people. On the other hand, looking at those taxpayers whose main income sources are wages, salaries, tips, social security and retirement pensions, there is considerably less wealth variation among them. Nearly all of them are low on the income scale. It seems to me that Piketty is laboring mightily to tell us something that we already know: among those whose income is derived from ownership of property, there is an ascending scale of wealth, with the highest incomes recorded among very small elite of the ultra-rich. He then introduces the charts (Tables 7.1, 7.2, &7.3) which demonstrate these points. This is very interesting but is far removed from a discussion of what capital is, and how it works to produce the wealth of society, or how it operates to distribute the wealth that is generated among the different classes of society.

Long before capital had become "concentrated" into large corporations, bitter struggles were fought, oftentimes with the workers on one side and employers' associations on the other. This happened in many industries: textiles, mining, construction, transportation, etc. Up until the middle of the 19th century capitalist production was dominated by relatively small producers, which more and more began to buy each other out, or merge into large companies. But the turn of the 20th century monopolistic trusts and combines were forming, leading to large aggregations of capital. Still the concentration of capital had a long road ahead of it. Smaller businesses were often absorbed by the big companies, but in many cases, they were preserved as subordinate elements within a capitalist property hierarchy.

Marx explained that the source of bourgeois wealth was their ability to capture and retain a portion of the value created by workers in the production process. This portion is called surplus value (which can be broken down principally into profits, interest and rent). The workers subsist on a limited wage, usually sufficient to maintain their living conditions and raise children. The value of the products pouring out of the process of production, on average, exceeds the value that the capitalist has advanced for their production. When the products are sold in the market, the part in excess of the capitalists' expenses of production is pocketed by the owner of the means of production as surplus value (a portion of which might be paid to the banker as interest, and to the landlord as rent). The surplus value is the portion of value that the capitalist collects without having had to pay any equivalent.

Speaking of wages, Piketty observes, "The average wage increased enormously over the course of the twentieth century, but the gap between the best and worst paid deciles remained the same. Why was this the case, despite the massive democratization of the educational system during the same period? The most natural explanation is that all skill levels progressed at roughly the same pace, so that the inequalities in the wage scale were simply translated upward" (p. 384). Piketty links wage income with education, and education with productivity. He states: "Wage increases cannot exceed productivity increases indefinitely, but it is just as unhealthy to restrain (most) wage increases to below the rate of productivity increase." Piketty does not mention the workers' unionization movement as a force for improvement of the conditions of the workers. It is as if, in Piketty's view, working people are not a factor in economic change. Above all, Piketty wants himself to be seen as recommending policies for the management of labor relations that are humane, sensible and beneficial to growth.

Piketty announces: "to sum up what has been said thus far: the process by which wealth is accumulated and distributed contains powerful forces pushing toward divergence, or at any rate toward an extremely high level of inequality." He says,

> More generally, insofar as employers have more bargaining power than workers and the conditions of "pure and perfect" competition that one finds in the simplest economic models fail to be satisfied, it may be reasonable to limit the power of employers by imposing strict rules on wages.

Here Piketty expresses the feeling that in general wages are lower than what they would be the conditions of "perfect competition" were met. After all, employers have more bargaining power (given their control of the state and its judicial institutions, as well as the police power and military power). I don't know whether Piketty has anything to say of capitalists using paid goons, armed police, or the national guard to suppress workers strikes. But in the model of perfect competition there are no outside "powers" intervening to distort the market. It's all a matter of "marginal utility" or "elasticity of substitution" forming the basis for supply and demand. There are no cops, courts, or jails—and no unions either.

But his “reasonable” recommendation, to limit the power of the employers, assumes that the government is, or should be, the entity that “reasonably” regulates the level of wages and the relations between the classes in general. This is how governments generally portray themselves: impartial observers of the struggle over wages and profits. They only intervene when necessary, and only to bring the two sides together to find a compromise acceptable to all. The social and political domination of society by the propertied class is the fundamental condition that overshadows all labor relations within capitalist society, but improvements in wages and working conditions have been achieved as a result of the battles waged the trade unions built by working people, relying on solidarity among themselves and often with the aid of family farmers and other laboring people. Marx has an advantage over Piketty in explaining the relationship of class forces brought about by trade-union and political struggles between the classes.

Piketty believes that a worker's wage should reflect the marginal productivity of the labor contributed by that worker. What portion of “output” does each worker contribute to the product? Once that is determined, then you could calculate what the wage and benefit package should be. As he says,

> In an organization employing dozens or even thousands of workers, it is no simple task to judge each individual worker’s contribution to overall output. To be sure, one can estimate marginal productivity, at least for jobs that can be replicated, that is, performed in the same way by any number of employees. For an assembly-line worker or McDonald’s server, management can calculate how much additional revenue an additional worker or server would generate. Such an estimate would be approximate, however, yielding a range of productivities rather than an absolute number. In view of this uncertainty, how should the wage be set? (Chapter 8)

But the marginal utility theory was dreamed up as an attempt to explain bourgeois economics without offending the capitalists, and in the process it tries to invalidate Marx’s labor theory of value. But the marginal theory has no relevance outside of “Econ 101.” In reality, the wages are set by prevailing norms of workers’ living standards, and how much they need to get by and raise their families. Wages are higher for more skilled work, due to the costs of training. But wages are modified—either up or down—by the relationship of forces in the class struggle, which usually entails unions and strikes, but often is a measure of the threat of unions and strikes. Over the course of history, wages fluctuate in accord with the ups and downs of labor struggles. In its most basic expression, the wage is the equivalent of the value of labor power, beginning with simple, or unskilled, labor power. As Marx explained,

> The value of labour-power is determined, as in the case of every other commodity, by the labour-time necessary for the production, and consequently also the reproduction, of this special article. So far as it has value, it represents no more than a definite quantity of the average labour of society incorporated in it. Labour-power exists only as a capacity, or power of the living individual. Its production consequently pre-supposes his existence. Given the individual, the production of labour-power consists in his reproduction of himself or his maintenance. For his maintenance he requires a given quantity of the means of subsistence. Therefore, the labour-time requisite for the production of labour-power reduces itself to that necessary for the production of those means of subsistence; in other words, the value of labour-power is the value of the means of subsistence necessary for the maintenance of the labourer.

However, Piketty would like to suggest a way in which wages might be raised generally, assuming that wages are set according to guidelines recommended by economists, promoted by government agencies, and implemented by managers.

> In the long run, the best way to reduce inequalities with respect to labor as well as to increase the average productivity of the labor force and the overall growth of the economy is surely to invest in education. If the purchasing power of wages increased fivefold in a century, it was because the improved skills of the workforce, coupled with technological progress,

increased output per head fivefold. Over the long run, education and technology are the decisive determinants of wage levels. (*ibid.*)

It is true that in the course of a century, not just any century, but the century from 1870 to 1970, there was a significant rise in the standard of living. This was a century of a massive cheapening of all commodities and massive improvements in health and welfare of the mass of the working people. It was also a century of the unprecedented growth of workers' power to determine the level of wages and benefits. Never before or since has there been such a century. See: *The Rise and Fall of American Growth,* by Robert Gordon.
https://press.princeton.edu/titles/10544.html

But for a long time now higher levels of skill and education—education that goes significantly beyond the high school level—are not useful or necessary for many jobs. Most entry-level jobs in manufacturing, mining, agriculture, commerce and transportation require very little education beyond the normal life skills obtained from growing up in an industrialized society. This is one of the byproducts of the continuing replacement of labor by machines and the loss of outmoded technical mastery and artistry on the part of artisan-workers. The history of capitalist development is a history of the simplification of labor, progressively reducing the necessary training for each job. Nowadays much so-called technical training is little more than an initial familiarization with the equipment, where to go for tools or supplies, etc. On the other hand, new branches of production have evolved that require new skills and new training processes. But as these sectors grow and develop, once again automation sets in, replacing manual labor with more advanced tooling and machinery—and the simplification of labor proceeds. Meanwhile, there are some jobs, whether in industry or in the professions, that really do require higher levels of training or preparation, but such jobs are a minority of those required in a society based on production for profit.

He then moves on to Chapter 8, entitled "Two Worlds." The two worlds described are the top 1 % of wealth ownership vs. the 9% immediately below the top 1%. One thing that Piketty observes is that within the top 1% the bulk of the income is from property ownership: rent, interest, capital gains, dividends, royalties, etc., while within the 9% just below the main category of income is salaries, fees, bonuses, honoraria and wages (i.e. work-related income categories), with property income playing a subordinate role. This is what one would expect: within the top 10% of income there are many positions that allow salaried persons to obtain portions of the total social surplus value (managers, doctors, lawyers, accountants, entertainers, etc.). We should be aware that the classification of income sources can easily be distorted by social or legal customs under a system in which the surplus value produced by the workers is distributed in many ways among families within the upper layers of society.

For the upper middle class, certain income categories which appear to be remuneration for the services rendered or work performed in reality are a conventional form of cashing in on the values created by working people in production, i.e., these middle-class earners are taking a share of the profits. For example, a doctor who earns $500,000 annual income, much of it might be from honoraria accepted from surgical implements manufacturers or pharmaceutical companies, and there is a lot more to it than just that. Likewise, major carrier airline pilots, who do provide a highly skilled service for the flying public, might earn more than $150,000 per year. Instead of being a correct reflection of the value of the pilot's labor power, it is a conventional mechanism that allows pilots to have a good wage, plus a share of the profits produced by the working people. Lawyers, for the most part, are participants in the sharing out of the social surplus value, as are salesmen and administrators, even though a certain portion of their income might be compensation for useful work done. Their honoraria and feels are a transfer of surplus value from one account to another.

National income

Piketty then directs his attention to the division of the national income between capital and labor. Notwithstanding that workers are often paid scarcely enough to live on—or even less than that—Piketty takes into account that “if all the company's earnings from its output went to paying wages and nothing to profits, it would probably be difficult to attract the capital needed to finance new investments" (!)—not to mention the fact that the owners of such a company would be judiciously committed to a psychiatric institution. This *reductio ad absurdum* approach manages to leave out of sight the mechanisms and forces lying behind the division of the product value into wages and profits.

"National income," says Piketty, is the "sum of all income available to the residents of a given country in a given year. This is closely related to GDP, but GDP measures "the total of goods and services produced in a given year within the borders of a given country."

He continues, "in order to calculate national income, one must first subtract from GDP the depreciation of the capital that made this production possible; in other words, one must deduct wear and tear on buildings, infrastructure, machinery, vehicles, computers, and other items during the year in question." This means that GDP calculation tries to avoid "double counting" of a given product that becomes is incorporated into the value of another product further down the production pipeline.

"GDP is a measure of 'value added' rather than sales; it adds each firm's value added (the value of its output minus the value of goods that are used up in producing it). For example, a firm buys steel and adds value to it by producing a car; double counting would occur if GDP added together the value of the steel and the value of the car. Because it is based on value added, GDP also increases when an enterprise reduces its use of materials or other resources ('intermediate consumption') to produce the same output."
http://en.wikipedia.org/wiki/Gross_domestic_product This article says:

1. Estimate the gross value of domestic output out of the many various economic activities;

2. Determine the intermediate consumption, i.e., the cost of material, supplies and services used to produce final goods or services.

3. Deduct intermediate consumption from gross value to obtain the gross value added.

"When considering the production process for the entire economy, intermediate products—that is, goods and services that are used as inputs in the production process (and will not contribute to future production)—are excluded, so that the measure of output is an unduplicated total." From *U.S. Bureau of Economic Analysis*.

On this basis, all the money that is incorporated into the value of the final product could then be divided into three portions: the part that goes to purchase raw materials and semi-finished goods and replace and repair productive equipment (amortization of fixed capital) is one part, defined as "immediate consumption" above. Then the second part is that which accrues to the capitalist (principally the shareholders and bondholders of the company) some of which goes to payment of rent, taxes, fees and interest. The third part is that which goes to the expenses of labor, including compensation paid to all employees. Note that this analysis does not include the sales the intangible products of banks, insurance companies and other financial institutions. Financial operations do not add to GDP because there is nothing produced. Financial activities do, however, add to the calculated value of assets and incomes from property (dividends, interest, royalties, capital gains).

Piketty identifies domestic output as "net domestic product" or "domestic production," which is derived by subtracting depreciation of capital from GDP (which corresponds to the definition of GDP). International trade involves calculating the gain or loss in the international trade balance. If profits generated domestically are repatriated to foreign owners, then this must be subtracted from GDP. Conversely profits repatriated from productive installations abroad are added to GDP.

Gold and money

What of gold (not only used as a store of value, but also in jewelry and industrial compounds)? Gold is a mineral, like iron or lead. It is also a repository of value, since labor was required in the digging, smelting and stamping. This value can be expressed in exchange by how much of other commodities (linen, iron, etc.) can be exchanged for one ounce of gold. The products of nature, including gold, are taken up and used in society in accordance with the economic relations that govern production and exchange. In the pre-capitalist Aztec society gold was used as a decorative material, but not as a means of exchange or store of value, because the Aztecs had not developed relations based on commodity exchange. Precious metals were developed as means of exchange and measure of value in ancient European society in the course of the development of production for exchange and merchant's capital. In *Grundrisse,* the "Chapter on Money," Marx explained the history of how gold came to be recognized as the universal equivalent in exchange, as measure of value, means of circulation and store of value. He explained the history of all the precious metals and how their peculiar physical and chemical attributes facilitated their use in exchange, and how the exchange ratios among them evolved. He tracks the historical value relation between copper, brass, silver and gold and their uses in early and developed trade:

> Money—the common form, into which all commodities as exchange values are transformed, i.e. the universal commodity—must itself exist as a particular commodity alongside the others, since what is required is not only that they can be measured against it in the head, but that they can be changed and exchanged for it in the actual exchange process. ... The first form of money corresponds to a low stage of exchange and of barter, in which money still appears more in its quality of measure rather than as a real instrument of exchange. At this stage, the measure can still be purely imaginary (although the bar in use among Negroes includes iron) (sea shells etc., however, correspond more to the series of which gold and silver form the culmination). ... Money appears as *measure* (in Homer, e.g. oxen) earlier than as *medium of exchange,* because in barter each commodity is

> still its own medium of exchange. But it cannot be its own measure or its own standard of comparison. ... We see that it is in the nature of money to solve the contradictions of direct barter as well as of exchange value only by positing them as general contradictions. Whether or not a *particular medium of exchange* was exchanged for another particular was a matter of coincidence; now, however, the commodity must be exchanged for the *general medium of exchange,* against which its particularity stands in a still greater contradiction.

Regarding the nature of gold, Piketty says that since gold can either be a store of value or an industrial metal in jewelry and other commodities, he decides it is "simpler not to impose a rigid distinction between wealth and capital." Simpler, maybe, but not all simplifications are scientifically valid. In addition to being a material used in production, functioning as the object of labor, gold also functions in the social exchange process as the "universal equivalent." As Marx explained in *Capital,* Vol. 1, Chap. 3:

> The first chief function of money is to supply commodities with the material for the expression of their values, or to represent their values as magnitudes of the same denomination, qualitatively equal, and quantitatively comparable. It thus serves as a universal measure of value. And only by virtue of this function does gold, the equivalent commodity par excellence, become money.

Money appears in the historical evolution of barter between communities when multiple articles are being regularly exchanged. Eventually the need is recognized for an equivalent that goes beyond merely representing the value equivalent of one product in the body of another. People involved in systematized exchange relations begin to choose a single product that can stand as the representation of the value of a variety of other objects that exchange for it in ratios that become standardized over time. The one object that becomes the objective form in which other products express their value is the universal equivalent. In *Grundrisse,* Marx discussed the evolution of regularized exchange, and the various objects that served either as medium of exchange or measure of value: shells, bone implements, copper, brass, silver, etc. Marx put it this way in *Capital,* Vol. 1:

> Commodities with definite prices present themselves under the form; *a* commodity A = x gold; *b* commodity B = z gold; *c* commodity C = y gold, *&c*., where*as*, *b*, *c*, represent definite quantities of the commodities A, B, C and x, z, y, definite quantities of gold. The values of these commodities are, therefore, changed in imagination into so many different quantities of gold. Hence, in spite of the confusing variety of the commodities themselves, their values become magnitudes of the same denomination, gold-magnitudes. They are now capable of being compared with each other and measured, and the want becomes technically felt of comparing them with some fixed quantity of gold as a unit measure. This unit, by subsequent division into aliquot parts, becomes itself the standard or scale. Before they become money, gold, silver, and copper already possess such standard measures in their standards of weight, so that, for example, a pound weight, while serving as the unit, is, on the one hand, divisible into ounces, and, on the other, may be combined to make up hundredweights. It is owing to this that, in all metallic currencies, the names given to the standards of money or of price were originally taken from the pre-existing names of the standards of weight.

Paper wealth

Piketty begins the third chapter on a hopeful note:

> In this part I am going to concentrate on the evolution of the capital stock, looking at both its overall size, as measured by the capital/income ratio, and its breakdown into different types of assets, whose nature has changed radically since the eighteenth century. I will consider various forms of wealth (land, buildings, machinery, firms, stocks, bonds, patents, livestock, gold, natural resources, etc.) and examine their development over time ....

A "government bond," says Piketty, "is nothing but a claim of one portion of the population (those who receive interest) on another (those who paid taxes): it should therefore be excluded from national wealth and included solely in private wealth." But now that Piketty has told us that a bond is nothing but a promise to pay, how can it be wealth—whether public or private? As we have seen (above) bonds are assets for their purchasers and liabilities for their issuers. Such "wealth" can easily be created out of nothing, by issuing a certificate to the purchaser of the bond, unlike real wealth which requires the operation of a productive process. And yet we live in a world dominated by the confusion between bits of paper and real wealth.

Marx explained:

> Even when the promissory note — the security — does not represent a purely fictitious capital, as it does in the case of state debts, the capital-value of such paper is nevertheless wholly illusory.

And further on:

> The independent movement of the value of these titles of ownership, not only of government bonds but also of stocks, adds weight to the illusion that they constitute real capital alongside of the capital or claim to which they may have title. For they become commodities, whose price has its own characteristic movements and is established in its own way" (*Capital*, vol. 3, Chapter 29).

The dollars in your pocket, the deposits in your bank — are they real wealth? For all practical purposes they function as such, and we understand that a promise to pay works as well as gold and silver coins, provided it has the stamp of a trusted issuer. In the bond market these IOUs are as good as real money, and are considered stable investments because the prices fluctuate very little from day to day and they are completely liquid (at least if they are U.S. dollar-denominated bonds). But the same is true of any Ponzi scheme. The investor keeps receiving good returns, and all seems normal, until the inflow of funds into the investment vehicle is insufficient to cover the payouts. Then something different begins to happen.

Not only was it evident that something unusual was occurring on Wall Street in the early years of the 21st century, but a growing number of analysts pointed to the massive growth of mortgages issued to persons who were evidently unable to make the monthly payments (sub-prime mortgages). And this circumstance was seen as linked to the practices of mortgage originators to rid themselves of the mortgages by selling them to the Wall Street investment banks for further processing into collateralized debt obligations, or similar "assets." Awareness of a coming crash grew. In 2007 the Federal Reserve Bank ignored warnings of an imminent collapse of financial assets. The *New York Times* reported in September 2007 that,

Edward M. Gramlich, a Federal Reserve governor who died in September, warned nearly seven years ago that a fast-growing new breed of lenders was luring many people into risky mortgages they could not afford. But when Mr. Gramlich privately urged Fed examiners to investigate mortgage lenders affiliated with national banks, he was rebuffed by Alan Greenspan, the Fed chairman. ... Mr. Greenspan, in an interview, vigorously defended his actions, saying the Fed was poorly equipped to investigate deceptive lending and that it was not to blame for the housing bubble and bust."
http://www.nytimes.com/2007/12/18/business/18subprime.html?pagewanted=all&_r=0

Brooksley Born, chair of the Commodities Futures Trading Commission, sounded the alarm about the impending crash until she was removed from her position in 1999. "In 2009 Born, along with Sheila Bair of the FDIC, was awarded the John F. Kennedy Profiles in Courage Award in recognition of the 'political courage she demonstrated in sounding early warnings about conditions that contributed to the current global financial crisis'". According to Caroline Kennedy, "...Brooksley Born recognized that the financial security of all Americans was being put at risk by the greed, negligence and opposition of powerful and well-connected interests... The catastrophic financial events of recent months have proved them [Born and Sheila Bair] right." http://en.wikipedia.org/wiki/Brooksley_Born

During that period the Clinton administration officials Robert Rubin, Larry Summers, Alan Greenspan, James Johnson and others collaborated to promote the massive housing scheme. The objective was to accelerate the growth of banking profits. When put on the spot, Greenspan was inclined to express himself in evasive terms, not with outright denials of financial risk. He was familiar with the warnings of the critics but was under a lot of pressure from Wall Street and the White House. It's not as if the government was capable of working out a rational response to the accumulation of danger signs. Danger signs, in and of themselves, carry little political weight. The main determinant of government regulatory policy is the combined pressure of the sentiments and demands of the most powerful owners of capital. In the 20 years leading up to the 2008 crash, the emergence of the new money-making mechanisms — the shadow banking system, the unregulated derivatives — gave rise to unprecedented exuberance, and the participants in the financial explosion were buoyed by waves of optimism. House prices would go up forever; they could never fall, it was said. Everything seemed new and different, unlike previous booms that ended in a bust.

Behind it all, and critical to the social support for markets, there is a strong belief in "wealth" as promissory notes. This is reflexively supported by Piketty, showing his deep immersion in the illusions generated by the day-to-day functioning of capitalist social relations. Pieces of paper not backed by real wealth are fictitious capital — they are nothing but promissory notes. As for the bonds issued by the federal government, there is no collateral for these, so the bondholder has no legal claim on government property. These tokens are bought and sold in the belief that the federal government "backs them."

In 2008, suddenly a lot of people began to recognize the difference between real wealth and tokens of wealth. The difference between reality and fiction was present before the 2008 collapse. It became evident in the aftermath. You didn't need Marx to tell you that. There were not a few economists who issued warnings about the mushrooming of worthless assets in the course of the run-up to the crash.

As for the role of the Federal Reserve in a severe financial crisis, Piketty says,

> The pragmatic response to the crisis also reminded the world that central banks do not exist just to twiddle their thumbs and keep down inflation. In situations of total financial panic, they play an indispensable role as lender of last resort—indeed, they are the only public institution capable of averting a total collapse of the economy and society in an emergency.

The U.S. Federal Reserve Back, acting in concert with the officials of the George W. Bush administration, was able to respond in such a way as to severely limit the extent of and depth of the financial crisis. GDP in the U.S. bottomed out in August, 2009. Then Piketty continues:

> That said, central banks are not designed to solve all the world's problems. The pragmatic policies adopted after the crisis of 2008 no doubt avoided the worst, but they did not really provide a durable response to the structural problems that made the crisis possible, including the crying lack of financial transparency and the rise of inequality. The crisis of 2008 was the first crisis of the globalized patrimonial capitalism of the twenty-first century. It is unlikely to be the last.

Piketty puts his finger on the "lack financial transparency" as part of the problem. But this was not a cause of the crash of 2008, although it was a preexisting condition characteristic of normal capitalist functioning. What is implicit in Piketty's statement regarding "financial transparency" is that if the government knew what was going on, they would have put a stop to it. But, as is widely known, there were many government officials and corporate officers with extensive knowledge of the risk that was accumulating, and the fact that they knew it made no difference. The government itself was deliberately building the conditions for a big crash. The ratings agencies, Standard and Poor's, Moody's and Fitch found ways of putting their fraudulent stamp of approval on patently malignant securities so as to the grease the wheels of the Wall Street profit machine. The government agencies looked the other way. So, Piketty is dead wrong on the first part of his explanation of the problem.

The other cause of the crisis, Piketty claims is "the rise of inequality." But the rise of inequality of income, or of wealth, has been continuous, as his charts demonstrate, (except for the depression and the two world wars, which destroyed a large fraction of the world's capital). The rise of inequality is an inescapable condition of the existence of the capitalist mode of production. It is a process that underlies the whole course of evolution, the booms as well as the busts. In the growth phase of the business cycle all the firms involved in production race to take advantage of the sales. Rolling in cash, they introduce new methods of production to economize further on production costs. As the downward curve of the cycle catches them, they struggle to stay afloat. The weaker companies are bought out by the stronger firms. There is a shakeout among the smaller capitals, bankrupting some and forcing others into a subordinate status. There is consolidation of capital and the further concentration of wealth into fewer hands. Rising inequality is the result, as the percentage of the national wealth is concentrated in a smaller fraction of the population. So, Piketty evades any explanation of the 2008 financial crisis, although certainly many others have explained it. See, for example, Gretchen Morgenson's *Reckless Endangerment* (2012).

But how is it that the government acted so rashly in the period 1992–2008 to build up the conditions of a collapse of financial assets? And then, to turn on a dime and restore the functionality of the capitalist system? Engels explained that while the capitalist state acts to perpetuate the conditions that sustain capitalist production, it does so with its own methods, which develop historically along an independent trajectory of the formation of the bourgeois state. The state is not a simple tool of the ruling capitalist class but an aggregation of institutions that develop on the foundations of capitalist growth. As Engels explained in a letter to Conrad Schmidt, October 27, 1890,

> The reaction of the state power upon economic development can be one of three kinds: it can run in the same direction, and then development is more rapid; it can oppose the line of development, in which case nowadays state power in every great nation will go to pieces in the long run; or it can cut off the economic development from certain paths, and impose on it certain others. This case ultimately reduces itself to one of the two previous ones. But it is obvious that in cases two and three the political power can do great damage to the economic development and result in the squandering of great masses of energy and material.

Thus we see that in the period of the formation of the crisis of 2008, the capitalist regime in Washington, D.C., accelerated a process that was already underway, a process of using instruments of credit to ameliorate the declining conditions of production and trade. As Jack Barnes explained in "Capitalism's Long Hot Winter," *New International* #12*,* (Pathfinder, 2005),

> All the newly packaged and ever more leveraged forms of debt have made credit relations today even more explosive. New forms of insurance (that's what derivatives were supposed to be when they were "invented") are turned into new forms of gambling. The underlying relationship between the credit system and capitalist production explained by Marx in *Capital* has not changed. While credit greases the wheels during prosperity, Marx wrote, in a "period of overproduction and swindle, it strains the productive forces to the utmost, even beyond the capitalistic limits of the production process. . . . In a system of production, where the entire continuity of the reproduction process rests upon credit, a crisis must obviously occur—a tremendous rush for means of payment—when credit suddenly ceases and only cash payments"—that is, payments redeemable in gold—"have validity."

Piketty does not mention the growth of credit, except in one instance, where he says,

> Broadly speaking, the 1970s and 1980s witnessed an extensive "financialization" of the global economy, which altered the structure of wealth in the sense that the total amount of financial assets and liabilities held by various sectors (households, corporations, government agencies) increased more rapidly than net wealth. In most countries, the total amount of financial assets and liabilities in the early 1970s did not exceed four to five years of national income. ... I should also point out that these international positions are in substantial part the result of fictitious financial flows associated not with the needs of the real economy but rather with tax optimization strategies and regulatory arbitrage (using screen corporations set up in countries where the tax structure and/ or regulatory environment is particularly attractive).

Piketty associates fictitious assets with fraudulent bookkeeping, and certainly that is one reality. But he doesn't mention Ponzi schemes, futures and derivatives operations that extend forms of credit far beyond the assets existing in the real economy. Nor does he regard the expanding sovereign debts as fictitious capital or fictitious wealth, whether in the U.S. or Greece. Unless there's a robust outbreak of prosperity in the near future these ballooning debts have nowhere to go but into massive insolvency. There isn't anyone who can project a realistic program for recovery from the present crisis.

In terms of the government role in producing a recovery, Piketty discusses the role of central banks,

> Central banks are powerful because they can redistribute wealth very quickly and, in theory, as extensively as they wish. If necessary, a central bank can create as many billions as it wants in seconds and credit all that cash to the account of a company or government in need. In an emergency (such as a financial panic, war, or natural disaster), this ability to create money immediately in unlimited amounts is an invaluable attribute. ... They can redistribute wealth quickly and massively, but they can also be very wrong in their choice of targets (just as the effects of inflation on inequality

> can be quite perverse). Hence it is preferable to limit the size of central bank balance sheets. That is why they operate under strict mandates focused largely on maintaining the stability of the financial system.

It is true that the central banks can redistribute wealth, but it is all done within a narrow sphere. The Federal Reserve bank interacts with the banking system to shift assets into or out of banks. As Piketty says, their activities can be misdirected, etc. But what they can't do is resolve the financial crisis at the root. They can move debts around, even forgive debts. But they can't eliminate the process of spiraling debts. They can't resolve the underlying contradiction of capitalism itself, which produces the falling profit rate. Financialization is the illusory escape from falling profits by the accelerated generation of illusory profits. Numbers on balance sheets look good, but they are not real wealth.

But what about adopting the strategy the forgiveness of debts on a wider scale to escape from the overhang of worthless assets? This is the logical extension of the measures the EU is following in relation to the Greek sovereign insolvency. In this situation we witness a powerful reluctance to forgive debts. There is a fear of contagion. Beware! Everyone will want their debts forgiven. The situation seems to recur, fade, worsen and recur. The EU renegotiates the Greek debts and extends more credit, lengthens the repayment period. This is called kicking the can down the road. Is there any limit to how far this can go? Yes, there is a limit. Europe is entangled in this limit, but it's only a matter of stretching it. It stretches and stretches until something breaks.

Tendency of the rate of profit to fall

Markets have not "always" been as they are now in the early 21st century. Capital has been the motor for the most rapid social and technological development history has witnessed. And the recent hyperexpansion of finance, in particular, has resulted in an unprecedented exaggeration of the inherent weakness of credit under capitalism: the capacity of paper assets to balloon out independently from all underlying values. Capital has "always" had the potential to arrive at the stage we are living through today, but it could not happen all at once. It took time to get here. Marx is the one who helps us understand how we got from then to now. Piketty is the one who sees no difference between then and now, because, "it is always difficult to set a price on capital.

But the phrase "inequality of income from capital" seems to imply that two capitals of equal quantity produce different annual incomes. And, if we assume a regime of private ownership of industrial, commercial and financial property, and if we assume the reign of a free market in the buying and selling of commodities (which is generally modified or restricted in practice), how can there be an equality of incomes? Investments, sales, purchases and rentals are based on decisions made by private parties. So, there is bound to be considerable variation.

Marx, however, described the tendency toward the equalization profit rates among capitals with different organic compositions. The organic composition of capital is a ratio between the value of the means of production (constant and fixed capital, raw material, semifinished components and accessory materials) and labor cost (the value of the wages paid to the productive workers who actively engage with the means of production. It is unavoidable in the development of technology that the organic composition of capital will vary from one branch of production to another, some with higher composition, others with lower. Given that labor is the source of profit, then sectors with a low organic composition (high ratio of labor to means of production) would produce a higher profit rate. Given right of capitalists to switch their investments from one sector to another, the tendency would be for them invest their money in those sectors.

We are discussing an evolutionary process in which the mass and value of the means of production constantly grows in relation to the value newly created by the workers who interact with this mass in the daily process of realizing more value and surplus value in the product of labor. As this mass increases, the new value added per day shrinks ever smaller in relation to the value of the means of production each worker operates. Thus, inevitably the ratio of the surplus value to the total advanced capital, in every cycle of production, declines. *The rate of profit falls.*

But what happens over generations, is that with capital investments flowing back and forth from one sector to another, price competition forces down the prices of the commodities that issue from the sectors with low organic composition and forces up the prices of commodities issuing from the sectors of higher organic composition. In the long run the process results in the equalization of profit rates across all sectors. And we must keep in mind that new sectors are developing and old sectors shriveling, so that the investment opportunities landscape continues to evolve.

Piketty turns to Marx, whose "analysis emphasizes the falling rate of profit — a historical prediction that turned out to be quite wrong, although it does contain an interesting intuition." Actually the tendency of the rate of profit to fall is a logical, and inescapable, consequence of the evolution of the law of value. But Piketty doesn't discuss Marx's law of value, so doesn't have a way of defining what Marx was getting at with his "law of the tendency of the rate of profit to fall." Nonetheless, later in the book (chapter 6), Piketty tries to characterize Marx's theory, saying,

> Where there is no structural growth, and the productivity and population growth rate g is zero, we run up against a logical contradiction very close to what Marx described. If the savings rate s is positive, meaning the capitalists insist on accumulating more and more capital every year in order to increase their power and perpetuate their advantages or simply because their standard of living is already so high, then the capital/ income ratio will increase indefinitely. More generally, if g is close to zero, the long-term capital/ income ratio $\beta = s / g$ tends toward infinity. And if β is extremely large, then the return on capital r must get smaller and smaller and closer and closer to zero, or else capital's share of income, $\alpha = r \times \beta$, will ultimately devour all of national income.

Here Piketty assumes no "structural growth," which he has defined as the sum of productivity growth and population growth. So he assumes no productivity growth, no population growth. But here he is talking about “capital” as it might exist isolated from the real world of a growing, changing system. Marx, for his part, talked about capital as a living, evolving system. Marx explained the birth throes of capital—why not explain its death throes as well? Population was growing as Marx wrote his books, and continues to grow while Piketty writes his. And productivity growth? This is the heart of capital. It is the unprecedented explosion of productivity growth that most dramatically characterizes the distinctive nature of capitalist production in marked contrast to all previous systems of social production.

Capitalist production, by reducing the total quantity of labor required for the production of commodities, has continuously cheapened the commodities sold in the marketplace, not only for the capitalist, but for the workers as well. Wave after wave of new classes of products, previously out of reach for working people, have become accessible and affordable, although this process has slowed since the onset of the crisis in the 1980s. (And of course the waning and waxing of trade union power had affected this affordability as well.)

Piketty asserts: "if g is close to zero, the long-term capital/ income ratio $\beta = s / g$ tends toward infinity." The letter s designates the savings rate, and g denotes population growth. But Piketty has no argument since his assumptions do not take into account productivity growth, nor do they recognize the cheapening of commodities. The root of the problem is that Piketty does not recognize the labor theory of value, although (as we will note below) the Bureau of Labor Statistics of the U.S. government does recognize it (in its own way). The problem of what constitutes value is critical for any understanding of the capitalist mode of production, and that is why modern bourgeois economics has swept it under the rug, although value theory remains a topic in Econ 101.

In order to make use of value as a basis for grasping these trends in capitalist production, one must begin with the recognition that value is founded on labor time, and what determines the value of any commodity is the average time required to produce it, including the time spent making all its ingredients and components — and this will vary according to the general conditions prevailing at the given time and place. The more time that has been spent in the manufacture of an object, the greater its value, provided that the labor time corresponds to the expected and typical expenditure of labor time in the prevailing social conditions.

The tendency of the rate of profit to fall is an important consequence of the course of development of the capitalist mode of production, and one that, in its inexorable logic, demonstrates the historical limitedness of this form of society. Marx's analysis of the operation of this tendency has been openly attacked by bourgeois economists (Bohm-Bawerk for example, see *Karl Marx and the Close of His System*) whose unhistorical methods of analysis assume the perpetual existence of the capitalist form of production. Marx commented on the state of mind of those economists who find themselves confronted with the possibility of a long-term decline in the profit rate:

> But the main thing about their horror of the falling rate of profit is the feeling that capitalist production meets in the development of its productive forces a barrier which has nothing to do with the production of wealth as such; and this peculiar barrier testifies to the limitations and to the merely historical, transitory character of the capitalist mode of production; testifies that for the production of wealth, it is not an absolute mode; moreover, that at a certain stage it rather conflicts with its further development." (*Capital*, vol. 3, chap. 15)

The falling rate of profit is rooted in the increasing productivity of labor as it develops under capitalism. As Marx explained,

> . . . the level of the social productivity of labor is expressed in the relative extent of the means of production that one worker, during a given time, with the same degree of intensity of labor power, turns into products. The mass of means of production with which he functions in this way increases with the productivity of his labor. But those means of production play a

> double role. The increase of some is a consequence, that of others a condition, of the increasing productivity of labor. For example, the consequence of the division of labor (under manufacture) and the application of machinery is that more raw material is worked up in the same time, and therefore a greater mass of raw material and auxiliary substances enters into the labor process. That is the consequence of the increasing productivity of labor. On the other hand, the mass of machinery, beasts of burden, mineral manures, drain-pipes, etc., is a condition of the increasing productivity of labor. This is also true of the means of production concentrated in buildings, furnaces, means of transport, etc. But whether condition or consequence, the growing extent of the means of production, as compared with the labor power incorporated into them, is an expression of the growing productivity of labor. The increase of the latter appears, therefore, in the diminution of the mass of labor in proportion to the mass of means of production moved by it, or in the diminution of the subjective factor of the labor process as compared with the objective factor. (*Capital*, vol. 1, chap. 25)

The tendency of the rate of profit to fall is a consequence of the long-term increase in the value of the constant part of capital (money advanced to buy equipment, raw materials, etc.) in relation to the value of the variable part (the wages paid to the workers). As Marx indicated, this changing ratio is both consequence and condition of the rising productivity of labor, which is the increasing material output produced by the workers per hour. The increase of constant capital in relation to variable capital, with results from the growth in the productivity of labor, Marx calls the increase in the organic composition of capital. The commodities produced by ever increasing levels of productive technology express ever lower quantities of living labor, so they less valuable, cheaper, as the time passes, and the system evolves. Marx argued,

> No capitalist ever voluntarily introduces a new method of production, no matter how much more productive it may be, and how much it may

> increase the rate of surplus value, so long as it reduces the rate of profit. Yet every such new method of production cheapens the commodities. Hence, the capitalist sells them originally above their prices of production, or, perhaps, above their value. He pockets the difference between their costs of production and the market prices of the same commodities produced at higher costs of production. He can do this, because the average labor time required socially for the production of these latter commodities is higher than the labor time required for the new methods of production. But competition makes it general and subject to the general law. There follows a fall in the rate of profit—perhaps first in this sphere of production, and eventually it achieves a balance with the rest—which is, therefore, wholly independent of the will of the capitalist. (*Capital*, vol. 3, chap. 15)

> ... It is an incontrovertible fact that, as capitalist production develops, the portion of capital invested in machinery and raw materials grows, and the portion laid out in wages declines. (*Theories of Surplus Value,* vol. 3, chap. 23)

But profit only comes from the results of the labor that is actively applied in the process of production — profit does not flow from materials, tools, machinery and tools that the capitalist has purchased in order to organize the productive process. These items, necessary for production, are paid for (in the long run and on the average) at their value. Therefore constant capital is the part that merely reproduces its preexisting value in the product of labor. Variable capital, the wage, reproduces its value, but with an increment. The increment is profit. Labor creates more value than is paid for it. As Marx indicated:

> With all application of machinery (let us initially look at the case such as it arises directly, that a capitalist puts a part of his capital into machinery rather than into immediate labor) a part of the capital is taken away from its variable and self-multiplying portion, i.e. that which exchanges for living labor, so as to add it to the constant part, whose value is merely reproduced or maintained in the product. But the purpose of this is to make the

> remaining portion more productive. (*Grundrisse*, part VII, Machinery and Profit)

Over time, and with the growth of mechanization and automation, the total product value is composed more and more of constant capital value, transferred to the product of labor. The division of the newly-added value into the portion representing what has been paid for wages and the portion appropriated by the capitalist as surplus value thus takes place within a dwindling portion of the total product value. The surplus value is contained entirely within the shrinking element, which becomes vanishingly small in relation to the ever more massive bulk of the constant capital element. This is why the profit rate falls in the long run.

But how does the falling profit rate lead to economic crises and social strife? Marx observed:

> ... a fall in the rate of profit connected with accumulation necessarily calls forth a competitive struggle. ... Furthermore, capital consists of commodities, and therefore over-production of capital implies over-production of commodities. ... If it is said that over-production is only relative, this is quite correct; but the entire capitalist mode of production is only a relative one, whose barriers are not absolute. ... The contradiction of the capitalist mode of production, however, lies precisely in its tendency towards an absolute development of the productive forces, which continually come into conflict with the specific *conditions* of production in which capital moves, and alone can move.

The expansion of the productive forces strives to go beyond the limited powers of consumption of the mass of the people. On the one hand the relentless process of automation of production continues to throw masses of laborers to the side, and their means of consumption decline. On the other hand the productive apparatus adapts itself more and more to maximize the output of products per unit of time. On the one side, a cramping restriction of consumption; on the other a mass of products bursting at the seams.

The crisis of overproduction tends to grow cyclically, but is very sensitive to external interference (see Trotsky's comment above on the curve of capitalist development). Marx comments in *Capital,* vol. 3, chap. 30:

> The industrial cycle is of such a nature that the same circuit must periodically reproduce itself, once the first impulse has been given.[8] During a period of slack, production sinks below the level, which it had attained in the preceding cycle and for which the technical basis has now been laid. During prosperity — the middle period — it continues to develop on this basis. In the period of over-production and swindle, it strains the productive forces to the utmost, until it exceeds the capitalistic limits of the production process.

Production runs into a barrier of realization: commodities are produced on an ever-expanding scale, but the profit margins continue to slide. We must remember that the fundamental drive of capital is self-expansion. As this possibility fades, capital itself approaches its failure. There is downward pressure on wages as capitalists seek to recapture returns on investment. There is growing unemployment as more workers become redundant. Workers fortunate enough to hold on to their jobs face worsening job conditions and lower wages as the bosses continue to keep cutting production costs. The falling profit rate produces repetitive crises, which are partly resolved by waves of bankruptcies and junking of outmoded capital equipment. Crisis are partly "resolved" by an expansion of consumer credit. These economic processes and their political counterparts have come to be known as "kicking the can down the road."

As capitalism approaches more closely to the end of its rope, the squeeze tends to get tighter. But still there are ups and downs which go on for years or decades. The profit squeeze is strongly felt when the markets are saturated and competitive price-cutting pressures are strongest. At such times the capitalists feel the need to go to extremes to regain their previous profit levels, or just to make any profit at all. Often it's a matter of coming up with the wherewithal to pay their debts, or to meet margin calls. Marx pointed out,

> If the rate of profit falls, there follows, on the one hand, an exertion of capital in order that the individual capitalists, through improved methods, etc., may depress the value of their individual commodity below the social average value and thereby realise an extra profit at the prevailing market-price. On the other hand, there appears swindling and a general promotion of swindling by recourse to frenzied ventures with new methods of production, new investments of capital, new adventures, all for the sake of securing a shred of extra profit which is independent of the general average and rises above it. (*Capital,* vol. 3, chap. 15)

Tax the rich!

Tax the rich! In the conclusion to the book Piketty recommends a progressive capital tax on the wealthy as the best response to rising income inequality. He says (p. 665):

> Here, the important point to keep in mind is that the capital tax I am proposing is a progressive annual tax on global wealth. The largest fortunes are to be taxed more heavily, and all types of assets are to be included: real estate, financial assets, and business assets— no exceptions. This is one clear difference between my proposed capital tax and the taxes on capital that currently exist in one country or another, even though important aspects of those existing taxes should be retained. … According to the theoretical model, if the return on capital is around 5 percent a year, the equilibrium concentration of capital will not decrease significantly unless the growth rate exceeds 1.5– 2 percent or taxes on capital reduce the net return to below 3– 3.5 percent, or both. (p. 461)

In this section Piketty is referring to a tax not on incomes but on assets, or property, to include all assets, not just real estate. The taxes on assets will not be easy to implement since governments at the present time receive most of their income from levying taxes on income (with additional sources of tax revenue from corporate taxes, real estate taxes, etc.). But, given all the "difficulties" in estimating annual incomes of the superrich, especially since the IRS has to rely on the reports sent in by the tax "experts" hired by family foundations, we can imagine how tough it would be if the IRS had to shift to a system whereby taxes would be levied on the total assets of these families. (In saying this, we admit that we are hypothesizing about some taxation system that has no real existence outside of Piketty's extravagant dreams.) In any case, Piketty makes another recommendation with respect to the taxation of annual incomes.

Piketty continues (p. 660):

> The evidence suggests that a rate on the order of 80 percent on incomes over $500,000 or $1 million a year not only would not reduce the growth of the US economy but would in fact distribute the fruits of growth more widely while imposing reasonable limits on economically useless (or even harmful) behavior.

Then on p. 748:

> The difficulty is that this solution, the progressive tax on capital, requires a high level of international cooperation and regional political integration. It is not within the reach of the nation-states in which earlier social compromises were hammered out. Many people worry that moving toward greater cooperation and political integration within, say, the European Union only undermines existing achievements (starting with the social states that the various countries of Europe constructed in response to the shocks of the twentieth century) without constructing anything new other than a vast market predicated on ever purer and more perfect competition.

Perhaps Piketty is thinking about the potentially damaging results of striving for global harmony among the competing capitalist regimes and winding up with an unharmonious squabblefest. At least you have to give him credit for thinking outside of the box. Way, way, outside. But as it stands now, national governments, as a rule, levy taxes on the residents within their national borders, even in the countries belonging to the EU. This is not likely to change as the widespread deepening crisis of capitalism continues to promote economic nationalism—the increase of income of one's own country at the expense of others.

There is also the issue of tax evasion, which is something to be investigated and rectified by each national government as it sees fit (or not). Apart from accounts in the Cayman Islands, there is also the legislative process. The complexity of the tax system, patched together over many, many decades, allows for the existence of many loopholes and exemptions, effectively lowering the tax bill for the very rich while at the same time increasing the tonnage of the total tax code. Meanwhile the lower and middle-income brackets pay more.

It is not uncommon to hear about how the ultrarich evade taxes by concealing their wealth in dummy corporations in the Cayman Islands or other tax-avoidance havens. Also the amount of income and assets are often vastly underreported so as to pay a lower tax. In his classic study, *The Rich and the Super-Rich,* in Chapter 9, Ferdinand Lundberg provides voluminous detailed information to prove that:

> 1. That the American propertied elite with the connivance of a malleable, deferential Congress deals itself very substantial continuing tax advantages at the expense of the vast majority of the population.
>
> 2. That the national tax burden is largely shouldered, absolutely and relatively, by the politically illiterate nonmanagerial labor force rather than by big property owners or by upper-echelon corporate executives (who are often tax free).
>
> 3. That the resultant tax structure is such that it intensifies the abject and growing poverty of some 25 to 35 per cent of the populace (about whom latter-day pubpols theatrically wring their hands), and grossly cheats more than 95 per cent in all.
>
> > For down through history the dominant classes, groups, factions, clans, interests or political elites have always been scrupulously prudent in avoiding taxes at the expense of the lower

> orders. The aristocracy of France before the French Revolution, for example, gave itself virtually total tax exemption. The burden of supporting a profligate royal court with its thousands of noble pensioners was therefore laid upon commoners, thus supplying not a little fuel for the onrushing tidal wave of blood. ... It would be foolish to contend that there is a propertied elite in the United States and then not be able to show that this elite accords itself fantastic tax privileges down to and including total exemption. And, true enough, the large-propertied elements in the United States see to it that they are very lightly taxed—many with $5 million or more of steady income often paying no tax at all for many years while a man with a miserable $2,000 income, perhaps after years of no income, denies his family medical or dental care in order to pay tax!

What Piketty fails to notice throughout his book is that the wealthy are not simply richer than other people, but are a class that rules, a class that dominates the political life of each capitalist country. Piketty, like other bourgeois economists, offers advice to the powers that be, corporate or governmental. But this sort of advice, coming as it does from academia, might or might not feed into the streams of opinion and pressure that form the political environment in which governmental decisions are made. Occasionally the proposals of economists might be relevant to the policy-making process, but generally proposals that strike fear into the hearts of the superrich quickly wind up in someone's wastebasket. There's one thing we can be sure of, regarding Piketty's tax proposals. He can be confident he will remain a prize-winning economist, with all the honors he so richly deserves, even if his tax proposals are never mentioned in the circles of the policy-makers.

However, when the crisis of capitalism grows to point that the masters of the universe begin to feel the relentless pressure of the masses seething in discontent, they begin to feel the temptation to give some concessions that might alleviate the misery of these masses. A new fear rises in their hearts, the fear of losing everything in the chaos of a crisis they don't understand and can't control. This fear opens up space for reconsidering the possibility of a higher income tax on the upper brackets, higher corporate taxes, value added taxes, or individual taxes on capital gains, inheritance, etc.

In the present (autumn, 2019), there are voices in U.S. political life that strongly advocate tax-the-rich policies. Elizabeth Warren (Democratic candidate for president) argues on her campaign website:

> That's why we need a tax on wealth. The Ultra-Millionaire Tax taxes the wealth of the richest Americans. It applies only to households with a net worth of $50 million or more—roughly the wealthiest 75,000 households, or the top 0.1%. Households would pay an annual 2% tax on every dollar of net worth above $50 million and a 3% tax on every dollar of net worth above $1 billion. Because wealth is so concentrated, Saez and Zucman project that this small tax on roughly 75,000 households will bring in $2.75 trillion in revenue over a ten-year period.

Elizabeth Warren is not alone. Bernie Sanders, the democratic socialist candidate in the presidential race, states on his website:

> The proposal would cut the wealth of billionaires in the United States in half in 15 years and entirely close the gap in wealth growth between billionaires and the average American family, according to University of California Berkeley economists Gabriel Zucman and Emmanuel Saez, who advised Sanders on his plan. Hitting the richest 180,000 American households, Saez and Zucman estimate the tax would raise $4.35 trillion over the next decade, which Sanders says would go toward paying for his biggest policies, including Medicare-for-all, affordable housing, and universal childcare.

Not to be outdone, U.S. congresswoman Alexandria Ocasio Cortez (D–NY) recently came up with a proposed bill to tax the wealthy. The *Washington Post* reports:

Rep. Ocasio-Cortez has proposed a new marginal tax rate of 70 percent on income over $10 million. This is sometimes misreported as a tax on all income, but as she explained on the "Late Show," the rate would kick in only on every dollar earned after a person made $10 million in a single year. Income below that level would still face a high tax rate of 37 percent. (She has not mentioned long-term capital gains from investments and dividends; presumably they would still be taxed at a maximum rate of 20 percent.)

One might argue that these tax proposals are nothing but demagogy to appeal to the heavily taxed working people and lower middle-class elements of the population. There is certainly some truth to that. But these proposals also reflect the growing sense of unease within ruling circles that the relative increase of wealth among the highest income brackets coexisting with deepening deprivation and suffering at the lower orders is a serious political liability. The two-party system is tottering as a result of the rising discontent from below, and you will find very little enthusiasm in the upper echelons of society for the collapse of this tried and trusted means of protecting their power. Not wanting to allow the great American money machine to tilt over into the abyss, some of the heavyweights of U.S. capitalism have recognized the need to bend a little.

Warren Buffett, for example, wrote in an opinion piece the *New York Times* (August 14, 2011):

> Last year my federal tax bill — the income tax I paid, as well as payroll taxes paid by me and on my behalf — was $6,938,744. That sounds like a lot of money. But what I paid was only 17.4 percent of my taxable income — and that's actually a lower percentage than was paid by any of the other 20 people in our office. Their tax burdens ranged from 33 percent to 41 percent and averaged 36 percent.
>
> … I would leave rates for 99.7 percent of taxpayers unchanged and continue the current 2-percentage-point reduction in the employee

> contribution to the payroll tax. This cut helps the poor and the middle class, who need every break they can get.
>
> But for those making more than $1 million — there were 236,883 such households in 2009 — I would raise rates immediately on taxable income in excess of $1 million, including, of course, dividends and capital gains. And for those who make $10 million or more — there were 8,274 in 2009 — I would suggest an additional increase in rate.
>
> My friends and I have been coddled long enough by a billionaire-friendly Congress. It's time for our government to get serious about shared sacrifice.

On October 15, 1919, *Forbes* magazine featured an article which listed a number of U.S. billionaires who favored increasing taxes on the rich. Top on this list was Marc Benioff, chairman and co-CEO of SalesForce. He argued in *New York Times* (October 14, 2019):

> But capitalism as it has been practiced in recent decades — with its obsession on maximizing profits for shareholders — has also led to horrifying inequality. Globally, the 26 richest people in the world now have as much wealth as the poorest 3.8 billion people, and the relentless spewing of carbon emissions is pushing the planet toward catastrophic climate change. In the United States, income inequality has reached its highest level in at least 50 years, with the top 0.1 percent — people like me — owning roughly 20 percent of the wealth while many Americans cannot afford to pay for a $400 emergency. It's no wonder that support for capitalism has dropped, especially among young people.
>
> …That is why a new capitalism must also include a tax system that generates the resources we need and includes higher taxes on the wealthiest among us. Local efforts — like the tax I supported last year on San Francisco's largest companies to address our city's urgent homelessness crisis — will help. Nationally, increasing taxes on high-income individuals

> like myself would help generate the trillions of dollars that we desperately need to improve education and health care and fight climate change.

The billionaire tax reformers, of course, hold high the banner of champions of equity as they struggle to open their wallets to alleviate the suffering of the underserved millions. But we must keep in mind that the community of the wealthiest families in the U.S. is in a relatively privileged vantage point for viewing the gathering storm clouds threatening the foundation of their fortunes, whether it be rising debt levels, the threat of recession or growing working-class resentment—or all three.

As for Piketty, whatever he has said about taxation is most likely long forgotten by now. He hasn't said anything new. What really matters is what the most powerful owners of capital have to say—it's their prerogative to call the shots on key issues of public policy. The job of the economists, on the other hand, is to promote the image of our society as a democratic polity in which the capitalists, as solid patrons of the public interest and well-versed in the "science" of economics, are attendant to the recommendations of the professors. Economics departments in the universities of the capitalist countries exist in order to perpetuate the illusion that there are methods that can be utilized to analyze and understand the capitalist system, its markets, its banks, its international relations, and that there are policy actions that can be implemented to resolve crises and promote prosperity. But again, as Marx explained, in reference to the evolution of bourgeois political economy:

> Once for all I may here state, that by classical Political Economy, I understand that economy which, since the time of W. Petty, has investigated the real relations of production in bourgeois society in contradistinction to vulgar economy, which deals with appearances only, ruminates without ceasing on the materials long since provided by scientific economy, and there seeks plausible explanations of the most obtrusive phenomena, for bourgeois daily use, but for the rest, confines itself to systematizing in a pedantic way, and proclaiming for everlasting truths, the trite ideas held by

the self-complacent bourgeoisie with regard to their own world, to them the best of all possible worlds. (*Capital,* vol. 1, chap. 1, footnote)