Mr. Piketty and the Classics

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ABSTRACT. Thomas Piketty's *Capital in the Twenty-First Century* (2014) has received widespread attention for its use of data to examine economic inequality. Piketty explicitly extends the debate of nineteenth century classical economists over income and wealth distribution. This paper examines Piketty's analysis, comparing it to the interpretations of classical economists. The paper demonstrates that Piketty's work is more a revival of classical economic theory than an application of contemporary economic theory. (B1)

I. Introduction

Thomas Piketty's *Capital in the Twenty-First Century* (2014) is an ambitious work. His goal is to return the focus of economics to income and wealth distribution. For nineteenth century classical economics, distributional questions were the "heart of economic analysis." (Piketty, 2014, p.16) Though never explicit in explaining the wayward ways of economics as it strayed from its nineteenth century concerns, Piketty regards the discipline's current "childish passion for mathematics" and arid theoretical speculations as something it needs to "get over". (Piketty, 2014, p.32)

As will be demonstrated later, Piketty's interest in classical distributional issues also leads him to a mode of analysis reminiscent of classical economic theory. For Piketty, distributional outcomes in the long run are largely a function of rates of economic growth, profit rates and population growth, just as they were for Adam Smith, David Ricardo, J.S. Mill and other economists of the classical era, including Karl Marx. This mode of analysis is notably different from the marginal productivity interpretations of income distribution offered by most modern economists.

Piketty's shared interest in classical distribution issues and his seemingly classical mode of analysis might suggest that Piketty's work is grounded in classical economic thought. It is not. Though Piketty mentions an array of classical economists in his introductory chapter,

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there is no indication that he has studied any of their works in depth. Some reviewers[1], perhaps seeing occasional references to Marx coupled with Piketty's unorthodox mode of analysis, have erroneously concluded that Piketty's *Capital* is intended as a modern version Marx's similarly titled work. Their error is twofold. The similarities between Marx and Piketty are largely to be found in the relatively conventional classical Ricardian economics which underpins Marx's analysis, not in his radical political philosophy. Moreover, though Piketty's work may be in the tradition of Marx the classical political economist, it is a tradition of which Piketty appears to be largely ignorant.

Though, as I will argue, Piketty may be an accidental classical political economist, his twenty-first century approach avoids some of the maladies which afflicted his classical predecessors. The paucity of empirical data which encouraged purely deductive interpretations of economic behavior – the so-called Ricardian vice of pure axiomatic theory – is no longer the insuperable barrier it once was. Modern economics is arguably modern less because of the sophisticated mathematical techniques it employs (which, as Piketty notes, may actually be a distraction) than because it has access to a wealth of data and the technical means to analyze it. For Piketty, the tradition which he follows explicitly is the singularly twentieth century tradition of data collection and analysis, particularly as embodied in the work of Simon Kuznets. (Chotiner, 2014) Piketty, the thoroughly modern accidental classical economist, offers the possibility of transforming the ostensibly deterministic, deductive classical economic models of the eighteenth and nineteenth centuries into more flexible variants suitable for twenty-first century analysis.

The following section provides a brief outline of Piketty's distributional analysis. Classical distributional analysis is presented in the subsequent section, contrasting Piketty's interpretation with those of Smith, Ricardo, Marx and Mill. The next to last section contends with the control of capital, reviewing the tax policies and other alternatives suggested by Piketty and classical economists. The final section summarizes the argument that interest in Piketty's analysis should inspire revived interest in the fundamentally similar classical economic analyses.

II. Thomas Piketty and Economic Distribution

Historically, the debate over income and wealth distribution has centered on the allocation of capitalism's output to owners of land, labor and capital, the productive resources responsible for that output. Smith, Malthus, Ricardo and Marx all rendered their judgments about trends in output and the distribution of that output. Smith may have appeared optimistic about those trends while Malthus, Ricardo and Marx were certainly pessimistic. Nevertheless, despite the merits of their logical speculations, little of the argument rested on a proper empirical foundation. For Piketty, it had always been "a debate without data"[2]. (Piketty, 2014, p.2) As the nineteenth and twentieth century's progress, the classical prophecies, rooted in axiomatic principles of scarcity and continuous capital accumulation, were never realized. Piketty's cautionary tale of classical economics' failures is meant to demonstrate that "economic theory needs to be rooted in historical sources that are as complete as possible". (Piketty, 2014, p10)

That said, Piketty sets out to gather the historical statistics on income, growth rates, profit rates, capital accumulation and wages – all the variables which figured so prominently in the failed theoretical speculations of the classical era. Piketty's research reveals two "U" shaped patterns. One shows the high income inequality of the 1920's falling to relatively low levels in the 1950's and 1960's before returning to higher levels of inequality in the current era. The second shows the ratio of capital to national income following a similar path during the same periods. (Piketty, 2014, pp.24-26)

While the classicals correctly anticipated that capital accumulation affected income distributions, it was not a deterministic relationship[3]. There was no inevitable trend to be discovered. Instead, contending forces subject to political and other social influences determined the outcome. For Piketty the interplay among those contending forces coalesces statistically into the relationship between the rate of economic growth (g) and the rate of return on capital (r). When the rate of return on capital (or, in classical terms, the rate of profit) exceeds the rate of economic growth, inequality tends to increase. This is Piketty's "fundamental force for divergence: $r > g$". (Piketty, 2014, p.25) To take the specific case of inherited capital, when the rate of return on that capital rises above the rate of overall income growth, the share of total income accruing to inherited capital increases. More generally, with the reasonable assumption that inherited wealth is held by those with relatively high incomes, income inequality tends to increase when r/g rises. To make his argument, Piketty assumes a novel definition of capital. Capital is "the sum total of non-human assets that can be owned and exchanged on some market." (Piketty, 2014, p.46) Since by this definition land is part of capital, the distribution of income is reduced to a division between labor and capital. Capital and wealth become effectively synonymous as well.

Capital's rate of return, r, consequently broadens its reach from its classical definition to encompass everything from interest, profits and rent to imputed returns on collectables. For his purposes, Piketty focuses on a "pure" rate of return on financial capital, investments which, on his calculations, has remained "virtually stable" between four and five percent over the last three centuries. (Piketty, 2014, p.200)

Growth, g, is defined more conventionally as "the annual increase in income or output". (Piketty, 2014, p.25) It is a function of "population growth and per capita output growth". (Piketty, 2014, p.72) Output productivity, in turn, depends upon "knowledge and skill diffusion". (Piketty, p.221) Growth may be increased as existing technologies are implemented more intensively within a particular country or more extensively as those technologies are adopted globally. Growth may also arise from technological progress stemming from advances in scientific knowledge. Most of what accounts for growth in recent times is due to skill diffusion and population growth. But it is the slow accretion of growth due to technological progress, perhaps less than one percent annually, which exerts the greatest cumulative effect on growth. As economic convergence continues globally it becomes the basis of the global "g", the long run global growth rate. (Piketty, 2014, pp.72-77)

With the addition of "s", the savings rate, to the previous variables, Piketty formulates his first and second laws of capitalism.

The First Fundamental Law of Capitalism: $\alpha = r \times \beta$

where r is the rate of return, α is capital's share of national income and β is the ratio of capital to income. (Piketty, 2014, p. 52)

The Second Fundamental Law of Capitalism: $\beta = s/g$

where s is the savings rate and g is the growth rate. (Piketty, 2014, p.166)

The first law is an accounting identity: the higher the value of capital relative to national income, the greater capital's share of national income for any given rate of return on capital. The second law portends the long run implications of savings and growth rates on the capital income ratio. For example, a low growth rate of 2% coupled with a 12% savings rate yields a long run capital to income ratio of 600%. Using the first law as well and a rate of return of 5% results in capital obtaining 30% of national income in the long run. A fall in the growth rate to 1% raises β to 1200%, ultimately doubling capital's share of income to 60%.

Returning to the parallel paths of the U shaped curves representing capital to income ratios and income inequality during the twentieth century, an explanation emerges. With the destruction of capital in the Great Depression and the World Wars, β fell. Even though incomes may have fallen as well, capital declines were more severe. Income inequality decreased as a result. In the post war era the effects of capital accumulation, funded over time through savings, eventually raised β toward pre-World War I levels by the turn of the twenty first century. As this process continued, a compounding effect emerged as personal lifetime savings were supplemented by inherited capital, all increasing at the rate of return r. Declines in g, whether due to reduced population growth or lower rates of productivity growth also hastened the return of high income and wealth inequality.

With capital's "pure" return centered upon the four to five percent rate, labor's return depends upon the growth rate. If it remains equal to capital's rate of return, labor's share remains constant while real wages may rise or fall depending upon whether g is more the result of technological progress or increased labor supply. If the growth rate falls below capital's rate of return, as Piketty believes is the more likely long run scenario, labor's share falls. If the growth rate is due solely to population increases, real wages fall. There is no technical minimum establishing a wage floor in this interpretation (or using classical terminology, there's no subsistence wage). Nor is there anything determining the internal distribution of labor's share of income. Piketty refers to the "illusion" of marginal productivity in determining wages, particularly in explaining compensation of "supermanagers" at the top of the wage distribution. (Piketty, 2014, p.330) In general, social and political explanations seem better suited for interpreting recent increases in wage inequality, particularly in Anglo-Saxon countries.

While the rise of supermanagers may exacerbate the long run rise in inequality by increasing the patrimony to be inherited, it is the constant concentrated accumulation of wealth over generations which cannot continue without catastrophic political and economic consequences. The increasing levels of inequality, which characterize global patrimonial capitalism, "cannot be sustained in the long run" without undermining democratic institutions and threatening political stability. (Piketty, 2014, p.572) In a world where hereditary rentiers dominate entrepreneurs, "the past devours the future." (Piketty, 2014, p.57)

III. Piketty and Classical Distribution Theory

Piketty's brief review of the economic literature on income and wealth distribution begins with the birth of classical political economics in the late eighteenth century. (Piketty, 2014, p.3) In the century that followed, Adam Smith, David Ricardo and John Stuart Mill dominated mainstream economics, defining the era of classical political economy. Even writers, like Karl Marx, who veered from the mainstream, acknowledged the classicals as their antecedents. This was the era when, as Piketty notes nostalgically, distributional issues were the discipline's principal priority. Piketty sees himself as following in this classical tradition. A comparison of Piketty's analysis with interpretations of the classical era's major figures reveals similarities which – intentional or not – place Piketty more than superficially in the classical tradition.

A. ADAM SMITH

Piketty dispenses with Adam Smith in four citations, three of which are footnotes. Smith is mentioned as the optimist of the classical school, the one who never imagined a world of rising inequality.[4] (Piketty, 2014, p.579) This popular conception of Smith depicts capital accumulation as a never ending process associated with continuous economic growth and rising wages. "In a well- governed society… in a civilized and thriving country", Smith proclaims, a "universal opulence" will extend "to the lowest ranks of the people." (Smith, 1965, p.11) In terms of Piketty's model this account would be consistent with a scenario in which the rate of growth perpetually exceeds the rate of return on capital and long run equilibrium only looms in the distant future. Reversing Piketty's interpretation where r>g, in Smith's world g>r: capital's share of national income would be ever falling as labor's share rises seemingly without end.

However, Piketty himself vitiates Smith's wonderful world scenario with the assertion that classical economists "totally neglected the possibility of durable technological progress and steadily increasing productivity". (Piketty, 2014, p.10) The only basis for long run growth in a classical model was population growth. A rising share of national income, consequently, needn't imply rising wages. Given Piketty's assertion, wage stagnation might arise, even in Smith's "optimistic" interpretation.

Smith recognized the possibility of wage stagnation, or at least the tendency of wages to fall to their "natural", subsistence level in the long run. (Smith, 1965, p.55) Even granting that Smith may have interpreted subsistence as a blend of social and biological factors, the natural wage, as with natural prices in general, gravitated to its cost of production. (Smith, 1965, p.78)

Smith's optimism, however, does not derive from the long run. As with prices of other commodities, wages may remain higher than their natural prices "for centuries". (Smith, 1965, p.60) As markets expand, opening further possibilities for division of labor, further uses for capital emerge. In short, with the expansion of capitalism economic growth rates may exceed population growth even without "durable technological progress". Consistent with Piketty's depiction of high continental European growth rates in the post-World War II era – the "Trente Glorieuses" – growth rates may be temporarily higher as regions recover. (Piketty, 2014, pp.96-99) More generally, growth rates in developing regions may enjoy higher rates of growth as economic circumstances converge globally.

Strictly speaking, Smith's optimism is a short run phenomenon. Economic growth may enable wages to temporarily rise above subsistence. That rise is only temporary in the first instance because – as with any commodity whose price remains above its cost of production – population increases will follow, depressing wage levels. (Smith, 1965, p.81) More fundamentally, economic growth need not continue indefinitely.

The end of growth ushers in the stationary state. Absent growth, wages sink to subsistence levels despite society's accumulated wealth. Smith cites China: rich, fertile and industrious. Yet, despite its wealth, "the poverty of the lower ranks" – the great majority of the population – had descended to a level of subsistence "at the lowest rate which is consistent with common humanity". (Smith, 1965, p.71) The elite enjoy the accumulated wealth, the rest endure subsistence living. The situation becomes even worse in a shrinking economy, such as Bengal, where growth is negative and wages fall below subsistence. (Smith, 1965, p.73)

The difference between Britain, where wages exceeded subsistence, and China or Bengal where they didn't was explained not by differences in wealth, but by differences in institutions. China had long ago "acquired the full complement of riches the nature of its laws and institutions permit[ted]". (Smith, 1965, p.71) Opulence comes to the lower ranks only in a "well-governed", "civilized", "progressive state" where capital is accumulating, demand for labor remains high and wages remain above their "natural" levels. (Smith, 1965, p. 11, p. 79)

Contrary to his belief that Smith never conceived of a world with rising inequality, Piketty's dystopia of highly concentrated wealth with labor's share of income depressed to a bare minimum is a modern incarnation of classical economics' stationary state. Smith's vision of eighteenth century China becomes a nightmare version of Piketty's "capital in the twenty-first century". In both interpretations the outcome is precipitated by falling growth rates. For Smith the real nightmare begins when g=0. For Piketty, a rising r/g suffices. In effect, Piketty's depiction is a more nuanced twenty-first century rendering of a standard feature in classical political economy from Smith to Mill.

B. DAVID RICARDO

David Ricardo and Karl Marx are the two most influential nineteenth century political economists cited by Piketty for their interpretations of income and wealth distribution. Both conclude that small elites will control disturbingly large shares of society's income and wealth. Despite the disproportionate attention accorded to Marx by Piketty, his analysis is distinctly more Ricardian than Marxist.

For Ricardo the elites are landowners. With land the relatively scarce resource, increased population and production drive up land values and rents. Land rents, in turn, increase as a share of national income, distorting the existing balance of economic power. Ricardo's only reasonable recourse for rectifying this inequality, according to Piketty, is a "steadily increasing tax on land rents." (Piketty, 2014, p.6)

Unfortunately for Piketty, his interpretation more aptly (though still incorrectly) characterizes the views of Henry George than Ricardo. George's *Progress and Poverty* (1914) described increases in production and population due to the "progress" of economic development creating riches for landowners and poverty for tenants. His famous solution was the single tax on land. The counterpart in Piketty's interpretation would be a single tax on capital, an alternative which will be discussed in Section IV. Piketty, however, takes no notice of George.

Ricardo's analysis of scarcity and rent developed in the early nineteenth century Corn Law debates over limiting grain imports. Once again, as population and production increase, demand for food causes land of ever decreasing fertility to be cultivated. As cultivation increases, superior land comes to command ever larger rent premiums. Increased payments to landlords cannot be extracted from workers, whose wages tended toward subsistence. Instead, they reduce profits. Rising rents depress profit levels, not just in agriculture but throughout the economy. Reduced profits reduce capital accumulation and economic growth. Ultimately, with profits eliminated, growth stops. In the ensuing stationary state rentiers receive most of the national income, leaving the rest with subsistence incomes. In the context of the Corn Law debates, Ricardo recommended eliminating restrictions on grain imports, not a land tax.

The similarities of Ricardo's model with Piketty's $r>g$ outcome are clear. Assuming that Ricardo ignored the possibility of technological progress, all growth is due to population increases which continuously drive wages back to subsistence. Growth ceases when additional population can no longer be accommodated. Capital accumulation in both cases increases the rentier's share of national income. This is true whether or not land is considered part of capital.

The difference in Piketty is that his rentiers include hereditary capitalists, a category encompassing, one assumes, many of Ricardo's landowners while Ricardo's rentiers include none of Piketty's non-landowning hereditary capitalists. While Ricardo's model yields a continuously falling profit rate, Piketty's approach also admits the possibility of a falling rate of return when β is very large. (Piketty, 2014, p.215, p.228) The outcomes for Ricardo and Piketty are the same when growth ceases at $r=g=0$, though the income and wealth distributions differ.

The purpose of Ricardo's model in the Corn Law debate was to demonstrate that the relative scarcity of natural resources ultimately drives down profits and inhibits growth as population increases. The model demonstrated obvious Malthusian implications. Rising population precipitates the falling profits which, in turn, diminish growth and enrich rentiers. While population growth leads to the Ricardian apocalypse, population growth forestalls Piketty's particular apocalypse.[5]

However, Malthusian demographic dilemmas are not Piketty's concern. Whether or not there's a Malthusian doomsday or a future stationary state of some sort, the relationship between capital accumulation and income distribution remains. Whether or not capital accumulation reduces the share of income captured by hereditary capitalists and increases the share of landowning rentiers is also irrelevant. By Piketty's definition land is capital. Capital's share of income increases as capital accumulation progresses even if some owners of capital gain at the expense of others.

It is ironic, however, that Piketty, by assimilating the classical category of land into a broader definition of capital, appears to be eliminating the rentiers when, in effect, he is actually eliminating capitalists, mutating them into rentiers. For Piketty this is part of the "Central Contradiction of Capitalism": "The entrepreneur inevitably tends to become a rentier." (Piketty, 2014, p.571) Where landowners were the rentiers of the nineteenth century, owners of past accumulations of wealth – "old money" as it were – are on course to be the rentiers of the twenty-first century.

A central theme of Ricardian economics is the divergence of class interest which pits landowners against capitalists and labor to the detriment of society. The resulting dismal outcome is Smith's stationary state. Piketty presents a similar divergence of class interests. Capitalist rentiers are pitted against those who work for a living. The outcome is equally apocalyptic. Piketty's global patrimonial capitalism becomes a twenty-first century variant of Ricardo's dismal economic science.

C. MARX

Though sharing a common title, Piketty's Capital and Marx's Capital have less in common than one might think. Marx's capital is a sociological concept. It has been described as "the social relation involved in the self-expansion of value, the production, appropriation and accumulation of surplus value." (Fine and Harris, 1979, pp.3-4) Piketty's capital is an economic concept. It is the agglomeration of non-human assets. The absence of similarity is unsurprising. There is no evidence that Piketty has more than a superficial understanding of Marx. (Chotiner, 2014)

For Piketty Marx's "principal conclusion was what one might call the 'principle of infinite accumulation'". (Piketty, 2014, p.9) If that is to be a principle, however, it's not a principle which distinguishes Marx from the classicals, especially Adam Smith. Moreover, even if the tendency to accumulate is continuously on the minds of Marx's capitalists, capital accumulation doesn't progress continuously. It is punctuated by crises arising from the internal contradictions of capital.

A plausible, if not definitive, Marxist explanation of capitalism's internal contradictions contrasts the increasingly interconnected, socialized nature of production with the individualized quest for private appropriation. The clash of diverse, disparate private interests disrupts the accumulation of surplus value created in the production process. The conflicting interests are periodically resolved, destructively but never permanently, through economic crises of varying severity. (Mandel, 1976, p. 52; Sweezy, 1942, p.343)

Marx's internal contradictions of capitalism invite comparison with Piketty's "Central Contradiction of Capitalism: r>g". The contradiction Piketty sees is that entrepreneurs, capitalism's creators, will evolve into rentiers. Piketty regards this as "potentially terrifying". (Piketty, 2014, p.571) However, the metamorphosis of entrepreneurs into rentiers pales in comparison to the "terror" Marx had in mind after his breed of internal contradictions wracked the society.[6]

On Piketty's interpretation of Marx, capitalists save, accumulating more capital over time in order to increase their power and social advantages. Or perhaps they save because they've run out of ideas for additional expenditures. Saving increases outstripping growth, driving $s/g=\beta$ toward infinity. As a result, either the rate of return (r) falls or capital's share of income ($\alpha=r\beta$) "ultimately devour[s] all of national income." (Piketty, 2014, p.228) If the rate of return falls, capitalists "tear each other apart" clawing for the last crumbs of profit. If α approaches 1, "a proletarian revolution and general expropriation" ensues. (Piketty, 2014, p.229) That, for Piketty is the internal contradiction plaguing Marx's capitalists. Given that the first scenario only delays the inevitable as capital becomes ever more concentrated, there seems to be only one long run outcome. Moreover, that outcome isn't uniquely Marxian.

Piketty's solution for what he perceives as Marx's problem is "permanent growth of productivity and population" driving $\beta=s/g$ downward. (Piketty, 2014, p.228) However, if g rises solely due to population increases, real wages at best remain unchanged even though labor's aggregate share rises. This yields the peculiar scenario of the proletarian revolution postponed by an ever increasing workforce placidly accepting stagnant wages. Consequently, the only real solution to this "Marxian" dilemma is the same as it was for Ricardo and Piketty: productivity growth.

The falling tendency of the rate of profit is an important element of Marx's analysis, as it had been for Ricardo. A key distinction in their analyses is the explanation underpinning profit's falling tendency. For Ricardo, it was Malthusian population increases and diminishing returns from scarce natural resources. For Marx, the Malthusian population variable was replaced by labor's reserve army forcing the equivalent of subsistence wages. At some point those subsistence wages become insufficient to realize capitalists' profit expectations: insufficiently low from a cost perspective, insufficiently high from an aggregate demand perspective. Falling profits ensued from the basic characteristics of competitive capitalism. As profits fell bankruptcies followed, cheapening existing capital, enabling higher profits for the surviving firms. Marx's capitalists may well be hereditary capitalists. Nevertheless the stereotype of Marx's capitalist is an active market participant, not a passive rentier.

Piketty's model doesn't require a falling rate of return. Nor does it offer a business cycle interpretation. For Piketty, the growth rate need only fall relative to the rate of return, other things being equal, for his particular dystopia to unfold in the short run. In that respect the important distinctions between Marx and Ricardo are minor distinctions for Piketty. Piketty's analysis remains notably more Ricardian than Marxian.

D. MILL

Piketty's principal thesis that capital accumulation tends to increase income and wealth inequality is a commonplace in classical and Marxist analyses. The implications of rising inequality, however, are varied. Nevertheless, despite these variations, the outcomes are sufficiently dire, especially for Ricardo and Marx, to be characterized as apocalyptic by Piketty. (Piketty, 2014, p.11) The major exception to this nineteenth century consensus is John Stuart Mill, the last of the great classical economists, whom Piketty ignores.[7]

Mill considers the impact of "progress" on rents, profits and wages. "Progress" means increases in capital, population and "improvements in production" which, pace Piketty, includes durable technological progress. (Mill, 1909, p.710) He proceeds with something of a general equilibrium analysis through several scenarios. For example, if population rises but capital and technological progress remain constant, wages fall, rents rise and profit's share is ambiguous. The sum of rents and profits, however, rise. The entire analysis is, essentially, an application of Ricardo's 1815 model. Mill's analytical conclusion, supplemented by some appeal to the limited available data, is that profits tend to be minimized as economic growth progresses.

As profits tend to be minimized, society moves closer to the stationary state. The stationary state wasn't a distant prospect, far out on the horizon, as it was for Smith. Developed European countries stood potentially "on the very verge" of the stationary state. (Mill, 1909, p.731) That prospect didn't present the apocalypse as it did for Mill's predecessors or does for Piketty. For Mill it is not high levels of economic growth which characterize economic success. Rather prosperity should "mean a large population and a good distribution of wealth." (Mill, 1909, p.747) Such prosperity is within reach of societies nearing the stationary state. They are the richest and most prosperous countries of the world. They are the countries positioned to answer the pertinent question: "Towards what ultimate point is society tending by its industrial progress?" (Mill, 1909, p.746)

For Mill the answer isn't the endless struggle for existence which characterized nineteenth century life under industrial capitalism. Redistributing the riches of the stationary state would promote a progressive state of human improvement where the "art of living" could replace the "art of getting on". (Mill, 1909, p.751)

Redistribution requires public policy to curb population growth and diminish the accumulated hordes of private wealth. The former demands "prudential restraint on population". (Mill, 1909, p.747) The latter entailed "a limitation… [on] inheritance to the amount sufficient to constitute moderate independence." (Mill, 1909, p.750) The object of Piketty's wrath, inherited wealth accumulated over generations, would vanish. There would be "no enormous fortunes, except what were earned and accumulated in a single generation." (Mill, 1909, p.750)

Piketty's aversion to the stationary state, or at least to J.S. Mill's stationary state, would appear to be misplaced. If the earlier classical economists were Piketty's antecedents in depicting the adverse effects of capital accumulation, John Stuart Mill's prescription for remedying those effects foreshadows Piketty's public policy recommendations. Though the classicals' inequality debate may well have been a debate without data, it was a debate well suited to the data Piketty would later provide.

IV. Regulating Capital: Piketty and the Classics

Piketty's fourth and final section is devoted to government, particularly its role in controlling economic inequality. In the twentieth century wars helped change national income distributions for the better. In the twenty-first century, Piketty hopes for a peaceful solution to the contemporary problem of rising inequality, a solution "in which capitalism will be transcended". (Piketty, 2014, 471) More Mill than Marx, Piketty seems to believe existing institutions are sufficiently malleable to facilitate, rather than resist, the transcendence.[8] Piketty is also an optimist in the tradition of Smith, expecting good governance from modern developed societies. But unlike Mill and Smith, Piketty's focus is narrow: its central concern is income and wealth inequality.

In this respect Piketty bears some resemblance to Henry George. George bluntly begins Progress and Poverty with "The Problem" and arrives, four books later, at "The Remedy". (George, 1915, p.3, p. 297) As with Piketty, the problem is economic inequality, "the curse and menace of modern civilization." (George, 1915, p. 326) George's remedy is a confiscatory tax on the rental value of unimproved land. This single tax on land rents would fund all government activity. It is a radical solution for a fundamental problem. Piketty regards the inequality problem as equally fundamental, but offers no comparably radical solution. In Piketty's case, a Georgian solution would be a single tax on capital. Piketty was aware of this solution. In a footnote he mentions Maurice Allais' proposal placing a single tax on capital while eliminating all other levies. However Piketty rejects the proposal as "extreme" and "not very sensible". (Piketty, 2014, p. 642)

Piketty's more moderate prescription for addressing the inequality problem represents largely a revival of policies from the early twentieth century. The state should resume its prominent role in rectifying market inequities. The progressive income tax should be reformulated for the twenty-first century, as should estate taxes. The top income tax rate could be returned to 80 percent, Piketty argues, without affecting economic growth. He speaks approvingly of Irving Fisher's argument in the early twentieth century for estate tax rates rising from two thirds to 100 percent to mitigate the pernicious problem of wealth inequality. (Piketty, 2014, p.506)

To complement the revival of earlier tax measures Piketty proposes a global tax on capital. Utopian though it may be, it would at least establish a benchmark with which to compare other proposals to reduce inequality, perhaps as the equally unrealistic lump sum tax stands as the benchmark for tax efficiency in modern economics. Together with the progressive income tax and the progressive estate tax, a progressive capital tax provides "the third essential pillar of an ideal tax system". (Piketty, 2014, p.524)

Piketty's policy proposals aren't especially innovative or detailed. For Blume and Durlauf (forthcoming) they "exhibit a startling lack of imagination". (Blume and Durlauf, forthcoming, no pagination) Institutional changes beyond tax policy are largely ignored. Blume and Durlauf attribute the weakness of Piketty's policy analysis to a lack of microeconomic foundations in his inequality model and an insufficient grounding in political philosophy.

In classical terms "microfoundations" are the detailed explanations of burdens and benefits associated with the actions of markets, the state and other institutions. Mill, in particular, was notable for his detailed policy analysis, as were other descriptive classical economists. Nor was Mill wanting in the political philosophy necessary to adequately anchor policy prescriptions in sound ethical standards. Both classical political economists and mainstream modern economists, it would seem, might find Piketty's policy analysis wanting. However, a recent work by Piketty's colleague and occasional co-author Anthony Atkinson (2015) offers a richer description of the policy alternatives.

V. Conclusion

Thomas Piketty's affinity for nineteenth century economics arises from their shared interest in economic inequality. Despite the shared interest, Piketty's affinity for nineteenth century economics never extended more than superficially into the classical economics that characterized nineteenth century analyses of inequality. Yet his interpretations of inequality follow a mode of analysis classical economists might find familiar. Piketty is an accidental classical economist.

Most of Piketty's contemporaries disagree with him. More than that, they don't understand him. They are frustrated with his theoretical framework. It is incomplete. His arguments use "poor theory". (Wolfers, 2014)

Piketty, it seems, is speaking a different language than his contemporary colleagues. It is, perhaps, the language of classical economics. It may not be a language Piketty speaks particularly well. Ignorance of the language's culture, heritage and history may keep him from speaking as eloquently as John Stuart Mill. Nevertheless, by amassing the relevant data, Piketty offers the possibility of reviving the classical debates on economic inequality. Though Piketty is no modern Mill for the new millennium, he and his colleagues may be reframing classical policy alternatives for the current era. This time it can be a debate with data.

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Endnotes

1. See, for example, Pethokoukis (2014) or Shuchman (2014). Criticism of Piketty has come from all quarters, from both the right and the left, from the popular press and academic journals, on everything from methodology to ideology. On the right Piketty may be viewed as Marx's descendant but on the left Piketty is simply another mainstream neoclassical economist who has rediscovered inconvenient truths about capitalism's tendencies first revealed long ago in Marx's Capital (Allen, 2014, Harvey, 2014) Ross (2015), for example, comments that the rising income inequality attending capital accumulation, analyzed by Piketty using r>g, is better explained in Marxist terminology by a rising organic composition of capital. Fagerberg (2015) finds Piketty's interpretation of capital a corruption of Post-Keynesian growth theory. Acemoglu and Robinson (2014) find Piketty's quest for general laws of capitalism an anachronistic fool's errand while Harvey comments that Piketty's

statistical regularities never rise to the level of classical "laws". Mankiw (2015) dismisses Piketty's fundamental force of divergence in "Yes, r>g. So what?". Technical criticism of Piketty' analysis ranges from elasticity of substitution coefficients to more general questions about Piketty's use of data. (Summers, 2014) Milanovic's prominent Journal of Economic Literature review highlights Piketty's reputation as a researcher responsible, in part, for creating the "impressive" database on world top incomes (Milanovic, 2014, p.520) However, Giles (2014), Feldstein (2014), Magness (2015) and others have attempted to render Piketty's reputation less impressive with articles entitled dramatically "Piketty Findings Undercut by Errors", "Piketty's Numbers Don't Add Up", and "Challenging the Empirical Contributions Challenging of Thomas Piketty's Capital in the 21st Century". Blume and Durlauf (forthcoming) offer a more reserved, lengthy academic assessment of Piketty's work. They conclude that Piketty has actually "undermined the egalitarian case with weak empirical, analytical and ethical arguments". (Blume and Durlauf, forthcoming, no pagination) In an even longer, arch polemic, "Measured, unmeasured, mismeasured, and unjustified pessimism: a review essay of Thomas Piketty's Capital in the twenty-first century", McCloskey (2014) moves beyond technical criticism to a broad assault on Piketty's agenda, methods and economic competence. McCloskey claims that Piketty's approach is "self-described…as the sum of Ricardo and Marx" though no specific reference is offered to support this "self-description". (McCloskey, 2014, p.76) For McCloskey, all pessimistic interpretations of capitalism are conflated. Piketty's "vision" becomes synonymous with "a Ricardian Apocalypse". (McCloskey, 2014, p.82) When Piketty depicts a vision at variance with Ricardo's apocalypse, McCloskey characterizes it as an internal contradiction in Piketty's analysis. (McCloskey, 2014, p. 84) It isn't. McCloskey rejects Piketty's effort to once again make income distribution a primary focus of economics, returning to the agenda of nineteenth century classical economics. "[T]he main event of the last two centuries was not", says McCloskey, "the distribution of income but…the Great Enrichment of the average individual" arising from capitalist accumulation. (McCloskey, 2014, p.105) Moreover, "[t]he technical flaws in the [Piketty's] argument are pervasive." (McCloskey, 2014, p.88) These flaws derive, in part, from his French education: "Piketty, it would seem, has not read with understanding the theory of supply and demand". Consequently, "he does not have the scientific standing to sneer at self-regulating markets". (McCloskey, 2014, p.93)

2. Piketty's comment ignores progress in statistical collection in the eighteenth and nineteenth centuries, particularly in the latter century when governments began to institutionalize data collection. The notion that economists of the era "neglected factual research is utterly unfounded". (Schumpeter, 1951, p.519)
3. Even with Malthus and Marx, whose theoretical speculations some have interpreted as deterministic, the ultimate outcome, in practice, may be forestalled by a range of factors.
4. Smith the classical optimist was popularized by Robert Hielbronner in his Worldly Philosophers essay "The Wonderful World of Adam Smith". (Hielbronner, 1953, pp.33-66)
5. Piketty ignores other important elements of the discourse between Ricardo and Malthus dealing with income distribution, most notably the underconsumption debate, where Malthus argues that income distribution affects output. (See Pancoast (1943), for example.) That debate could be interpreted in Piketty's terms by

transforming Malthus' landlords into Piketty's hereditary capitalists. My thanks to an anonymous reviewer for pointing out that the revival of interest in income distribution is as yet incomplete as modern researchers are likely to find themselves, by accident, contending with analyses broadly similar to those formulated in classical terms during the nineteenth century.

6. Piketty's displacement of entrepreneurs by rentiers seems more analogous to Schumpeter's managers displacing entrepreneurs. Schumpeter, however, argued that this metamorphosis doomed capitalism, offering an evolutionary path to Marx's outcome. It isn't clear what Piketty's metamorphosis definitively implies for capitalism.
7. His name is mentioned, in passing, in a footnote on inheritance.
8. For Marx, the state promotes class interests. The bourgeois state defends bourgeois institutions, most notably, capitalist private property. Appealing to the bourgeois state for capitalism's transcendence would be pointless. The state may, however, unintentionally contribute to capitalism's demise: "What the bourgeoisie therefore produces, above all, are its own grave-diggers." (Engels and Marx, 2004, 74)