

# The Question of Profits

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## Abstract

Where do profits come from? Are they morally justified? Sraffians provide a clear answer to the first question but have declined to give a *direct* answer to the second question. This article argues that the “fundamental Sraffian theorem” *implies* a compelling moral critique of profits, but that this critique can be strengthened by replacing the “contribution-based” approach common among economists with a “sacrifice-based” theory consistent with work by modern egalitarian philosophers.

**JEL Classification:** B51, D33, D63

## Keywords

Sraffa, distributive justice, surplus, profits, effort

## 1. Introduction

Where do profits come from? Are they morally justified? Section 2 argues that the Sraffian focus on a physical surplus from production helps focus attention on the forest rather than the trees: it is the productivity of the economy as a whole that makes profits possible. Section 3 argues that what might be called the “fundamental Sraffian theorem” establishes a strong *prima facie* case that profits are undeserved and capitalists are parasites. Section 4 rebuts four common moral justifications for profits as (1) reward for innovation, (2) reward for the marginal product of “capital,” (3) reward for abstinence, and (4) reward for risk. Section 5 presents a philosophical argument against both conservative and liberal “contribution-based” theories of distributive justice. Section 6 proposes instead a simple “sacrifice-based” theory of distributive justice and defends it against various objections. Section 7 reconsiders whether capitalists would be convicted as parasites if sacrifice rather than contribution were the relevant criterion. Section 8 situates the “maxim”—to each according to her effort, or sacrifice—in a growing literature of post-Rawlsian, egalitarian theories of distributive justice.

## 2. “It’s the Economy That’s Productive, Stupid!”

The Sraffa model makes clear that it is the economy that is productive. Or, at least, it is the entire economy as a whole that is potentially productive, that is, capable of producing a surplus of

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physical goods even after all produced inputs are replaced. In fact, we might say the framework makes this not just clear, but “crystal clear,” to use a phrase made famous by the movie *A Few Good Men*. As long as the dominant eigenvalue of the economy’s matrix of produced input coefficients,  $\mathbf{A}$ , is less than 1, the economy is capable of producing a physical surplus of goods and services when labor is applied.<sup>1</sup> In other words, the productivity of the economy is a characteristic of the known technologies for producing all goods and services.

Of course, the economy is only potentially productive, and produces nothing until real people actually go to work and turn the economy’s potential into an actual surplus of useful goods and services. So, a more careful and accurate wording would be that while it is the economy as a whole that is potentially productive at any point in time, the physical surplus of goods is produced by those who work, and thereby realize the economy and their own potentials.

Based on research by Richard Sutch, William Nordhaus, Angus Maddison, William Baumol, Nathan Rosenberg, Moses Abramovitz, and others, Gar Alperovitz and Lew Daly summarize the consensus among economic historians: “A person working today the same number of hours as a similar person in 1800—and working just as hard and no harder—can produce many, many times the economic output. Recent estimates suggest that national output per capita has increased more than twenty fold since 1800. Output per hour worked has increased an estimated fifteen fold since 1870 alone” (Alperovitz and Daly 2008: 3). But if individuals do not really improve, that is, if individual intelligence and effort change little over time, where does all this increase in productivity come from?

Robert Solow opened economists’ eyes to how little our models explain when he estimated that growth in the supply of capital goods and labor explained perhaps as little as 10 percent, and at most 20 percent, of the growth in US output in the first half of the twentieth century, leaving a “residual” of as much as 80 to 90 percent—which Solow observed could only be explained by “technical change in the broadest sense.” Those who have tried ever since to pin down exactly what is responsible for such a large residual have discovered the extraordinary role knowledge plays in generating economic growth. When Paul Romer searched for an answer to the puzzle that a college educated engineer today is far more productive than one working 100 years ago, despite the fact that they each have the same human capital, he concluded that the reason was obvious: “He or she can take advantage of all the additional knowledge accumulated as design problems that were solved during the last 100 years” (Romer 1990: 83–84).

More broadly, the efficiency of storing and retrieving the scientific, technical, and cultural cumulative knowledge available to us has created what Douglas North called the “scaffolding” of economic growth. Moreover, the popular image of this creative process as a sequence of “great inventions” by “extraordinary heroes” appears to be largely a myth. Instead, the process of technological change is most often far more collective, collaborative, and cumulative—diverse contributions slowly build up over time until a breakthrough becomes all but inevitable.

While the Sraffian framework represents it simply as the existing technologies, or recipes, available to produce each and every good,  $\{\mathbf{A}, \mathbf{L}\}$ , where  $\mathbf{A}$  is the matrix of coefficients of produced inputs and  $\mathbf{L}$  is the vector of direct labor input coefficients, in reality, it is, of course, much more complicated.  $\{\mathbf{A}, \mathbf{L}\}$  represents not only the known recipes for making goods and services

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<sup>1</sup>In truth, there are always at least two “primary” inputs to production, that is, inputs that are not themselves produced outputs of economic activity—labor and nature. However, much of the literature on the origins and moral justification for profits abstracts from inputs from nature, and this article follows in this tradition. See chapter 2 in Hahnel (2017a) for a treatment where both labor and nature are “essential ingredients” to production.

but also the knowledge and skills necessary to use them, the elaborate divisions of labor they require, and all of the institutions, both formal and informal, necessary for maintaining and coordinating this elaborate division of labor. Moreover, all of this was worked out by countless people, going back over countless years.

Economic historian Joel Mokyr refers to all this productive knowledge as a “gift from Athena,” explaining that “technological progress... has provided society... an increase in output that is not commensurate with the increase in effort... necessary to bring it about” (Mokyr 1990: 3). A character in Edward Bellamy’s famous utopian novel explained it in simple terms to a time traveler from a capitalist past: “How happened it that your workers were able to produce more than so many savages would have done? Was it not wholly on account of the heritage of the past knowledge and the achievements of the race, the machinery of society, thousands of years in contriving, found by you ready-made to your hand? How did you come to be possessors of this knowledge and this machinery, which represent nine parts to one contributed by yourself to the value of your product? You inherited it, did you not?” (Bellamy [1888] 2000: 88). In any case, whatever we call it, the important point is that what allows us to be as productive as we are is something that each generation inherits collectively from all who went before us—irrespective of whether or not some among us today appropriate parts of our common inheritance and extract tribute from others among us before we are permitted to use it.

In case it is not already “crystal clear” that it is the entire economy that is productive, in case it is not crystal clear that this is our generation’s common inheritance from all generations before us, in case it is not crystal clear that any debts that may be owed by some today to others today for this common inheritance are trivial and inconsequential compared with the unpayable debt all today owe to all who preceded us—the Sraffa framework now provides a final useful reminder: although any particular technical change necessarily takes place in some particular industry, how much any technical change increases labor productivity can be measured as an increase in labor productivity in the economy *as a whole*. It has recently been shown that how much any technical change increases labor productivity can be measured in a Sraffian framework by a single number,  $\rho(l)$ , the percentage increase in the productivity of the economy *as a whole* that a particular technical change in a particular industry creates.<sup>2</sup>

The ability to measure a physical surplus of goods produced after replacement, and measure quantitatively how much labor productivity has increased in the economy as a whole whenever any particular technological change is adopted in any industry—which Sraffian theory now provides—eliminates the need to express and measure the economic surplus in “value terms” of any kind. In effect, the Sraffian approach demonstrates that the *physical* economic surplus is fungible: if the economy is productive, that is, if  $\text{dom}(\mathbf{A}) < 1$ , we can produce the entire surplus as good  $i$ , or the entire surplus as good  $j$ , or we can produce a physical surplus of every good. (See theorem 8 in Hahnel 2017a.) We no longer need to express and measure the economic surplus as the “value” of net production, using either labor values or prices to perform the aggregation.

### 3. The Fundamental Sraffian Theorem

The basic Sraffa model provides a logically consistent and rigorous theoretical explanation of the relationship between wages, profits, and prices in capitalist economies.<sup>3</sup> However, while the theory tells us there is an infinite number of combinations of wage and profit rates that are possible in any capitalist economy, and, therefore, there is a great deal of wiggle room for the

<sup>2</sup>For proof that  $\rho(l) = (1 - \beta')$  in a Sraffian framework, where  $\beta' = \text{dom}(\mathbf{A}' + \tilde{\mathbf{b}} \mathbf{L}')$ , the dominant eigenvalue for the economy with the new technology,  $\{\mathbf{A}', \mathbf{L}'\}$ , and a real wage vector  $\tilde{\mathbf{b}}$  that reduces the rate of profit in the *old* economy,  $\{\mathbf{A}, \mathbf{L}\}$ , to 0, see theorem 18–iii in Hahnel (2017a: 40–41).

<sup>3</sup>For a rigorous presentation of this model, see chapter 1 in Hahnel (2017a).

bargaining power of capitalists and workers to affect where any particular capitalist economy will fall on its wage-profit frontier determined by its technological capabilities,  $\{\mathbf{A}, \mathbf{L}\}$ , as traditionally presented, there is no moral dimension to the Sraffa model. In other words, the model does not tell us that some pairs of wage and profit rates are equitable while others are not. In particular, it does not tell us if capitalists are unfairly taking advantage of workers whenever the rate of profit is above 0.

This is hardly surprising since it is impossible to derive “oughts” from “ises,” and most who write in the neo-Ricardian school of economics have followed Sraffa’s lead and presented their work as purely “positive” economics. Because the major goal of Sraffa and many of his followers was to construct a rigorous and logically consistent, positive “classical” theory of income and price determination, and thereby point out inconsistencies, ambiguities, and logical flaws in neoclassical positive economics, it was no doubt tempting to initially avoid muddying waters by introducing a “normative” component to the theory. But with the benefit of hindsight, it appears to have been a strategic mistake to maintain silence on the obvious moral implications of the analysis.

While a few neoclassical theorists have begrudgingly acknowledged that elements of the Sraffian critique are technically correct, it has led to no major reworking of mainstream neoclassical theory, and is acknowledged in footnotes in mainstream graduate texts with decreasing frequency. However, while eschewing normative implications won little recognition from economists in the mainstream of the profession, it rendered Sraffian economics less attractive than it might have been to anyone concerned that income distribution under capitalism may be fundamentally unfair. This is most unfortunate because what we might call the “fundamental Sraffian theorem” implies a straightforward moral critique of capitalist profits.

The fundamental Sraffian theorem (FST) is analogous to the fundamental Marxian theorem (FMT) first proved by Morishima (1974). The FMT states, if and only if  $(1 - \mathbf{V}\mathbf{b}) / \mathbf{V}\mathbf{b} > 0$ , will  $r > 0$ , where  $\mathbf{V}$  is a row vector of labor values,  $\mathbf{b}$  is a column vector of the hourly real wage bundle, and  $(1 - \mathbf{V}\mathbf{b}) / \mathbf{V}\mathbf{b}$  is defined in Marxian theory as the “rate of exploitation.” The FMT is often verbalized as follows: “Only if the rate of exploitation is positive will the rate of profit be positive, that is, profits come from exploiting labor.” The fundamental Sraffian theorem proved as theorem 11 in Hahnel (2017a: 11–12) states the following: if and only if  $\text{dom}(\mathbf{A} + \mathbf{b}\mathbf{L}) < 1$ , will  $r > 0$ , where  $\text{dom}(\mathbf{A} + \mathbf{b}\mathbf{L})$  is the dominant eigenvalue of the economy’s “socio-technology matrix.” The FST can be verbalized as, “Only if those who produce the surplus of goods are deprived of some of the goods they produced will profits be positive.”<sup>4</sup>

The FST delivers a clear message: if the dominant eigenvalue of  $(\mathbf{A} + \mathbf{b}\mathbf{L})$  is less than 1, the economy is *capable* of producing a physical surplus of goods and services even after workers receive a wage high enough to allow them to consume a vector  $\mathbf{b}$  of goods per hour worked. This technology,  $\{\mathbf{A}, \mathbf{L}\}$ , is like a gift from Athena received from all who went before us. However, it only represents the productive *potential* that each generation inherits from previous generations. Until it is set in motion by workers whose efforts and sacrifices turn the potential into an actual surplus of goods and services, the productivity of the economy lies dormant. Only when workers work is the economy’s productive potential realized, resulting in a surplus of useful goods and services. In sum, the “positive” Sraffa model makes clear that it is the economy that is productive, and when capitalists who do no work receive profits, workers who do all the work necessarily receive less than what they produced. The FST identifies the actual goods and services workers produce that capitalists manage to expropriate, and establishes a strong *prima facie* case that those who do no work, but nonetheless consume part of the physical surplus others produce, are parasites.

<sup>4</sup>For proof that FST  $\leftrightarrow$  FMT, see theorem 22 in Hahnel (2017a: 101–102). For an argument that the FST provides a more straightforward *prima facie* case than the FMT that profits are undeserved and capitalists are parasites, without the disadvantage of misleading us to incorrectly believe that capitalists derive profits by “exploiting” only one particular input to production, see chapter 2 in Hahnel (2017b).

In an era experiencing the most rapid increase in economic inequality in history, it seems appropriate to formulate the case that capitalists are parasites boldly. However, we might also consider matters in a more cautious way, as is often done in the US judicial system where a judge will hear pretrial arguments, at which the prosecutor must simply establish a *prima facie* case that there is reason to believe that the accused has committed a crime sufficient to bind him or her over for a formal trial. In that spirit, what is argued in this section is that the FST establishes a clear *prima facie* case that capitalists are parasites. Whether capitalists “contribute” or “sacrifice” in some way that merits reward even though they do no work we now consider.

#### 4. Four Moral Justifications for Profits

Capitalists have long had the finest defense team money can buy to argue their case. Because it is obvious, and therefore undeniable, their attorneys stipulate that capitalists do no work but argue instead that their client “contributes” to the social endeavor in some other way that merits compensation. Failure to offer direct rebuttal to these arguments weakens the moral case against capitalist profits. In the history of economic thought, four different reasons have been proposed for why profits are deserved: (1) profits are a reward for innovation; (2) profits are a reward for the productivity of “capital”; (3) profits are a reward for “abstinence,” or “waiting”; and (4) profits are a reward for bearing risk. The *prima facie* case presented above based on the fundamental Sraffian theorem assumes away the moral case for capitalist profits through semantics. By implicitly assuming that only work produces goods, any possibility that nonworkers might contribute in other ways that merit reward is assumed away rather than addressed directly.<sup>5</sup> Sections 5 and 6 below argue that the best response to the claim that capitalists merit compensation because they contribute something to production other than work lies in abandoning the contribution-based approach to distributive justice altogether. However, before presenting the moral case against profits based on sacrifice rather than contribution, a few words are in order regarding well-known theories that attempt to justify the moral legitimacy of profits on grounds that capitalists do contribute something of importance even if they do none of the actual work themselves.

Joseph Schumpeter is perhaps the best-known defender of *profits as a legitimate reward for innovation*. There is no need to dispute that the major reason a large surplus of goods and services can be produced by workers in a year is precisely because of technological changes increasing labor productivity introduced over many years that have been incorporated into the economic structure and reduced its dominant eigenvalue. Quite the contrary, Sraffian theory emphasizes this point. However, the question is whether capitalists deserve credit for this valuable contribution, and if profits are truly payment for innovations that make  $\rho(l) > 0$ .

Here, it is important to distinguish between different roles, as, sometimes, the same person plays more than one role in the economy. Inventor is our name for the “creators” of technological change, and “royalty” is the name for payments to inventors. Capitalists, in contrast, are owners of firms, and “profit” is the name for payments to capitalists. If a capitalist happens to *also* be an inventor, then the same person will receive both kinds of income. But this does not mean that profits are a payment for invention. If, however, the inventor is an employee of a capitalist, the inventor will be paid a salary, and perhaps a bonus. If there is no patent, the capitalist will receive temporary super profits from using the invention of his employee, but these super profits will be competed away as the innovation is copied by other capitalists. If there is a patent, the capitalist will receive super profits for longer, or royalties if he licenses others to use the invention of his

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<sup>5</sup>The Marxist critique based on the fundamental Marxian theorem also sidesteps the main argument in defense of capitalist profits by implicitly defining “contribution” as “contribution to the value of goods produced.” Because “value” in the Marxian framework is defined as hours of socially necessary labor embodied in commodities, those who do no labor cannot possibly contribute to creating “value.” In short, Marxism also convicts capitalists of the crime of exploitation on the basis of a clever tautology.

employee, which as her employer, he owns. But super profits and royalties are different from the normal, or uniform, rate of profit capitalists receive.<sup>6</sup>

The relevant question is this: if there were no new inventions, that is, if  $\rho(l) = 0$ , would capitalist profits then be 0? The Sraffa model makes clear that even if there are no new innovations, and therefore  $\text{dom}(\mathbf{A} + \mathbf{bL})$  remains constant, as long as  $\text{dom}(\mathbf{A} + \mathbf{bL})$  is less than 1, the rate of profit will be positive. So, the profits we are in search of a justification for have nothing to do with payments for the creative labor that yields new productive innovations. Once  $\text{dom}(\mathbf{A} + \mathbf{bL})$  is less than 1, capitalists would continue to receive positive profits even if there were never any new innovations.

The argument that all factors of production, including capital, deserve payment according to the value of their marginal social product<sup>7</sup> is often associated with J. B. Clark. There are two problems with this argument. First, as Joan Robinson pointed out long ago, however productive a machine may be, its productivity hardly constitutes a moral argument for paying anything to its owner. Robinson's point applies to any argument in any production function—whether it be a particular type of machine or capital good, or a particular kind of labor. Just because adding another unit of some input will increase the value of output by some amount does not mean that the owner of the input, even should the owner be the worker herself, deserves a payment of precisely that magnitude. Second, any attempt to define and measure a marginal product for something called “capital in general,” as distinct from heterogeneous capital goods, is doomed to failure. The problem, as well as the explanation for why it is irresolvable, is succinctly stated by Kurz and Salvadori:

The notion of a production function requires that a single level of output be associated with any given amount of productive resources employed. However, with capital goods represented by their value in the production function, with different levels of the rate of profit the value of the same set of capital goods would generally also be different. This however runs counter to the uniqueness of the relation between output and the amount of productive resources used as inputs. The criticism reported is derived from the fact that relative prices, and thus also the prices of capital goods, generally depend on income distribution. (Kurz and Salvadori 1995: 445)

This argument applies to production functions for particular goods as well as an aggregate production function, which was the initial subject of debate in the Cambridge capital controversy. Only in models where there is a single produced good, which serves both as the sole consumption good and the sole “capital good,” does this problem not arise.

The argument that profits are a justifiable reward for abstinence, or “waiting” on the part of capitalists, is commonly attributed to Nassau Senior. However, it can be found in the work of Jevons, Bohm-Bawerk, Walras, Wicksell, and Marshall as well. In essence, the argument is this: First, if workers have no savings, wages must be advanced from a “wage fund” for them to be able to work and produce anything at all. And when workers are equipped with more means of production, they become more productive.<sup>8</sup> Second, if nobody saved—that is, if nobody abstained from consuming all their income—there would be no wage fund and no investment goods produced,

<sup>6</sup>When a business owner also engages in “entrepreneurial labor,” for example, as an owner-manager, we have a similar situation. The point is that profits from ownership are distinct from royalties for inventions, even when the inventor is an owner, and from salaries paid for managerial work, even when the manager is an owner.

<sup>7</sup>The moral argument applies to “marginal social products,” which may or may not be the same as “marginal revenue products.” Whenever there are externalities and markets are not competitive, the two are *not* the same.

<sup>8</sup>This was sometimes formulated as follows: more “roundabout,” that is, more time-consuming methods of production are more productive. It can also be stated as “capital deepening increases labor productivity.”



and productivity would cease altogether, or decline as capital goods depreciate. Third, ergo, by saving and investing part of their income, capitalists make possible production of a larger surplus than would otherwise occur, and therein lies their valuable “contribution” deserving reward.

Clearly, if workers had nothing to eat, they would not be able to produce anything at all unless wages are advanced from a wage fund. And if nobody saved any of their income, all production would take the form of consumption goods, no investment goods would be produced, and future production would suffer, in which case we might well conclude that anyone who saves so wages can be advanced and investment goods can be produced is a hero deserving some appropriate reward. But then the conclusion should be that *anyone* who saves out of their income deserves some appropriate reward, not that profit income is deserved because capitalists save part of it.

To help make this distinction clear, suppose we are trying to explain why a worker deserves her wages. Would we do so by arguing that because she saves part of her wages, her wages are deserved? In that case, would we then concede that if she fails to save, her wages are undeserved? Would we conclude that only the part of her wages she saves are deserved, while the part of her wages she consumes are undeserved? Or, to drive the point home, consider a group of pirates who out and out plunder from others, but then “make the sacrifice” of deferring consumption of part of their plunder, that is, they save part of their plunder. Would we say these pirates deserve their plunder because they save part of it, and thereby allow the economy to produce investment goods along with consumption goods?<sup>9</sup> Just as pirate booty cannot be justified by what pirates may choose to do with it, capitalist profits cannot be justified because they save part of it. The fact that capitalists abstain from consuming all of their profit income has nothing to do with whether or not that profit income was deserved in the first place.<sup>10</sup>

It is worth noting that the reward-for-abstinence defense of profits can be formulated in two different ways: as presented above, it is because the wage fund makes production possible, and because the capital goods increase the value of what is produced, that is, because capitalists’ abstinence *contributes* to production that capitalists merit reward, which presumably should then be commensurate with the magnitude of the increase in production. It is also possible to argue that what merits reward is the *sacrifice* capitalists make in the act of abstaining from consumption, in which case the reward should presumably then be commensurate with the magnitude of their sacrifice of deferring consumption compared with whatever sacrifices others make. The crucial difference between contribution- and sacrifice-based theories of distributive justice is something philosophers have paid much more attention to than economists, and is an issue we take up in section 6 below.

In sum, there is no need to deny that if workers have no savings to live on, they would produce very little absent a fund to pay wages in advance. There is no need to deny that if workers had no capital goods to work with, they would produce only a paltry amount. What is disputed is the claim that capitalists *deserve* the profits they use to advance workers’ wages—in exchange for more profits. What is disputed is that capitalists *deserve* the profits they use to buy capital goods (instead of even more consumption goods) they subsequently “contribute” to the production process—in exchange for more profit. In sum, what is disputed is the claim that there is something meritorious in the behavior of capitalists that justifies the fact that they have profits in the first place. Nothing capitalists do with their profits can retroactively provide a justification for why they—rather than workers—should have had them to begin with.

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<sup>9</sup>Note that whether or not we think the pirates deserve some reward for abstaining from consuming part of their plundered booty—even though it is stipulated that the entire booty was wholly *undeserved* in the first place—is a *different* question.

<sup>10</sup>Joan Robinson dismissed the defense of profits as “reward for waiting” with a clever quip in a lecture titled “The Theory of Value Reconsidered” delivered at University College, London, in November 1968: “Income from property is not the reward of waiting, it is the reward of employing a good stockbroker.”

In effect, the Sraffian response to these justifications for profits given by distinguished economists in the past, which are echoed by many mainstream economists today, is to point out that workers only require a wage fund because they have been unfairly deprived of means of self-support while working, and that the machines capitalists contribute that make workers more productive were, after all, produced by workers. Of course, if someone owns the wage funds and machines—if they are someone's legal property, to use and contract over their use as they please—their owners will often be able to secure a payment from others who lack some form of wherewithal without which they cannot work productively. But, in this case, the compensation capitalists receive is *tribute* they are in a position to *extract* from those who work who cannot otherwise put the productive capabilities of the economy into motion—which has nothing to do with “just deserts.”

Finally it is sometimes argued that profits are a residual, which means that unlike others whose incomes are presumably contractually guaranteed, *capitalists bear risk, and not only require, but deserve compensation for doing so*. In the real world, there is uncertainty, and therefore risk. In the real world, some businesses and industries are riskier than others—giving rise to a spectrum of profit rates. Differences in profit rates among capitalists due to differences in the risks they incur are not only predictable, but we can even stipulate that they are morally justifiable on grounds that an expected value of \$100 with a variance of \$50 is not as valuable to most humans as a 100 percent probability of \$100. And if profit income is less certain than wage income on average, then an average rate of profit that is less certain and is *somewhat* greater than 0 can be justified on similar grounds. But this does not provide either an explanation or a moral justification for an average expected rate of profit that is not only positive but in excess of what is required to compensate for its greater uncertainty than other forms of income.

In this case, the simplicity of the Sraffa framework can help us distinguish between profits that are due to the fact that profit income is less certain than wage income and profits that have nothing to do with risk. Unlike the real world, in a Sraffian framework, there is no uncertainty, and therefore there is no risk! In a Sraffian framework, if the rate of profit exceeds 0, it cannot be because capitalists are incurring risk. In a Sraffian framework, as soon as  $\text{dom}(\mathbf{A} + \mathbf{bL}) < 1$ , capitalists will receive an  $r > 0$  with as much certainty as the  $w > 0$  workers receive. And it is *that*  $r > 0$  that requires a justification. In sum, what the Sraffian framework makes clear—in this case, because of its very simplicity in abstracting from uncertainty—is that there are profits in real capitalist economies that have nothing to do with risk and, therefore, cannot be either explained or justified as reward for risk.<sup>11</sup>

## 5. The Case against Contribution-Based Theories of Distributive Justice

Sections 2 and 3 argue that the surplus approach and the fundamental Sraffian theorem make a strong *prima facie* case that capitalists are parasites, while section 4 rebuts the most common justifications for profits on grounds that while capitalists may do no work themselves, they merit reward nonetheless because they contribute innovation, capital goods, savings, or risk-bearing. This section argues that all contribution-based theories of distributive justice suffer from a

<sup>11</sup>Another way to make this point would be to present the argument in terms of expected values as follows: stipulate that a profit rate of 10 percent with probability 0.5 is *not* equivalent to a profit rate of 5 percent with probability 1.00, but instead is only equivalent to a profit rate of 4 percent with probability 1.00. In this case, it is this “certainty equivalent” profit rate of 4 percent that the Sraffian framework demonstrates will exist in any economy that is sufficiently productive, and whose real wage is sufficiently low, that requires justification—and cannot be justified as reward for risk. For those concerned about the difference between knowable and unknowable uncertainty, and, therefore, the difference between insurable and uninsurable risk, the Sraffa framework offers an environment in which *neither* kind of uncertainty exists, and yet positive profits logically emerge if labor productivity is sufficiently high and wages are sufficiently low.



similar fatal flaw: they reward and punish people for circumstances beyond their control. And, therefore, it is time for economists to abandon the contribution-based approach to economic justice—as many modern philosophers have already done—and embrace a sacrifice-based approach to distributive justice instead.

If we think of the goods and services, or benefits of an economy, as a giant pot of stew, the central idea behind contribution-based theories is that how much stew people get to eat should be determined by how much they contribute to stew production. Here, we assume it is possible to measure the marginal social products of different inputs in production. When production functions are limited to a single linear technology for each good, the marginal physical product of each input is 0 because output cannot rise unless more of other inputs are used as well. But this is a technicality, not a substantive argument against the “positive” neoclassical social marginal product theory of income distribution—as long as it is applied to physical inputs and not misapplied to something called “capital,” and as long as it is not misused to explain the rate of profit in the economy, which it cannot. When substitution between legitimate arguments in production functions is assumed, positive marginal physical products for inputs can be calculated, and the assumption that marginal physical products of inputs to production eventually decline if other inputs are held constant is often warranted. If we make the further assumption that output prices accurately reflect social benefits, it becomes possible to measure how much an additional unit of any input would increase the benefit of output to society as its marginal revenue product.<sup>12</sup> The *valid* Sraffian case against the positive neoclassical theory that when markets are competitive, all “factors of production” *will* receive payments equal to their marginal revenue products is based on two arguments: (1) while a particular machine may be a proper argument in a production function and, therefore, have a positive marginal revenue product, “capital in general” is not a proper argument in production functions, and, therefore, no marginal social product of “capital” can be deduced from production functions, much less be used as an explanation for what the rate of profit in the economy will be; and (2) in any productive economy, the distribution of the surplus between capitalists as a whole, and workers as a whole, will be determined by how fiercely capitalists must compete among themselves for employees compared with how fiercely workers must compete among themselves for employment.<sup>13</sup> As long as the competition among capitalists is less fierce than the competition among workers, the rate of profit will be positive, in which case it can be shown that even if all markets are competitive and there are no externalities, every input, including every kind of labor, will be paid *less* than its marginal social product.<sup>14</sup>

<sup>12</sup>There are many reasons why prices in market economies often fail to accurately reflect social values and, therefore, marginal revenue products differ from marginal social products, but that is beside the point for present purposes where the question is whether payments commensurate with contributions to social benefits would be fair.

<sup>13</sup>Whether one describes the forces that determine how high or low  $r$  will be as the relative power of the capitalist and working classes, or as the relative fierceness of competition among capitalists and among workers, is a question of semantics. But what all Sraffians agree on is that  $r$  is most definitively *not* determined by the marginal productivity of something called “capital.”

<sup>14</sup>For a concise explanation of these valid critiques of the positive neoclassical marginal productivity theory of income distribution, see section 3.3 in Hahnel (2017a). It can easily be shown that for  $r > 0$ , employers will stop hiring more of an input when its marginal revenue product (MRP) reaches  $(1 + r)$  times its price, which implies that inputs will receive  $[r / (1 + r)]\text{MRP}$  less than their marginal revenue product. So, for example, even if labor markets are competitive, if the rate of profit in the economy is 10 percent, a worker whose MRP is \$10 per hour will only be paid  $\$10 - [.10 / 1.10]\$10 = \$9.09$  per hour, and a worker whose MRP is \$20 per hour will only be paid  $\$20 - [.10 / 1.10]\$20 = \$18.18$  per hour. Clearly, differences in worker productivities still lead to differences in wage rates, but as long as  $r > 0$ , *all* workers will be paid less than their MRPs in a capitalist economy. However, regardless of how inputs *will* be paid in a capitalist economy, the question addressed in this section is whether or not inputs to production, including labor, *should* be paid an amount equal to their MRP, that is, whether or not MRP payments to inputs to production is fair and just, assuming, of course, that price equals marginal social benefit.

Historically, there have been two different ways to interpret how an individual contributes to the value of production, giving rise to two different maxims. When conservatives talk about contribution, they usually include contributions from labor and productive property, which can be summarized as *maxim 1: Payment in accord with the value of the contribution of one's labor and the contribution of any productive property one owns*. So, if my labor and productive assets make the stew bigger or richer than your labor and assets, then according to what we might call the conservative maxim, it is only fair that I eat more stew, or richer morsels, than you do. In this interpretation, just as people contribute by peeling potatoes and stirring the pot, they also contribute by bringing a ladle to stir with (to replace a stick), or a gas stove (to replace a fireplace).

While this rationale has obvious appeal, it has a major problem we might call the “Rockefeller grandson problem.” According to the conservative maxim, the grandson of a Rockefeller with a large inheritance of productive property *should* eat 1,000 times as much stew as a highly trained, highly productive, hardworking son of a pauper—even if Rockefeller’s grandson does not work a day in his life while the pauper’s son works for fifty years producing goods or providing services of great benefit to others. This will inevitably occur if we count the contribution of productive property people own, and if people own different amounts of machinery, or what is the same thing, different amounts of stock in corporations that own the machinery, because bringing a ladle or stove to the economy “kitchen” increases the size and quality of the stew we can make just as surely as peeling potatoes and stirring the pot does. So, anyone who considers it *unfair* when the idle grandson of a Rockefeller consumes more than a hardworking, productive son of a pauper must reject the conservative maxim as an acceptable theory of distributive justice.

A second line of defense for the conservative maxim is based on a vision of “free and independent” people, each with her own property, who, it is argued, would refuse to voluntarily enter a social contract on any other terms. This view is commonly associated with the writings of John Locke. But while it is clear why those with a great deal of productive property in Locke’s “state of nature” would have reason to hold out for a social contract along the lines of the conservative maxim, why would those who wander the state of nature with little or no productive property in their backpacks not hold out for a very different arrangement? If those with considerable wherewithal can do quite well for themselves in the state of nature, whereas those without cannot, it is not difficult to see how requiring that all parties agree would drive the bargain in the direction of the conservative maxim. But then the conservative maxim is the result of an unfair bargaining situation in which those with more productive property are better able to tolerate failure to reach an agreement over a fair way to assign the burdens and benefits of economic cooperation than those with less productive property, giving those rich in productive property the upper hand in negotiations over the terms of the social contract. In this case, the social contract rationale for the conservative maxim loses moral force because it results from an unfair bargaining situation. But what if those with more productive property acquired it through some greater *merit*? Would not the income they accrue from this property then be justifiable?

One common way people acquire productive property is through inheritance. But it is difficult to see how those who inherit wealth are more deserving than those who do not. It is possible the person *making* a bequest did something that deserved greater compensation—worked harder, consumed less to save more, was more productive, or did something else we decide merits greater compensation than others. But in any of these scenarios, it is not the heir who did something to merit greater reward, it is the person who made the bequest; so, it would not be the heir who deserves greater consumption rights. It is difficult to imagine how the act of *inheriting* wealth somehow makes a person deserving of greater consumption rights.

A more compelling argument for inheritance is that banning inheritance is unfair to those wishing to make bequests, rather than that it is unfair to those who receive them. One could argue, as Robert Nozick (1974) does, that if wealth is justly acquired, it is wrong to prevent anyone from disposing of it as they wish—including bequeathing it to their descendants. However,

it should be noted that any “right” of wealthy members of older generations to bequeath their gains to their offspring would have to be weighed against the “right” of people in younger generations to start life with equal economic opportunities. To be clear, we are not talking about willing personal belongings to a decedent, which is unobjectionable, but rather passing on productive property in quantities that significantly skew the economic opportunities of members of a new generation. Indeed, these two “rights” are obviously in conflict, and some means of adjudicating between them is required. But no matter how this matter is settled, it appears that those who receive income from inherited wealth do so unfairly.<sup>15</sup>

A second way people acquire more productive property than others is through good luck. Buying stocks in companies whose share prices rise is good luck, while buying stocks whose prices decline is bad luck. This is not to say that some people are not consistently luckier than others in this regard. Warren Buffett is famous for reflecting on his own peculiar talent for picking stocks that are winners not losers. But his point was to explain that there is nothing meritorious in this talent that made him *deserving* of greater reward. Similarly, working for a company on the rise that pays bonuses is good luck, while working for a company in decline and being laid off is bad luck. But unequal distributions of productive property that result from differences in luck are not the result of any difference in merit between people. Luck, by its very definition, is not deserved, and, therefore, the unequal incomes that result from unequal distributions of productive property due to differences in luck appear to be inequitable as well.

A third way people come to have more productive property is through unfair advantage. Those who are stronger, better connected, have inside information, or are more willing to prey on the misery of others can acquire more productive property through various legal and illegal means. Clearly, if unequal wealth is the result of someone taking unfair advantage of another, it is inequitable.

A final way people might come to have more productive property is by using income they earned fairly to purchase more productive property than others. But there is a moral problem regarding income from productive property even if the productive property was purchased with income we stipulate was fairly earned in the first place. Labor and credit markets allow people with productive wealth to capture part of the increase in productivity of *other people* that results when others work with the productive wealth. Moreover, the share captured by wealthy employers as profits, and wealthy lenders as interest, is determined by forces in labor and credit markets with no claim to yield fair shares. It is determined by the laws of supply and demand and bargaining power. So, whether or not, and to what extent, the profit or interest owners of productive wealth initially receive is merited must be carefully examined.

However, even if we stipulate that some compensation is justified by a meritorious action that occurred *once* in the past, there is a further problem: labor and credit markets allow those who own more productive property to parlay it into *permanently* higher incomes that *increase* over time with no further meritorious behavior on their part.<sup>16</sup> This creates the dilemma that ownership of productive property *even if purchased with income that was justly acquired, and even if deserving of some compensation*, generally gives rise to additional income that becomes unfair at some point, and increasingly so, as time proceeds.<sup>17</sup>

In sum, if unequal accumulations of productive property are the result only of meritorious actions, and if compensation in the form of profits and interest ceased when the social debt was

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<sup>15</sup>See Appendix B in Hahnel (2017a) for an explicit rebuttal to Robert Nozick’s argument that inheritance fully complies with his theory of “justice in transfer.”

<sup>16</sup>Thomas Piketty’s (2014) exhaustive review of data on inequality of income, capital, and wealth in many countries over long periods of time in his best-selling book drives this point home quite clearly.

<sup>17</sup>For a simple model that illustrates these important issues, see Hahnel (2006).

fully repaid, using words like “exploitation” to describe payments to owners of productive property would seem harsh and unwarranted. However, if those who own more productive property acquired it through inheritance, luck, or unfair advantage, or because once they have more productive property than others, they can accumulate ever more with no further meritorious behavior by participating as employers in labor markets or lenders in credit markets, then calling the unequal outcomes that result from differences in wealth unfair and exploitative seems quite appropriate.

Most economists who have studied the causes of unequal wealth believe that differences in ownership of productive property that accumulate within a single generation due to the behavior of individuals themselves are small compared with the differences in wealth that develop due to inheritance, luck, unfair advantage, and accumulation that is without merit. Edward Bellamy ([1888] 2000) put it this way in *Looking Backward*, written at the close of the nineteenth century: “You may set it down as a rule that the rich, the possessors of great wealth, had no moral right to it as based upon desert, for either their fortunes belonged to the class of inherited wealth, or else, when accumulated in a lifetime, necessarily represented chiefly the product of others, more or less forcibly or fraudulently obtained.” One hundred years later, Lester Thurow (1996) estimated that between 50 and 70 percent of all wealth in the United States is inherited. Daphne Greenwood and Edward Wolff (1992) estimated that 50 to 70 percent of the wealth of households under age fifty was inherited. Laurence Kotlikoff and Lawrence Summers (1981) estimated that as much as 80 percent of personal wealth came directly from either inheritance or the income on inherited wealth. A study published by United for a Fair Economy in 1997 titled “Born on Third Base” found that of the 400 on the 1997 Forbes list of wealthiest individuals and families in the United States, 42 percent inherited their way onto the list, another 6 percent inherited wealth in excess of \$50 million, and another 7 percent started life with at least \$1 million.

Finding most income from ownership of productive property to be unfair, many liberals gravitate toward a different interpretation of “contribution,” which can be expressed in a different maxim: *maxim 2: Payment in accord with the value of the contribution of one’s labor only.* Because different categories of labor, and different individuals within categories, can all be modeled as proper arguments in production functions along with other physical inputs, if we assume substitution between inputs in production, it is possible to measure marginal physical, revenue, and social products of different kinds of labor. Moreover, there is every reason to believe that the marginal social products of different categories of labor, and different individuals within categories, will differ from one another. In this case, if we again assume that prices of outputs reflect their social value, according to the liberal maxim, payment according to one’s personal marginal revenue and social product is fair and just.<sup>18</sup> While those who support the liberal maxim find property income unjustifiable, advocates for the liberal maxim hold that everyone has a moral right to the fruits of their own labor. The rationale for this has a powerful appeal: if my labor contributes more to social well-being, that is, my marginal social product is higher, it is only fair that I receive more. Not only am I not exploiting others, but they would also be exploiting me by paying me less than the value of my personal contribution.<sup>19</sup>

<sup>18</sup>As mentioned earlier, in capitalism, all inputs, including labor, will be paid  $[r / (1 + r)]\text{MRP}$  less than their MRP, and this “deduction” ceases only if  $r = 0$ . However, this is not an argument that workers *should* not be paid the full value of their contribution, as maxim 2 says. It simply demonstrates that they *will* not be paid their full MRP in capitalism as long as  $r$  is positive. Put differently, it is an argument that if you subscribe to maxim 2, you will find that all workers will be “cheated” in capitalism whenever  $r > 0$ .

<sup>19</sup>Conservative libertarians such as Nozick argue that a person has a “right to self-ownership,” which gives her a moral right to use her powers to benefit herself as long as she does no harm to others. Modern egalitarians, such as Gibbard, Cohen, Arneson, and Grunebaum, provide a number of counterarguments. Some dispute any right to income due to attributes over which a person has no control, while others argue that conservative interpretations of the Right are based on an inappropriate assessment of what constitutes harm to others. See chapter 6 in Roemer (1996) for a useful summary of this debate.

However, the marginal product, or contribution of an input to production, depends as much on the number of units of that input available, and on the quantity and quality of other, complementary inputs, as on any intrinsic quality of the input itself—which undermines the moral imperative behind the liberal maxim. But not only does the marginal productivity of different kinds of labor depend very much on the number of people in each labor category in the first place, and on the quantity and quality of nonlabor inputs available to them, most differences in people's personal productivities are due to intrinsic qualities of people themselves over which people have little control. No amount of eating and weight lifting will give an average individual a six-foot-nine-inch frame with 380 pounds of muscle. Yet professional football players in the United States receive hundreds of times more than an average salary because those attributes make their contribution outrageously high in the context of US sports culture. Joan Robinson's observation about machines can also be applied to people: however "productive" a 380-pound physique or a high IQ may be, that hardly constitutes an argument for why the owner of this trait *deserves* to be paid more than someone less gifted who works as hard and sacrifices as much. The bottom line is that the "genetic lottery" greatly influences how valuable one's personal contribution will be. Yet the genetic lottery is no more fair than the inheritance lottery, which implies that as a theory of distributive justice, the liberal maxim suffers from the same fatal flaw as the conservative maxim.

In defense of the liberal maxim, it is frequently argued that while talent may not deserve reward, to make talent productive requires training, and those who undergo extra training deserve extra reward. In this vein, it is frequently argued that doctors' high salaries are justifiable compensation for all their extra years of education. First of all, it is important not to confuse the cost of someone's training to society—which consists mostly of the *trainer's* time and energy, and scarce social resources such as books, computers, microscopes, libraries, and classrooms—with costs borne by the *trainee*. If teachers and educational facilities are paid for at public expense—that is, if we have a universal public education system—and if students are paid a living stipend—so they forego no income while in school—then the only cost borne by the student consists of their discomfort from time spent in school. But even the personal suffering we endure as students must be properly compared. While many educational programs are less personally enjoyable than time spent in leisure, comparing discomfort during school with comfort during leisure is usually not the relevant comparison. The relevant comparison is with the discomfort others in the same age cohort experience who are working instead of going to school. So, to the extent that education is paid for publicly rather than privately, students receive a living stipend, and the personal discomfort of schooling is no greater than the discomfort others incur while working, the claim that those with higher social marginal products due to greater education deserve higher reward because they underwent extra training does not hold up under scrutiny.

In sum, we might call the problem with the liberal maxim the "doctor-garbage collector problem." If education were free all the way through medical school, how could it be fair to pay a brain surgeon, who is on the first tee at his country club by 2 p.m. even on the four days a week he works, ten times more than a garbage collector who works under miserable conditions forty plus hours a week? Which brings us to a third distributive maxim, which we might call the radical maxim to contrast it with the conservative and liberal maxims.<sup>20</sup>

## 6. A Sacrifice-Based Theory of Distributive Justice

*Maxim 3: Payment according to effort, or the personal sacrifices one makes in work.* Whereas differences in personal contribution will be due to differences in talent, training, job assignment,

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<sup>20</sup>Because maxim 3 does not account for differences in need, some may find it inappropriate to call it "radical." However, in comparison with maxims 1 and 2, many would consider it radical.



luck, and effort, the only factor that deserves extra compensation according to maxim 3 is extra effort. By “effort,” I mean personal sacrifice in work for the sake of the social good. Of course, effort can take many forms. It may be working more hours. It may be performing less pleasant tasks. It may be working in more dangerous or unhealthy work environments. Or it may be working at greater intensity, that is, what is commonly called exerting more effort. It may also consist of undergoing training that is less gratifying than the training experiences of others, or less pleasant than time others spend working more and training less. The underlying rationale for maxim 3 is that people should eat from the stewpot according to the sacrifices they made to cook the stew.

One argument for why sacrifice deserves reward is that people have control over how much they sacrifice. I can decide to work longer hours, or work harder, whereas I cannot decide to be six foot nine or have a high IQ. It is commonly considered unjust to punish someone for something she could do nothing about. On those grounds, paying someone less just because she is not strong or smart violates a fundamental precept of fair play. However, if someone does not work as long or hard as the rest of us, we do not feel it is inappropriate to punish her by paying her less because she *could* have worked longer or harder if she had chosen to. In the case of reward according to effort, avoiding punishment is possible, whereas in the case of reward according to contribution, it often is not.

Nor is there any reason for society to frown on those who prefer to make fewer sacrifices as long as they are willing to accept less economic benefits to go along with their lesser sacrifice. There is no reason that just because people enter into a system of equitable cooperation with others, this precludes leaving the sacrifice/benefit trade-off to personal choice. Maxim 3 simply balances any differences in the burdens people choose to bear with commensurate differences in the benefits they receive. This is perhaps the strongest argument for reward according to sacrifice. Even if all were not equally *able* to make sacrifices, extra benefits to compensate for extra burdens seems fair. When people enter into economic cooperation with one another, for the arrangement to be just, should not all participants benefit equally? As each participant bears burdens as well as enjoys benefits, it is equalization of *net* benefits, benefits enjoyed minus burdens borne, that makes the economic cooperation fair. So, if some bear more of the burdens, justice requires that they be compensated with benefits commensurate with their greater sacrifice. Only then will all enjoy equal *net* benefits. Only then will the system of economic cooperation be treating all participants equally, that is, giving equal weight or priority to the interests of all participants. Notice that even if some are more able to sacrifice than others, that is, even if “sacrifice” is to some extent “conditioned” and not entirely “freely chosen,” the outcome for both the more and less able to sacrifice is the same when extra sacrifices are rewarded. In this way, all receive the same net benefits from economic cooperation irrespective of any differences in their abilities to contribute *or* to make sacrifices.

Many who object to maxim 3 as a distributive principle raise questions about measuring sacrifice, or about conflicts between reward according to sacrifice and economic efficiency. But measurement problems, or conflicts between equity and efficiency, are *not* objections to maxim 3 as an appropriate conception of what is fair, that is, they are not objections *on equity grounds*. To reject maxim 3 because effort or sacrifice may be difficult to measure, or because rewarding sacrifice may reduce efficiency, is not to reject it because it is unfair. No matter how weighty these arguments may prove to be, they are not arguments against maxim 3 on grounds that it somehow fails to accurately express what it means for the distribution of burdens and benefits in a system of economic cooperation to be just, or fair.<sup>21</sup> Moreover, even should it prove that

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<sup>21</sup>See chapter 12 in Hahnel (2012) and part 1 in Hahnel and Wright (2016) for an extensive discussion about measurement and incentive problems people have raised about payment according to sacrifice.

distributive justice is difficult to achieve because it is difficult to measure effort accurately, or costly to achieve because to do so generates inefficiency, one presumably would still wish to know exactly what this elusive or costly distributive justice *is*.

Even for those who reject contribution-based theories of distributive justice like maxims 1 and 2 as inherently flawed because people's abilities to contribute are often different through no fault of their own—as do all modern egalitarian philosophers—there is still a problem with maxim 3 from a moral point of view that we might call the “AIDS victim problem.” Suppose someone has made average sacrifices for fifteen years, and accordingly consumed an average amount. Suddenly, they contract AIDS through no fault of their own. In the early 1990s, a medical treatment program for an AIDS victim often cost close to \$1 million. That is, the cost to society of providing humane care for an AIDS victim was roughly \$1 million. If we limit people's consumption to the level warranted by their efforts, we would have to deny AIDS victims humane treatment, which is hard to defend on moral grounds. Of course, this is where another maxim comes to mind: *payment according to need*. Whether taking differences of need into consideration is required by distributive justice or is required, instead, for an economy to be *humane* is debatable. However, at the risk of scandalizing professional philosophers, as long as we conclude that ignoring either differences in sacrifice or legitimate differences in need is morally unacceptable, cannot we conclude that the issue has been reduced to a question of semantics?

## 7. Retrial for Capitalists

Sections 2 and 3 argue that the fundamental Sraffian theorem is sufficient to establish a prima facie case that profit income is unjust and capitalists are parasites. Section 4 explains why profits would be positive even if capitalists made no new innovations and took no risks, and why the fact that capitalists may choose to do something socially useful with their profits—contribute a wage fund for workers, or contribute capital goods for workers to work with—does not justify why capitalists had the profits in the first place. But notice the critique of profits in sections 2, 3, and 4 is implicitly based on accepting a contribution-based theory of distributive justice, and then arguing that capitalists not only do not contribute by working, but nothing else they contribute justifies what the economics profession calls “normal” profits. However, if the critique of contribution-based theories presented in section 5 is valid, and the argument for a sacrifice-based theory of distributive justice in section 6 is compelling, this implies that capitalists deserve a retrial. Suppose after considering all the arguments for and against the three maxims in sections 5 and 6, the judge presiding over the retrial ruled that contribution was irrelevant, and only testimony regarding sacrifice was relevant. What would our retrial look like?

Now, the prosecuting attorney must argue that capitalist profits exceed any credible estimate of their sacrifices, and thereby render workers' wages less than their sacrifices warrant. It no longer matters who contributes more or less. It does not matter what form anyone's contribution takes. What matters is only who gets more than they sacrificed, and who gets less than they sacrificed. What matters is only if compensation is commensurate with sacrifice, exceeds sacrifice, or falls short of sacrifice.

In our mock retrial, if the defense team for capitalists wants to argue that capitalists deserve profits, they must explain concretely what sacrifice capitalists have made. If the rate of profit is positive and they cannot produce credible evidence of any sacrifice, their client will be found guilty as charged. And even if the capitalist defense team produces evidence of some sacrifice on the part of their client, they must demonstrate that their client's profits, which will accrue at a compound rate *indefinitely*, do not exceed the magnitude of whatever sacrifice capitalists made *once only* by abstaining from consuming part of what is usually a considerable income in an initial year.

At the end of such a retrial, the jury might not find all capitalists guilty. However, it is difficult to imagine that in such a trial, a jury selected at random would not find most profit undeserved.

Moreover, a sound basis for a subsequent trial of workers, some of whom might also be guilty of wages or salaries in excess of their sacrifices, would have been established.

## 8. Modern Egalitarian Theories of Distributive Justice

Beginning with Ronald Dworkin (1981a, 1981b), modern egalitarian philosophers explicitly took up the conservative challenge that unequal outcomes need not be unfair when they derive from personal choices people make. Broadly speaking, egalitarian theory over the past thirty years focused on replacing “equality of outcomes” with “equality of opportunities,” and how to distinguish between factors affecting outcomes that people should be held responsible for from those they should not be held responsible for. For the most part, philosophers focused on difficult issues concerning where to draw the dividing line *in theory* between “not responsible” and “responsible,” while economists focused on designing procedures for identifying and implementing different choices for where any line lies. In particular, the degree to which preferences and efforts are “freely chosen” or “conditioned” has been a major subject of debate among egalitarian philosophers. And how to divide populations into different types who share the same conditions for which people are not deemed to be responsible, to reduce differences in outcomes within types to differences in “freely chosen efforts,” has been a major concern among egalitarian economists. Major contributors include G. A. Cohen, Richard Arneson, Thomas Scanlon, Amartya Sen, Hillary Putnam, Vivian Walsh, Partha Dasgupta, John Roemer, Marc Fleurbaey, Francois Maniquet, Dirk Van de gaer, Walter Bossert, and Vito Peragine. Where does maxim 3 fit into this large and growing modern egalitarian literature?

Clearly, no maxim can be as sophisticated as an entire philosophical theory of distributive justice covering a myriad of difficult “cases” designed to challenge any broad generalization. Nor should a theory of distributive justice be confused with the problem of how to design economic systems, institutions, and policies to yield equitable outcomes, much less reconcile equity and efficiency. Nonetheless, arguing that differences in income should be commensurate with differences in the efforts, or sacrifices, people make seems very much in tune with modern egalitarian theories of distributive justice. Maxim 3 is highly egalitarian while acknowledging a legitimate role for agency. Moreover, the simplicity of a maxim has advantages as well as disadvantages:

- Maxim 3 sidesteps important debates among modern egalitarian philosophers over *what* is to be equalized and how to *quantify* necessary compensation: Utility? Primary goods? Capacities? Opportunities? Maxim 3 simply addresses income and differences in income.
- One can explicitly stipulate that maxim 3 does *not* resolve important problems having to do with differences in needs that must be dealt with and are a major subject of debate in the modern egalitarian philosophical literature.
- In an economy where income is distributed according to maxim 3, there is no need to engage in significant unequal educational expenditures to compensate those with disadvantageous personal or cultural conditions for which they are not responsible to secure equality of opportunity.<sup>22</sup> As long as people are compensated only according to their effort, differences in human capital will have no effect on expected income. I, for one, find no reason to accept the assumption implicit in the work of many modern egalitarians that in complex societies, labor markets that distribute income in accord with marginal productivities are a practical

<sup>22</sup>For example, the major concern in Roemer (1998) is how to distribute educational resources among children to level the playing field and equalize their opportunity “for the advantage associated with income and consumption as an adult.” In so doing, Roemer admits a trade-off between achieving equal opportunity for children and maximizing their contribution to overall social productivity, but argues for prioritizing achieving equal opportunity.

necessity,<sup>23</sup> in which case it is unnecessary to level the educational playing field at the expense of an efficient allocation of educational resources to render income distribution fair. In brief, by basing income distribution on effort, or sacrifice—instead of on productivity, or contribution—an efficient educational “meritocracy” need not lead to an unfair distribution of labor income.

- Egalitarian philosophers argue over where agency starts, and egalitarian economists debate the best way to design suitable procedures to identify different dividing lines and calculate appropriate compensations. Arguably, identifying and evaluating differences in “freely chosen effort” among workers is an inherently imprecise science. And while it is useful for philosophers to remind us that all human behavior is a subtle mixture of “conditioned” versus “chosen,” distinguishing between the part of people’s efforts that is freely chosen from the part that is conditioned is something about which reasonable people will likely continue to disagree.<sup>24</sup> What advocates for a “participatory economy” like myself propose in this regard is that there is no better solution than to leave these judgments to be resolved by workers themselves, in their democratically self-managed enterprises, using whatever procedures they believe are most suitable for evaluating any differences in effort, or sacrifice, among them. Proponents of a participatory economy use two words to identify the goal—effort and sacrifice—and empower workers in every workplace to go about achieving that goal as they see fit. As imperfect as decisions will sometimes be, who is better suited than coworkers to sit in judgment over any differences in “freely chosen effort” among them?

## 9. Conclusion

This article argues that the surplus approach, and what might be called the “fundamental Sraffian theorem,” make a strong *prima facie* case that capitalists are parasites. However, while most economists continue to think about distributive justice in terms of contribution, most philosophers today have abandoned this approach because all too often what causes differences in contribution is morally arbitrary. Modern egalitarian philosophers have, instead, concentrated on ways to hold people responsible only for what they do control, often referred to as their “freely chosen effort.” This article argues that combining a Sraffian demonstration that profits are necessarily deductions from the surplus of goods and services workers produce, with the simple maxim that distributive justice requires that rewards be commensurate with sacrifices people make, establishes a sound basis for concluding that the greater part of the profits capitalists appropriate are undeserved.

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<sup>23</sup>While for many this assumption is only implicit, Roemer makes the assumption explicit: “In any complex society labor markets are necessary, from which it follows that a person’s income will depend on his job and labor choices” (Roemer 1996: 166). For an argument that a modern economy can function quite well without labor markets where the law of supply and demand and bargaining power determine relative wages, see Hahnel (2012) and Hahnel and Wright (2016).

<sup>24</sup>Some, which may have included Piero Sraffa himself, believe different kinds of sacrifices are incomparable. While I concede that different kinds of sacrifices are, indeed, difficult to compare, I see no alternative to attempting to do so as best we can because to refuse to do so amounts to giving up on trying our best to achieve economic justice. In any case, see chapter 12 in Hahnel (2012) for a discussion of the pros and cons of assigning the difficult task of measuring what modern egalitarian philosophers call “freely chosen effort” to coworkers.

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