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Thomas Piketty. *Capital in the Twenty-First Century*. Translated by Arthur Goldhammer. Massachusetts: Harvard University Press. 2014. ISBN 978-0-674-43000-6

Since the publication of Thomas Piketty's *Capital in the Twenty-First Century* in 2014 (translated by Arthur Goldhammer; originally published in French in 2013) based on his research during 1998-2013, this book has been translated into more than 30 languages. The English translation is a big book: 577 pages of main text, 76 pages of notes and 97 pages of technical appendix (available online). Piketty's book traces the evolution of income and wealth inequality in the advanced countries (France, Germany, Great Britain, Japan and United States) since the eighteenth century.

The extensive empirical and historical commentary by Piketty points to one fundamental inequality: $r > g$, where 'r stands for the average annual rate of return on capital, including profits, dividends, interest, rents, and other income from capital, expressed as a percentage of its total value, and g stands for the rate of growth of the economy' (25). This inequality is responsible for creating 'the fundamental force for divergence' (424) in capitalist societies. Piketty's solutions for combating widening inequalities are progressive global wealth tax (515), progressive income tax (493), substantial government expenditures (471) *and* not making markets 'freer and more competitive' (424).

For Piketty, capitalism generates forces of convergence as well as divergence. 'The main forces for convergence are the diffusion of knowledge and investment in training and skills' (21). However, these forces are not automatic. Indeed, as Piketty notes, 'the principal force for convergence—the diffusion of knowledge—is only partly natural and spontaneous. It also depends in large part on educational policies, access to training and to the acquisition of appropriate skills, and associated institutions' (22, also 71). He underplays this element of contingency when he writes that the 'overall conclusion of this study is that a market economy based on private property, if left to itself, contains powerful forces of convergence associated in particular with the diffusion of knowledge and skills' (571). Piketty's fundamental inequality, $r > g$, is 'amplified by inequality in the returns on capital as a function of initial portfolio size' (439) arising primarily from '"economies of scale" in portfolio management' (431). In other words, wealth begets more wealth. Is it not the same with knowledge? Endowments matter in the acquisition of knowledge too because technological diffusion depends on existing technology and skill capacity.

Various sources of data are creatively employed by Piketty. They include not only economic databases and reports but also literary sources. Examples of the latter include novels (Austen, Balzac, Pamuk, Tolstoy), Hollywood movies (*Django Unchained*, *Titanic*), TV series (*Bones*, *House*) and even the animated cartoon *The Aristocats*. Besides the World Top Income Database (and Maddison's national accounts data), Piketty uses the reports published by Crédit Suisse, *Forbes* and the World Gold Council. He calls for transparency in data collection by public and private organizations and highlights the need for 'reliable statistics' as a prerequisite for a 'truly democratic debate' (519).

Throughout the book, Piketty emphasizes that the aim of the numbers he presents is to familiarize the readers with the broad ‘orders of magnitude’ with respect to inequality because it helps in ‘focusing one’s thoughts’ (438). The following excerpt encompasses one such order of magnitude: ‘global inequality ranges from regions in which the per capita income is on the order of 150–250 euros per month (sub-Saharan Africa, India) to regions where it is as high as 2,500–3,000 euros per month (Western Europe, North America, Japan), that is, ten to twenty times higher. The global average, which is roughly equal to the Chinese average, is around 600–800 euros per month’ (64). Another empirical observation is that ‘the capital/income ratio generally varies between 5 and 6, and the capital stock consists almost entirely of private capital’ in the developed countries (50). That is, the value of total assets (business, environmental, financial and housing) is equivalent to 5-6 years of national income. Further, ‘the rate of return on capital, *r,* depends on many technological, psychological, social, and cultural factors, which together seem to result in a return of roughly 4–5 percent’ (361). On the other hand, ‘global output grew at an average annual rate of 1.6 percent between 1700 and 2012, 0.8 percent of which reflects population growth, while another 0.8 percent came from growth in output per head’ (73). The last two empirical facts form the basis for Piketty’s fundamental inequality of $r > g$; this is disconcerting because the ‘entrepreneur inevitably tends to become a rentier, more and more dominant over those who own nothing but their labor’ (571).

On examining the ‘metamorphoses of capital in Europe and North America since the eighteenth century’, Piketty finds that ‘[o]ver the long run, the nature of wealth was totally transformed: capital in the form of agricultural land was gradually replaced by industrial and financial capital and urban real estate’ (164). A high rate of saving coupled with low economic growth ‘automatically gives rise to a structural increase in the long-run capital/income ratio’ (173), and therefore, as Piketty puts it, ‘what we are witnessing is a strong comeback of private capital in the rich countries since 1970’ (173). Some reasons for this comeback are privatization of public enterprises, dominance of inherited wealth, exploding CEO salaries and financial globalization (which has had a favourable impact on financial asset and real estate prices).

It must be noted that Piketty does *not* have theoretical dissatisfactions with neoclassical (marginalist) economic principles. His disagreements are largely empirical. For instance, his criticism of marginal productivity theory arises from its inability to explain the exorbitantly high CEO salaries, while he considers it useful in determining the wages of ‘an assembly-line worker or fast-food server’ (331). Further, Piketty writes, ‘[o]ver the long run, education and technology are the decisive determinants of wage levels’ (307), thus neglecting the role played by workers’ collective movements and therefore democratic politics. Similarly, the problems with the time-preference theory of saving are that it is tautological and because ‘it is impossible to encapsulate all savings behavior and all attitudes toward the future in a single inexorable psychological parameter’ (359). Piketty disagrees with Modigliani’s life-cycle theory because ‘the massive dissaving by the elderly predicted by the life-cycle theory of saving does not seem to occur, no matter how much life expectancy increases’ (400).

Piketty rightly points out in the initial pages of his book that '[w]ithout precisely defined sources, methods, and concepts, it is possible to see everything and its opposite' (2-3). His empirical measurements reflect this position well and he presents the limitations of the data. However, his understanding of the capital controversies of the 1960s, which was about the measurement of 'capital', is fundamentally flawed. 'In my view, the virulence—and at times sterility—of the Cambridge capital controversy was due in part to the fact that participants on both sides lacked the historical data needed to clarify the terms of the debate' (232). It was a debate surrounding the logically problematic theoretical measurement of capital in marginalist economics which could never have been resolved with any amount of historical data.

The growth theory found in Piketty's *Capital* is supply-side in nature, in line with that of Solow and mainstream textbooks on growth. In Piketty, '*g* measures the long-term structural growth rate, which is the sum of productivity growth and population growth' (228). Furthermore, growth can be 'encouraged by investing in education, knowledge, and non-polluting technologies' (572). While it is of course *necessary* to invest in education, health, and non-polluting technologies, remember that investment plays a dual role – it is a component of current aggregate demand and creates future capacity – and hence, it may not be *sufficient* for economic growth. Consequently, to assume that the growth in aggregate supply would generate an equivalent growth in aggregate demand is unwarranted.

With regard to economic policy, Piketty favours, and rightly so, a progressive tax on all forms of wealth because as mentioned earlier, wealth begets more wealth. This is all the more needed because the widening inequalities of income and wealth 'are potentially threatening to democratic societies and to the values of social justice' (571). Other worrisome trends are the 'cuts in corporate tax rates and to the exemption of interest, dividends, and other financial revenues from the taxes to which labor incomes are subject' due to 'the recent rise of tax competition in a world of free-flowing capital' (496). It is indeed, as Piketty writes, 'an illusion to think that something about the nature of modern growth or the laws of the market economy ensures that inequality of wealth will decrease and harmonious stability will be achieved' (376).

Besides one complaint that the book lacks a separate bibliography, it is written, rather translated, in a very accessible manner for the non-specialist and interspersed with interesting socio-economic data from literary sources. There is a wealth of empirical questions for the Indian researcher in the numerous tables and illustrations found in the book. Lastly, parts of the book can even be used as readings in undergraduate classes.

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