REVIEW ARTICLE

PIKETTY'S POLITICAL ECONOMY

Thomas Piketty, *Capital in the Twenty-First Century*, Belknap/Harvard, Cambridge (Mass.) & London, 2014, viii+577 pp., $59.95.

Christopher Sheil

This book presents novel challenges for its reviewers, or at least those working to the gentle beat of academic journals. Thomas Piketty's *Capital in the Twenty-First Century* is not only the biggest blockbuster to burst from the field of political economy in living memory, it's also the international book trade's success story of the year. Originally published in France in 2013, the English language version was published in the United States on 28 March 2014 and has occupied the *New York Times* best-seller list for most of the past six months, with many weeks in the top spot. *Politico* magazine recently reported that the book's going global with editions in 20 more languages by January 2015. Sales figures as at September 2014 were said to be half a million, including 200,000 in French, and the product will soon be selling in China, Brazil, Japan and Argentina. A full final distribution of a million or more doesn't seem far-fetched. Indeed, with successive editions over time, it's not inconceivable that *Capital in the Twenty-First Century* could eventually become the best-selling book of economics ever, a milestone that's often said to be the four million or so in 41 languages sold by Paul Samuelson's textbook.

The already brilliant career of *Capital in the Twenty-First Century* renders superfluous many of the review's usual functions. Few observers of the literary, academic or political worlds will have not heard of the book by now. Practically everybody in this journal's catchment area will know of it, many will have read it, and most will have at least formed a preliminary opinion. With these rather unique circumstances in mind, here I'll try to combine the reviewer's duty to relate the book with an ear to the critical voices. Readers familiar with the wunderkind itself are welcome to skip to the latter sections, but be warned that these generally depend on agreement with the following rendition.

The Argument

There are two entry-level keys to the work. First, it must be understood that the subject is not the economics of production but those of distribution, specifically the inequality of distribution. As we shall see in due course, the definition of the subject is a point on which the more serious-minded criticisms have most commonly turned, and hence it's crucial to get this straight. 'Capital', as the author uses the term, refers to income-earning wealth; as distinct from income earned from wages and salaries (*i.e.*, from labour, whether by a real labourer or a senior executive). Thomas Piketty uses — as he himself couldn't have written more plainly — 'the words "capital" and "wealth" interchangeably, as if they were perfect synonyms' (p. 47). Apart from a certain historical panache, the advantage in 'capital' over 'wealth' is that the former is not so easily confused with high salaries, whose recipients are often referred to as wealthy, regardless of whether they in fact own any capital assets. Of course, the two income sources are often found together in the real case of the wealthy, but Piketty's title isolates the earnings from capital, which lie at the heart of the work.

As this is a threshold issue that some weighty reviewers have failed or refused to step across, the point bears pressing. Unlike the economics of production, which classically separates the three factors of land, capital and labour, Piketty defines 'capital' as everything owned by the residents and government of a country that can be traded in a market. 'Capital' thus includes a country's total non-financial assets ('land [including natural resources], dwellings [including residential real estate], commercial inventory, other buildings, machinery, infrastructure, patents, and other directly owned professional assets'), plus financial assets ('bank accounts, mutual funds, bonds, stocks, financial investments of all kinds, insurance policies, pension funds, etc.'), minus liabilities (debt).

With some justification, publicly owned capital is generally left aside. As already mentioned, Piketty also excludes so-called 'human capital', *i.e*., the individual's labour power, skills, training, abilities, etc., except in slave societies (notably the American South). In sum, 'capital' in *Capital in the Twenty-First Century* refers to all forms of wealth that individuals or groups can own that can be traded in a market on a permanent basis.

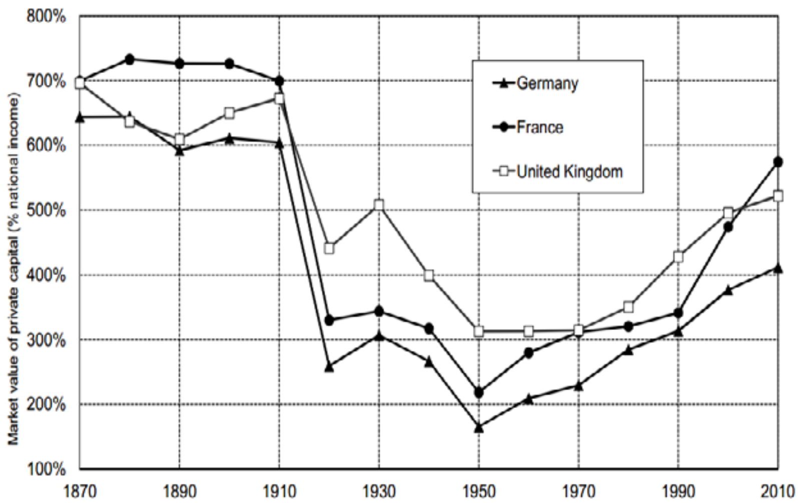
Secondly, the concept of the 'capital-income ratio' supplies the foundation on which everything else stands. If there is genius in the work, it lies in and about this ratio. The ratio refers to the total value of the stock of national capital in any given year divided by the total value of the annual flow of national income (including the flow to capital). Requiring nothing more complicated than the data in whatever the currency was at the time, the ratio gives the author a universal yardstick for comparing the amount of capital within and between countries across time, solving countless measurement issues in one blow. The argument in *Capital in the Twenty-First Century* is built on capital-income ratios derived for many countries and the world at large that stretch over one or two centuries, with excursions back to Antiquity.

Turning these two keys, what we find here is an historical narrative of inequality covering the full modern period, as interpreted through the prism of capital as a ratio of income. Does it matter if a country has a stock of capital equal to twice its yearly income, or four times, or six times, as it almost is in Australia today, or a filthy rich ten times, which is where we could be heading? The argument is that inequality grows when capital grows, *i.e*., inequality is primarily a function of the rate of return on capital being greater than the rate of income growth — as expressed in the now famous $r > g$, upheld by Piketty as 'the central contradiction of capitalism' (p. 571). Strictly, inequality doesn't have to grow with the capital stock, but as the ownership is everywhere concentrated among the few, it always will (barring external shocks, such as war and the like), unless this effect is deliberately restrained.

The argument might seem like stating the obvious, but Piketty sets out to prove the point and to pursue the consequences, before offering restraining solutions. In this, *Capital in the Twenty-First Century* is pitched against the 'Kuznets Curve', so-named after Simon Kuznets, who theorised that inequality rises in the early stages of industrialisation when only a few participate in the new mode, but automatically falls in advanced capitalism as most of the population join the growing economy, and eventually stabilises at socially acceptable levels. Published in 1953 and promoted as a piece of Cold War propaganda in 1955, the Kuznets Curve was based on empirical studies of the United States over a period of 35 years from 1913 to 1948, and its cheery moral was that 'growth is a rising tide that lifts all boats'.

Piketty's counter-argument can be illustrated with his Figure 1.2 below, which shows the capital-income ratios for the United Kingdom, France and Germany from 1870 to 2010, *i.e.*, from the mid- to late-modern period.

Figure I.2. The capital/income ratio in Europe, 1870-2010



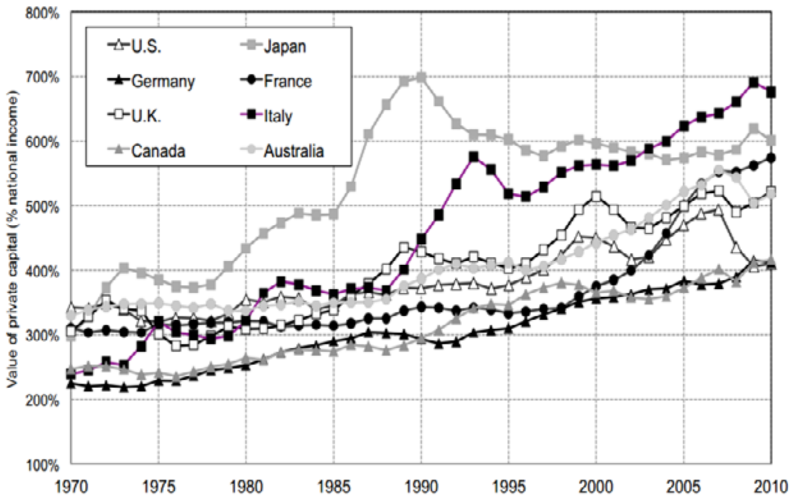
Aggregate private wealth was worth about 6-7 years of national income in Europe in 1910, between 2 and 3 years in 1950, and between 4 and 6 years in 2010. Sources and series: see piketty.pse.ens.fr/capital21c.

Notice the U-shape, which begins after 1910 (i.e., in 1914, actually) and bottoms out in 1950, a period encompassing the two world wars. This tells us that the Kuznets Curve is based on a time of declining capital stocks, before — as can be seen — they stabilised around 2-3 years' worth of income. In Piketty's argument, Kuznets described an exceptional period, which is now being left behind as capital-income ratios rise again. In other words, one way or another, this book investigates whether the ratio's stable post-war period up to 1980 —

known in France as the *Trente Glorieuses* (the 30 glorious years, from 1945 to 1975), and generally elsewhere as capitalism's Golden Age — should be classed as the norm or an anomaly.

The question is urgent, since the capital stock has shot back up to 4-7 years' worth of income over the recent decades, the neo-liberal decades. This is shown in Figure 5.3 below, which tracks the ratios for the world's eight richest (*per capita*) countries between 1970 and 2010 — including for Australia, where capital's value has shot up from three to five-and-a-half times the national income. As can be seen, we're nearly back to, and might soon exceed, the capital-income ratios that were common in the period remembered as the *Belle Époque* (the beautiful era) or the Gilded Age before the Great War; a time of extreme social inequality.

Figure 5.3. Private capital in rich countries, 1970-2010



Private capital is worth between 2 and 3.5 years of national income in rich countries in 1970, and between 4 and 7 years of national income in 2010. Sources and series: see piketty.pse.ens.fr/capital21c.

It follows that, if we want an idea of what post-2014 holds for late modern society, we should look at pre-1914. If the ratios keep rising, as they likely will, the concentrating owners of the enlarging capital stock will become ever more powerful, including in their capacity to perpetuate their species, ushering in a dystopia that Piketty calls 'patrimonial capitalism'. This is a society where the owners of inherited wealth will dominate the rest of us, who will be doomed to own no more than the relative pittance that we can garner from a lifetime's labour. This will tend to replicate the social relations depicted in the novels of Jane Austen and Honoré de Balzac, effectively a society ruled by hereditary nobles. As the wealth that has been accumulated from the past proceeds to 'devour the future', at some point the process will fatally undermine the general belief in the meritocratic values upon which democracy depends. Piketty does not map the consequences, beyond noting that the 'problem is enormous' and 'potentially terrifying', but it is no exaggeration to say that *Capital in the Twenty-First Century* is conceived as a bid to save civilisation as we have known it.

The Method

The parts from which the argument is made are generally simple and elegant. To isolate the share of national income claimed by capital, Piketty announces the 'first fundamental law of capitalism'. In light of the author's general disposition, typified by his dislike of the 'terribly arrogant' expression 'economic science' (p. 573), 'law' can be read as a tongue-in-cheek flourish, as with the title of the book, after Marx. As it happens, the 'law' extends an economist's idea of a joke in just being an accounting identity: $\alpha = r \times \beta$, where α is the share of income claimed by capital, r is the rate of return on capital and β is the capital-income ratio. This merely says that capital's income will equal the return per unit multiplied by the total units. The tautology is admitted, but the author is serious about the need to grasp the identity. If, for example, the average annual rate of return on capital, r, is 5 per cent, and the stock of capital, β, is equal to six times the national income, then this law says that capital's income, α, will be 5 per cent of 6oo per cent = 30 per cent (i.e., 0.05 x 6 = 0.3). The return to labour will be the residual 70 per cent, giving the capital/labour income split. Of course, the identity pivots on the r in the famous $r > g$, by which it should be understood that Piketty is referring to more than the rate of profit. Just as 'labour' refers to all salaries and wages, so r includes profits, rents, dividends, royalties, capital gains and any other form of return on capital assets.

We will come to what determines r shortly, but beforehand we must get the capital-income ratio straight. To this end, Piketty announces a second formula — and there are only two of these things at the centre of the work — to explain the variations in β in the long run, flagged as the 'second fundamental law of capitalism'. The relations are a tad more complex but the arithmetic is just as elementary: $\beta = s/g$, where s is the national rate of saving and g is the national rate of income growth. The ups and downs of the interaction between the saving (s) and growth (g) rates determine how much capital, β, accumulates. If, for example, the saving rate is 12 per cent, s, and income growth is 2 per cent, g, then the capital-income ratio, β, will be 12 per cent/2 per cent = 600 per cent (i.e., 0.12/0.02 = 6).

Notice that small changes in the second law's dynamic magnitudes make a big difference to the outcome, which foreshadows the larger argument. Assuming the 12 per cent saving rate, if g falls to 1 per cent, β will rocket to twelve years, a society twice as capital intensive as when g was 2 per cent. Conversely, if g rises to 3 per cent then β will fall to four years. The formula takes a long time to work out, often decades. For example, if a country starts with no capital and saves at an annual rate of 12 per cent, it'll take 50 years to accumulate the equivalent of six year's income, by which time that income will itself have usually increased, so that the six-times ratio will take even longer to arrive and stabilise. All the same, the evolutionary upshot is that the slow but sure route to ever more grotesque social inequality is the combination of a high saving rate, s, with a low income growth rate, g.

Most publicity about *Capital in the Twenty-First Century* has focused on the high r rather than the low g, but the latter is the other side of the $r > g$ story in recent times. A low growth rate is likely to continue into the future. Piketty adopts a median world scenario of 1.5 per cent growth *per capita* per year (assuming an energy source to replace hydrocarbons), compared with 2.5 per cent in 1950-80 and 1.7 in 1980-2012. Assuming a consistent saving rate, it follows that the more stagnant the economies become, the larger the capital stock will loom, casting its sinister patrimonial shadow across the lands of late modernity.

The 'second fundamental law of capitalism' is also another insider joke of sorts (which isn't made apparent until 60 pages later), for the formula is actually the neoclassical growth model defined by Robert Solow in 1956. This locates where Piketty stands within the schools of economics, which is with the 'neoclassical synthesis' that integrated microeconomics (*i.e.*, market pricing) with macroeconomic leverage over equilibrium within the context of full employment. The Piketty synthesis — or, as

Paul Krugman has put it, his 'unified field theory of inequality' — integrates market pricing with macroeconomic leverage over distribution within the context of moderate inequality. The post-war Keynesians were interested in the national saving and income growth rates because of their relationship with production; Piketty is interested in their relationship with distribution.

Yet to pigeon-hole the author as a distributive Keynesian would be to sell him short. Piketty accepts the market in principle, but generally hedges his bets on whether things operate as theory says they should, only takes market information seriously over the long term, and is eager to draw insights from wherever they come. It is ridiculous to call Piketty a Marxist, as is the wont of neo-liberal publicists bent on discrediting the author, but he's akin insofar as Marx was also concerned about inequality, as were Smith, Malthus, Ricardo and all the classical school.

Piketty has some interesting asides about Marx, including the observation that Karl lived in a time when there had been basically no wage rise for about 60 years and some of his sources suggested that the capital-income ratio, β, was greater than ten. With a 5 per cent rate of return, r, capital would have been pulling in over 50 per cent of income, α, the legitimacy of which anyone might have questioned. It is refreshing to read a book in which Marx figures as just another scholar in the field, but Piketty makes no bones about how badly he thinks Karl misunderstood the technological springs of productivity growth, and declares 'no interest in denouncing inequality and capitalism *per se*' (p. 31). No; Piketty accepts inequality so long as it can be justified in the general interest and wants only to make capitalism work better; to preserve economic openness and avoid protectionist and nationalist reactions by heading off the extreme inequality that the rising capital-income ratio implies, and to do this in a democratic policy way that won't harm economic growth.

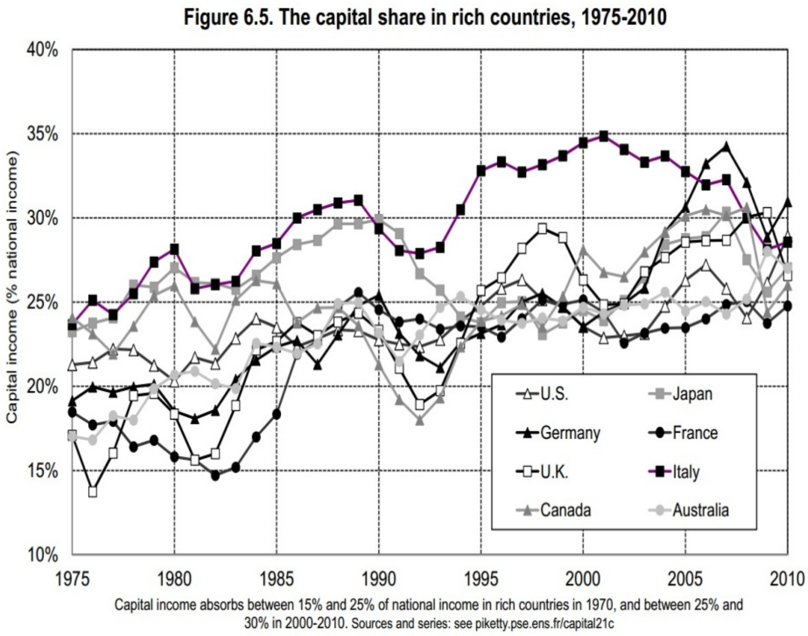
All in all, it seems fair to say that Piketty is a classical economist in orientation, as amended by a pragmatic acceptance of neoclassical reasoning, minus its patent stupidities plus any sensible augmentations, particularly those drawn from historical experience, which he privileges over knowledge from theoretical models. 'To be more useful', he says in describing his approach, 'economists must above all learn to be more pragmatic in their methodological choices, to make use of whatever tools are available, and thus to work more closely with other social science disciplines' (p. 575).

To sum up, in *Capital in the Twenty-First Century*, Thomas Piketty tests his historical research against the neoclassical growth model over modern history in a bid to warn of how high the capital-income ratio might go and the implications for inequality. The genre is known as 'cliometrics', although the work is more textured than that tag implies. The author is sensitive to the sin of anachronism, notably in contrasting 19th century cynicism over the relationship between wealth and merit with 21st century bromides that defend inequality in the names of justice and virtue, not to mention the pious appeals to productivity.

One of the book's charms is the way the narrative is illustrated with the changing social consciousness of inequality in contemporaneous novels (and more recently, on television). Yet the real power in the work stems from the awesome research on which it draws. This is a big book: 577 pages of text, 76 pages of notes, almost 100 graphs, 18 tables, and this is only the beginning. The research also includes a dense 97-page online appendix that leads in turn to hundreds, maybe thousands, more pages of data and analysis, much of it published by Piketty and his colleagues over the past 15 years. No one has doubted that this work is based on the biggest store of data on inequality known to humankind. The former head of the US Treasury under Bill Clinton, Larry Summers, has suggested that the empirical research alone is a 'Nobel prize-winning contribution'.

The Nub in Theory

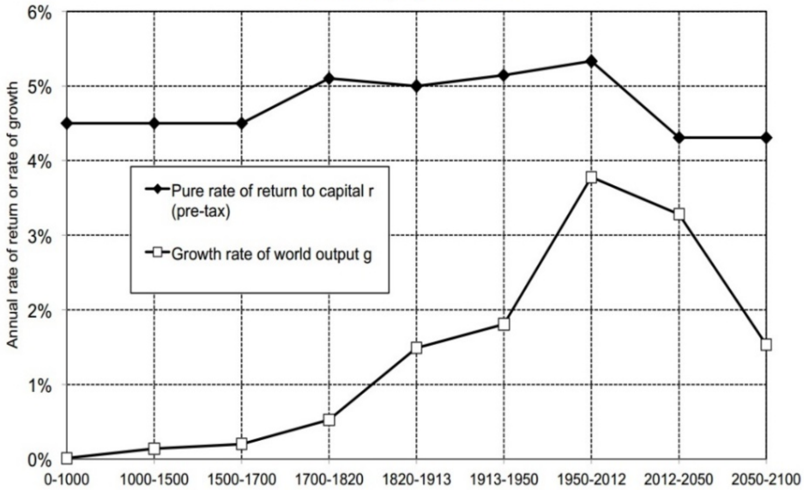
By this stage, you should be familiar with the leading character, the capital-income ratio (β), how it varies over time (s/g), and how to isolate the share of national income flowing to capital ($a = r \times \beta$). Now, recalling that the ratio has roughly doubled in the rich countries over the past 30 years, the dramatic upshot for *a* is shown in Figure 6.5 below. As can be seen, capital's share of income has also practically doubled, rising from 15-25 per cent in 1975 to 25-30 per cent in 2010. In the Australian case, capital's owners are now pulling in about 27 per cent of the nation's income, up from about 16 per cent, a rather alarming 70 per cent rise.



This presents the puzzle of why *r* hardly seems to vary, apparently siphoning away an increasing share of national income as capital apparently accumulates without end. What goes up in supply must come down in price, or so we're constantly told. What, then, determines *r*? Why does *r* seem so apparently constant? By what magic does the price of the rising stock defy the good old law of supply and demand?

The book is divided into four parts and this issue comes to a head at the end of Part Two, which looks into the capital/labour income split. For a start, Piketty reports his empirical findings, which say that the average annual (pre-tax) *r* has invariably been about 4-5 per cent. That there have been small shifts and qualifications must be admitted (variations according to demand, asset classes, boundary and size issues, risks, etc.), but after all is added, subtracted and averaged, 4-5 per cent is the perennial bottom line. The extraordinary Figure 10.9 below, which shows the trajectories of *r* and *g* for the world (!) from Antiquity (!) to the present and beyond (!), is a summary extrapolated from the major economies. As can be seen, *r* has only risen slightly over the past 300 years, and is only projected to decline slightly over the next 100, and g only ever got close to r during the glorious golden years.

Figure 10.9. Rate of return vs. growth rate at the world level, from Antiquity until 2100



The rate of return to capital (pre-tax) has always been higher than the world growth rate, but the gap was reduced during the 20th century, and might widen again in the 21st century.
Sources and series: see piketty.pse.ens.fr/capital21c

The main explanation offered for r's resilience (and therefore a's persistent rise since about 1980) is that 'the long-run elasticity of substitution of capital for labour is probably greater than one' (p. 233). This discussion stretches over 20 or so pages that are undoubtedly the most difficult part of the book to comprehend, and the only part where one can wish that some passages had been more clearly written (or translated), especially as Piketty's position here is also the chief point of criticism by other economists, led by the highly respected James K. Galbraith. I'll offer some reflections on the criticism, but this isn't the place for an exposition on the elasticity of substitution, whose empirics inhabit a baroque corner of economics and seem able to produce any answer you want. Suffice it to say that, in principle (and grasping this isn't essential), the economics posit that, if an increase in the capital stock, β, leads to a proportionate decrease in the rate of return, r, the substitution leads to no change in capital's share of income, a. This steady (distributional) state is known as 'unity' or 'one'. Two other outcomes are relevant. If the substitution of labour by extra β leads to a decrease in r that is less than proportionate, the result is an increase in a. In this case, the elasticity of substitution is said to be greater than one, *i.e*., although r has fallen in response to the extra supply (as per the good old law), the fall is so slight that it's outweighed by the flow from the extra volume. Capital's share of income, a, will only fall when the extra β leads to a decrease in r that is more than proportionate, in which case the elasticity is said to be less than one. Based on the record of the rich countries over the recent decades, Piketty estimates a slightly declining elasticity of 1.6-1.3 going forward, which spells continually rising a, but he admits that it is impossible to anticipate capital's future uses. For this and other reasons, $r > g$ is historically contingent, not a 'law' (as David Harvey, for one example of many critics in this respect, has misrepresented it).

The explanation has raised the hackles of Galbraith (and others), not simply because the subject matter here crosses over from distribution to production, but because this is the marginal productivity theory of factor allocation, with capital imagined as flowing to its most productive use in a perfectly competitive market as in orthodox neoclassical theory. The criticism has been spiced by Piketty's glib reference to what is famously known as the 'war of the two Cambridges' or the 'holy war over capital', which raged in the 1960s between the two claimants to Keynes' legacy, Joan Robinson's camp from Cambridge, England, and Solow's camp from Cambridge, Massachusetts. Piketty upholds Solow; Galbraith supports Robinson.

Does the objection invalidate the explanation, and more importantly, does the issue really matter? To quickly recap, the holy war turned on the problem that there's no common denominator that can supply units of capital capable of being aggregated, leaving us with a great pile of all kinds of assets. In production, capital is an intra-economic agent, a commodity produced from commodities that produce other commodities, with no inherently common quality of its own. Unlike land and labour, which can be divided by natural units (hectares and person-hours), we cannot add up all the quantities of capital without giving each form a price. If the rate of return to capital depends on the value of its contribution to production being greater than one, but we cannot calculate that contribution unless we give capital a value, we are going round in a circle, measuring capital with itself. The marginal productivity theory of capital allocation is thus self-justifying. Galbraith is correct in his own terms, but what difference does it make? Virtually none, in the following opinion.

First, Piketty is fighting on two fronts here. He is also deriding the mindless optimism of 'human capital' theorists who imagine 'that we have magically gone from a civilisation based on capital, inheritance and kinship to one based on human capital and talent' (p. 224). Piketty insists that capital still matters. However much knowledge and skills have improved, and although education and training are admittedly essential mainsprings of equality, capital has increased proportionately. Implicitly, this criticism is double-sided, simultaneously cutting across dogmatic critics of marginalism. However problematic the gauging of capital's contribution, we know that one worker with a bulldozer can dig holes faster than many with shovels, and most of the difference is not due to the driver. Robots make the point in the extreme case. We live in a world built on, encased in, and riven through, as well as reproduced with, capital.

In relying on the integrity of capital pricing, it shouldn't be imagined that Piketty has exposed himself to cheap shots. He agrees that the saving rate is subject to social, psychological and cultural influences, that the allocators in financial institutions and stock markets are a long way from achieving perfection and are often sources of chronic instability, waves of speculation and bubbles; that outcomes get distorted by short-termism and creative accounting (not to mention monopoly and monopsony); and that the quantity of capital's contribution isn't always precisely measurable and there are approximations and uncertainties in the estimates. Yet none of this can dissolve the importance of capital's contribution relative to labour, which marginal theory articulates, and its results can be taken as a proxy of the value over the long run, assuming volatilities largely wash out and structural imperfections pretty much cancel out. Representing an important theoretical point, if the source of inequality is conceived in this way, r's buoyancy doesn't rest on any form of market failure, only savers and allocators doing their jobs well over the long run. As the author often points out, 'the more perfect the capital market (in the economists' sense), the more likely r is to be greater than g' (p. 27) — a point that critics such as Thomas Palley appear to have missed. Piketty's explanation has strategic potency; for it's as if to say: assuming the market works as advertised, the world's heading for trouble.

Secondly, it's not clear why a long-term trend in factor substitution cannot be concurrent with other forces conditioning *r*, why different explanations cannot run together, or why they must necessarily conflict, especially as the empirical results for inequality go undisturbed either way. Indeed, Piketty quietly allows for other forces, noting that *r*'s and therefore *a*'s trend is:

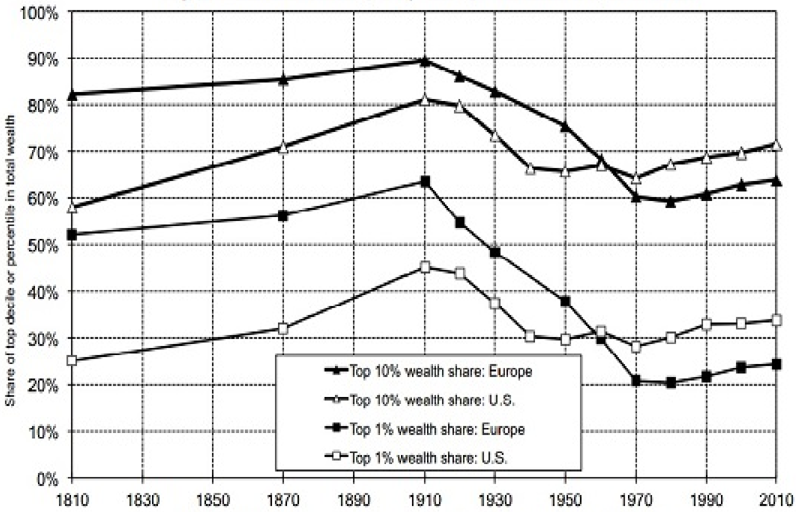
> consistent not only with an elasticity of substitution greater than one but also with an increase in capital's bargaining power *vis-a-vis* labor over the past few decades, which has seen an increased mobility of capital and heightened competition between states eager to attract investments. It is likely that the two effects have reinforced each other in recent years, and it is also possible that this will continue into the future. In any event, it is important to point out that no self-corrective mechanism exists to prevent a steady increase of the capital/income ratio, *β,* together with a steady rise in capital's share of the national income, *a* (p. 221).

In other words, while Piketty has cleared the field on the assumption that everything works as it should, this doesn't mean that nothing else ever adds to the pressure on *r*, and nor is there any need to agree on the range and weight of factors to accept the rest of the thesis. 'To be sure', as he reflects elsewhere, 'historical causality is always difficult to prove beyond a shadow of a doubt' (p. 575). In conclusion, for the book's immediate purpose, this issue can go to a side-bar, where the attendant narratives must ultimately be resolved as complements. As in a Picasso painting: Piketty's history of distribution aims to show capital's face full frontal; Galbraith's history of production is concerned with showing the beast in profile, warts and all.

Patrimonial Capitalism

At first sight, the trends in wealth inequality appear inconsistent. Whereas the capital-income ratios of the rich countries are now close to their pre-1914 levels (see Figs 1.2 and 5.3 above), the concentration of wealth is significantly less so. Sure, wealth is extremely concentrated, and the trend to further concentration is clear; but Europe's wealthiest 10 per cent have so far been limited to a 60 per cent share, compared with 90 per cent in 1910, as shown in Figure 10.6 below. Wealth is even more concentrated in the United States, where the top 10 per cent now own 70 per cent, but this is likewise below the 1910 peak. There are many uncertainties about wealth data, and particularly in the case of Australia, but there's no doubt that the concentration here is also less than proportionate to the rising capital-income ratio.

Figure 10.6. Wealth inequality: Europe and the U.S., 1810-2010

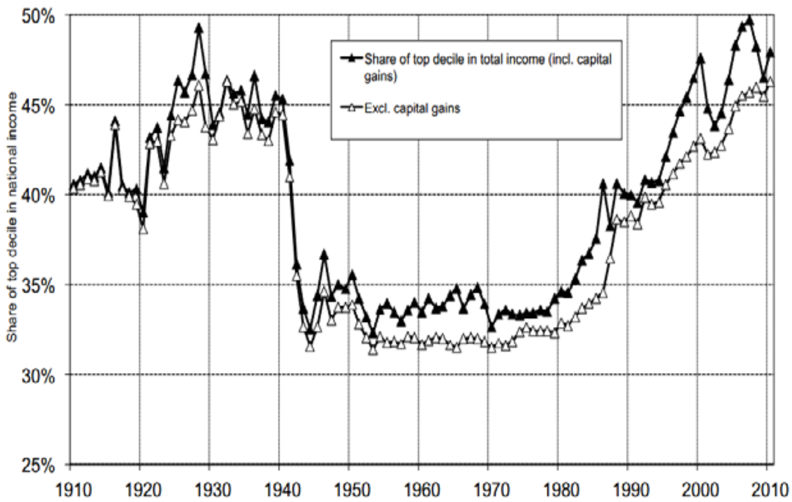


Until the mid 20th century, wealth inequality was higher in Europe than in the United States.
Sources and series: see piketty.pse.ens.fr/capital21c.

The difference between pre-1914 and today is accounted for by a redistribution from the top 10 per cent to the next 40 per cent in the wealth hierarchy, the propertied middle class, whose creation was one of the great social achievements of the 20th century, notwithstanding that the bottom 50 per cent still own practically nothing (as per all history). Assuming a stable if however unequal distribution, it follows that the wealthy's rising *a* from a rising *β* will manifest in growing inequality *vis-a-vis* the bottom 50 per cent, whose income is almost entirely limited to wages.

But there's more to the story. As everyone knows who has read anything about *Capital in the Twenty-First Century*, the broader distribution of wealth has been matched, and in some places more than matched, by the explosion in the income from labour now going to the top 10 per cent, a trend exemplified by the United States. When the stratospheric executive pay is added to the American top 10 per cent's return from their 70 per cent of the capital stock, inequality is 'probably higher than in any other society at any time in the past, anywhere in the world' (p. 265). The 100-year income curve for the top 10 per cent is shown in Figure 8.5 below.

Figure 8.5. Income inequality in the United States, 1910-2010



The top decile income share rose from less than 35% of total income in the 1970s to almost 50% in the 2000s-2010s.
Sources and series: see piketty.pse.ens.fr/capital21c.

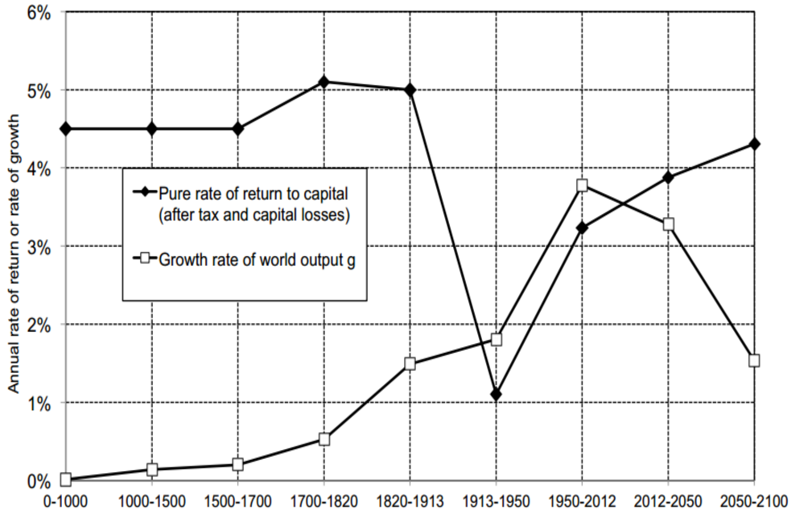
As can be seen, about a 15 per cent share of the United States' income has been transferred to the top 10 per cent since 1980. If the curve continues, the top 10 percenters stand to claim an incredible 60 per cent of total national income by 2030. Yet this isn't even the half of it. About three-quarters of the 15 per cent transfer has gone to the top 1 per cent, and within this, roughly half has gone to the top 0.1 per cent, where capital income still overwhelms salaries, as in the *Belle Époque*. The extreme polarisation obviously goes a long way toward explaining the extraordinary sales of *Capital in the Twenty-First Century*. It also gives Piketty a platform for an encore demonstration of the potency of wielding orthodox economics against what he winningly describes as 'the apparatus of justification'. The author takes the marginal productivity theory of income distribution to senior executive salaries with devastating effect. 'It may be excessive to accuse senior executives of having their 'hands in the till'", he concludes, 'but the metaphor is probably more apt than Adam Smith's metaphor of the market's invisible hand' (p. 332).

Yet it is not so much the rise in executive salaries *per se* that is foreclosing on the future; it's more the avenue that the rort opens for managers to hop aboard capital's gravy train. Dispatching theorists left (Franco Modigliani) and right (Vilfredo Pareto), Piketty's story closes at the end of Part Three with the processes driving the reconcentration of wealth and the return to a society where the arbitrary luck of inheritance decides individual life chances. As publicised, $r > g$ is the villain, and the propertied middle class is in the gun. Simply, if $r = 5$ per cent and $g = 1$ per cent, wealthy individuals need only save a bit more than a fifth of their return for their capital to grow more rapidly than the average income. The wealthier they are, the more they can save, and the wealthier they will become. There is, to boot, an accelerant. The wealthier the rich become, the higher their r also becomes due to better intermediaries, economies of scale, and more room to take risks or be patient. It follows that the main reason why the wealth distribution is not at pre-1914 levels today is that accumulation takes time and not enough has passed. While there are also convergent forces, they're unlikely to be strong enough to prevent the rising flow of a from the climbing β continuing to drain to the top, especially if g falls below the median projection — and there's no necessary end to the process, short of the wealthy exhausting all the opportunities on the globe to invest their savings, or political action.

Capital in the Twenty-First Century offers more than can be canvassed here, including in Part Four a striking panoptic chapter on the 'social state', plus a sweeping chapter on public debt that should be made compulsory reading for all Australians. The conservative critics have also been overlooked. Early in the book's career, the *Financial Times* claimed to have blown up the sky-rocketing tome by discovering what turned out to be the data equivalent of a few typos. *Forbes* magazine and think-tanks like the Heritage Foundation have churned out what at one stage seemed to be weekly critiques, each new spiel no less specious than the last. The book has thus far fared well, notwithstanding the antipathy of Galbraith and his colleagues, leaving the author himself to insist that the work should be treated as provisional and that we still have much to learn about inequality, while he, Emmanuel Saez, and their many likewise able colleagues have continued the research effort apace.

It must do to end with one more extraordinary graph. Figure 10.10 below highlights the contingent nature of $r > g$, showing the world trajectories of g and the *after-tax and capital losses r*, which goes to the optimism with which the book concludes.

Figure 10.10. After tax rate of return vs. growth rate at the world level, from Antiquity until 2100



The rate of return to capital (after tax and capital losses) fell below the growth rate during the 20th century, and may again surpass it in the 21st century. Sources and series : see piketty.pse.ens.fr/capital21c

This time the U-shape shows the collapse of *net r* to its lowest point by 1950, due mainly to the wars and the Great Depression. During the glorious golden years that followed new taxes were levied on capital. To curtail the ill-gotten executive salaries in the current period, Piketty supports confiscatory taxes of up to 80 per cent on the incomes of the top 1 per cent or 0.5 per cent, *i.e.*, on earnings over about \$0.5 million or \$1 million per year. This would not affect economic growth, would distribute the benefits more widely, and impose limits on economically useless and/or harmful behaviour. As an explicitly utopian counter to the dystopian future implied in the concentration of capital, he thinks a modest global wealth tax (0.1-0.5 per cent) in place of the current (regressive) property taxes would do the trick.

Piketty's remedial proposals are put forward as useful models, as distinct from necessarily being politically realistic or exclusive prescriptions, and many other ideas have tumbled into the debate. It is difficult to see why the agenda cannot include Galbraith's emphasis on raising minimum wages and other progressive reforms. As Dani Rodrick has observed, 'Piketty's vision needs to be taken seriously, but it is hardly an iron law'. The author has nominated an effective goal, to which there are any number of paths. The counter-movement can, should and probably must advance across the broadest possible front. On such a footing, the prospects for democratic reform are good, given that we're talking about the interests of some 90 per cent, even 99 per cent — unless, of course, the terrifying future toward which Piketty's thesis bravely points has already come all too true.

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