

An Off-Line Switch in the Theory of Value and Distribution

THE THEORIES of value and distribution of the distinguished Austrian economist, Eugen von Böhm-Bawerk, are still frequently cited and commented on, although more than half a century has passed since he published them. Perhaps in any case these theories—or some of them—would have been stated by other writers. But it is difficult to avoid the conclusion that Böhm-Bawerk's analyses, both directly and through the modified forms given them by other writers, have been continuously influential from the eighteen eighties to the nineteen forties. And because I believe that he—as Jevons once said of David Ricardo¹—"shunted the car of economic science on to a wrong line," it seems to me important that certain of his concepts and views be challenged on every appropriate occasion, in the hope that thereby "the car of economic science" may be placed definitely on the *right* line leading to a significant terminal.

To examine Böhm-Bawerk's concepts and theories critically now, so many years after their first publication, might well seem anachronistic, a case of digging into matters of historical—even antiquarian—interest solely.² But in view of the living influence of these concepts and theories and, as I believe, their *harmful* influence, such a critical examination may be one of the most important tasks we can undertake.

¹ "The Theory of Political Economy," fourth edition, London, Macmillan, 1911, p. li.

² The late Franz Oppenheimer did not think so, however. Only shortly before his death he finished translating his critique of marginalist theory into English for publication in this JOURNAL. As this work is now being prepared for publication by the editor, I have not had an opportunity to consult it in preparing this paper.

I

IN "The Positive Theory of Capital,"³ Böhm-Bawerk describes "roundabout" production, illustrates the gain from it and contrasts "roundabout" with "direct" production. It is Böhm-Bawerk's concepts on these matters, his theory of interest on capital developed (in part) from them and his view regarding the value of capital, to which I want to call especial attention.

It is important to note at the start, I think, that there are two conflicting concepts of "roundabout" production and, therefore, two conflicting concepts of "direct" production. And I think it can be shown that the concept which was held by Böhm-Bawerk, of each of these, is the less useful for economic analysis and for the solution of our economic problems. When it is a question of choice of concepts, it is desirable to choose the most helpful for the purpose at hand. In this case the concepts we want are such as will most simplify the analysis of the interest problem and fit in best with analyses of other economic questions, such as, for example, the determination of the price of a commodity, the alternatives of wage earners and the value of capital.

Böhm-Bawerk's concept of roundabout production is one that includes practically *all* production. In his picture of the productive process there is *almost no* "direct" production in any modern economic society; if, indeed, in such a society, there is ever, anywhere, *any at all*. For, to Böhm-Bawerk, "direct" production is production "*mit der nackten Faust*"—with the naked fist or the bare (unaided) hand. It is production without the aid of any tools or equipment, either already made or to be made. It is production which proceeds to the making of consumable goods or services without using any

³ References are to the English translation by William Smart, published in 1891. See Book I, Ch. II; Book II, Ch. II and Book VII, Ch. II.

⁴ *Ib.*, p. 22.

capital available in advance and without turning aside at any point in the process to construct capital which then can be used. In short, capital enters into the process *nowhere*. And such production is, of course, hopelessly ineffective.

Thus there is, in Böhm-Bawerk's view and, presumably, in the view of all the economists who follow his analysis, rarely or never a case where, in (say) a worker's alternative between roundabout and direct production, the scales are balanced equally. There is rarely or never a choice such that the chooser can be said to be "marginal."

But in the alternative concept of "direct" production, which, I have long believed, should supersede that of Böhm-Bawerk, the test is the immediacy of the end product and *not* whether production takes place without any tools or equipment. In this alternative concept, the housewife who is cooking a meal for her family, is engaged in *direct* production notwithstanding she is using cooking utensils and a stove in the process,—notwithstanding, that is to say, that she is definitely *not* working "with the naked fist." Similarly, the farmer who is picking apples is engaged in direct or nearly⁵ direct production, notwithstanding he uses a ladder *and* gets the apples from trees which had to be produced by the industry of the past and which are clearly capital. But the farmer who is *planting* apple trees from which apples can be got in (say) ten years, is definitely engaged in *roundabout* production. Using the terms thus, we can say that both direct *and* roundabout production involve labor *and* land *and* capital. A building (capital) is being devoted to roundabout production when it is used to produce building materials or machinery for further production and is devoted to (relatively) direct production when it is used to produce shoes

⁵ If not *quite* "direct," this is because the apples are not immediately consumed and, even, may go through several hands before being consumed. They may go, for instance, to a commission merchant, and thence to a retail grocer or, possibly, be kept for a time in cold storage.

or clothing or (e.g., a bakery) bread. Similarly, a piece of *land* may be devoted to direct or to roundabout production according to what goods are being produced from the land or, even, according to the use to be made of these goods. For example, a coal mine is being used for roundabout production if the coal produced is to be used for smelting steel, and to relatively direct production if the coal is to be used to heat homes.

This line of distinction between roundabout and direct production brings more clearly into view an alternative of the wage earners which seems never to have impressed Böhm-Bawerk at all. Böhm-Bawerk appears to think of the wage earner as having a choice, as a rule, only between working in a *roundabout* process for a capitalist or working—for himself—in a direct or relatively direct process. For he says:⁶

Let us assume that, in the methods of production current in economical society at the moment, the making of a product ready for consumption requires a period of time extending in all over two years. The technical productiveness of this method, we shall assume, is such that it takes a week's labour to turn out a product which will have the value of 20s. The same product may be turned out by shorter methods, but the result will be disproportionately unfavorable. If a three months' process is adopted, the technical result falls to one-half; if the worker has no capital, and his process is, accordingly, one that yields its return immediately, the productiveness falls to one-quarter;—that is, respectively, to 10s. and 5s. . . .

In the circumstances of modern industry, the wage workers scarcely ever possess sufficient means to utilise their own labour in methods of production extending over years. They have, therefore, to face the alternative of selling their labour, or of employing it on their own account in such short and unproductive processes as the scanty means at their disposal permit. Naturally they will make that choice which is most advantageous to them. Those workers who are well enough off to embark, on their own account, on a production process lasting at least three months, and yielding a return of 10s. per week, will be willing to sell their labour at any price over 10s.; at any price under 10s. they will rather work on their own account. On

⁶ *Ib.*, pp. 313-4.

the other hand, those workers who are entirely without means, and who, working on their own account in a hand-to-mouth process, could only have a return of 5s., will be willing to sell their labour at any price above 5s. As, unfortunately, the labourers who are entirely without capital, form to-day the great majority, we may assume for our illustration that the "Supply" of labour will be represented by a long row of workers who are ready, in the worst case, to sell the week's labour for 5s., and a shorter row who will do the same for 10s. present money.

But in fact the wage earner has the significant alternative, even though he works for hire, of either working to produce capital or engaging in *direct* production in the sense of direct production which has been indicated in the present article as the sense most helpful for the analysis of the problem of distribution. Thus, the worker can plant new fruit trees (roundabout production) or pick fruit (direct production) from trees already bearing. He can build new fishing boats and make new fishing nets or he can work, with what capital is already available, to catch fish. He can, on the one hand, build barns or manufacture reapers, cultivators or harrows (using, in so doing, capital already in existence); or he can, on the other hand, gather vegetables or harvest grain.

Furthermore, the worker who chooses to follow *direct* production (in the sense here indicated) does not have to be supported by the saving of "capitalists," even though he may be hired by capitalists, or of anyone, since he is himself producing present, i.e., immediately consumable, goods. In other words, he and the workers engaged in producing the various other kinds of immediately consumable goods are together producing as much in such goods as they are consuming. They not only produce the amount of their wages but it is possible, even, that, collectively, they produce the exact kinds and proportions of goods they consume.⁷

The worker who is engaged in roundabout production,

⁷ Not certain, since capitalists and landowners and laborers all exercise choice as to what special kinds of goods to consume.

however, who is producing *capital*, must somehow be provided with immediately consumable goods. If he has no other source of livelihood than his own labor and is to devote his time completely to roundabout production, he is necessarily dependent, for a supply of present goods, on the saving of others.

But this does *not* mean that his wages, in terms of present goods, must be or will be pressed down to a very low level by any unwillingness of savers ("capitalists," in Böhm-Bawerk's terminology) to provide these goods for him without the prospect of realizing large gains. *For the worker can find many opportunities to produce present goods*, with employers competing for his services and willing to pay him wages measured by his productiveness in industry. And with this alternative of producing present goods available to him, the worker certainly need not and will not consent to accept lower wages as a producer of capital than he can secure in *direct* production.

When Böhm-Bawerk says that "those workers who are entirely without means, and who, working on their own account in a hand-to-mouth process, could only have a return of 5s., will be willing to sell their labour at any price above 5s.," the reader is almost certain to overlook the alternative I have been emphasizing above. It may be that, by a sufficiently involved analysis, it could be shown that the existence of this alternative is not completely ruled out by Böhm-Bawerk's formulation of the problem. But that formulation certainly does not *reveal* it to the casual reader. And I am inclined to think that such a formulation pretty effectively *hides* from the general reader and, even, from some trained economists, the fact that there is such an alternative.

Nevertheless, to the worker employed in planting an orchard, erecting a factory, constructing a machine, laying

the keel of an ocean liner or building a lock for the passage of ships, the existence of this alternative is highly important. It means that the wages he is able to command, measured in the present goods they will buy, cannot be held down by the mere fact that the *capital* he is producing yields a return only in the far future. Nor can his wages be held down by any tendency of his employer to discount this future at a high rate and reckon the present value of this future return (and so the value of the capital being constructed) at too low a figure. For any tendency to pay the worker wages very much lower for any such reason, would mean that he would, in general, *take advantage of the alternative I have been discussing.*

II

THIS ANALYSIS LEADS into a consideration of the conditions determining the value of capital. And the concepts of roundabout and direct production which are being adhered to in this article are significant in the problem of capital value. Since labor can—as already indicated above—turn to direct *or* roundabout production and will not, in general, accept lower wages in the latter than in the former, we can say that the labor cost of constructing capital is measured by the *present* goods which the labor could produce instead. This is consistent with the theory of “opportunity cost.” Indeed, it is, properly, an integral part of that theory. But, instead of measuring the cost of a particular *kind* of capital by the amount of (say) some *other* kind of *capital* that the producers might have produced while producing it, we measure the cost of *capital-in-general* in terms of the *present goods-in-general* that might have been—or might be—produced in place of the capital. For the alternative on which it is desired to focus attention here is the alternative of producing *either* capital *or* present goods, and we definitely want to express the cost of the one *in terms of* the other.

But cost of production, in this view, is not to be measured merely in the alternative which *labor* has of producing present goods. Capital is produced by *labor and land and pre-existing capital*. In producing a particular piece of capital, other capital was used. A building, for example, is not the product of labor alone. The lumber, or the structural steel and brick, used in its construction, were produced with the aid of capital—buildings and machinery. Such buildings and machinery might have been used for the production of present goods or, at least, of more nearly present goods.

It is true that some capital is highly specialized and cannot be used effectively in other lines. So, indeed, is some labor highly specialized. And some land—e.g., a mine of iron ore—may be adaptable only to roundabout production. Nevertheless, much labor, much capital and much land can be turned *either* to producing goods for relatively immediate enjoyment *or* to the production of more capital (viz., to roundabout production).

And so, if capital were to be less valuable, in relation to present goods, the labor and the land and the capital which are engaged in producing capital and which are marginal (in doubt—"on the fence") between such production and the production of present goods, would cease producing capital (i.e., would no longer engage in roundabout production) and would turn to the production of present or immediately (or nearly immediately) consumable goods.

And if, on the other hand, capital were to become appreciably *more* valuable, in relation to present goods, then labor and land and capital which are engaged in producing present goods and which are marginal between such production and the production of capital, would turn to the production of capital.

In short, capital in general cannot be expected to remain worth less—and it cannot be expected to remain worth

more—than its marginal cost of production measured in the present goods or immediately consumable (or the *relatively* immediately consumable) goods that the factors producing capital might produce instead.

It is to be noted that this cost of production operates on the demand side as well as on the supply side of the market. A would-be purchaser of a piece of capital, who could himself produce it in the time required to earn (say) \$500 by producing present goods, would refuse to purchase this capital at a price of \$550 but would instead make it himself. In other words, he would *not* appear on the *demand* side of the market, i.e., as a buyer of capital, at a price for this capital higher than its cost of production *to him*.

No doubt, in our specialized economic world, the would-be purchaser of a piece of capital does not *generally* have the practicable alternative of himself producing it. But sometimes he does have this alternative or, at least, the alternative of partly producing it (but buying some materials for it). Furthermore, if it is selling at an unduly high price, there will be persons or corporations able and willing to produce it at a lower price because they are able to produce it at a lower cost, and their competition will normally bring down its price.

It seems to me that nobody who *really* understood the direct influence on the value of capital, of cost of production operating through both the supply and the demand sides of the market, could possibly write as did Böhm-Bawerk in his criticism of the Ricardian law of rent. This is what Böhm-Bawerk said about it:⁸

The theoretical explanation of rent from land, then, coincides ultimately with the explanation of interest obtained from durable concrete capital, and land rent is nothing but a special case of interest obtained from durable goods. That the two explanations do not entirely coincide, and that, on

⁸ "The Positive Theory of Capital," English tr., pp. 355-6.

the contrary, the current rent theories are substantially so very different from the interest theories, is only traceable to the fact that, in the course of the explanation of rent, an intercalation had to be made which did not require to be made in the case of interest on durable capital; and that, at the same time, from a faulty conception of the rent problem, economists exhausted the whole content of the rent theories in making this special intercalation. In the case of all products of labour, and, consequently, in all goods that constitute capital, it needs no explanation that they and their material have economic value: were it not so they would not be produced. In the case of the services of land, on the other hand, this is not self-evident. And, therefore, the economist must first exert himself to show why and under what circumstances the use of land receives a value and a price. With a correct value theory, a few strokes of a pen will supply this proof;—by means of the doctrines of marginal utility and of complementary goods. Wanting the guidance of such a theory, and entangled in the fetters of the labour value theory, economists gave it a shape which was unnecessarily circumstantial and clumsy, and was, at the same time, not very satisfactory in principle. Of Ricardo's rent theory, which in essence has remained the ruling one up till the present day . . . it must be said that it contains an abundance of truth put in a formula essentially false. It is a brilliant piece of casuistry, which is out of connection with the central fire of correct principles; it lights up a bit of the road, but leaves the rest in obscurity and error. . . .

But how far does the Ricardian, or any other rent theory, take us, even if it were correct in every point where it is disputable? It takes us no further than we get in the question of interest, when it has been shown that a threshing machine, after deducting all other costs, yields an annual *gross* interest, and why it does so. Where Ricardo ends his rent theory, there in truth ends the intercalation, which, because of its obviousness, did not require to be made in the case of movable capital. But it is just then that the chief question of the problem suggests itself: why there is a net interest within that gross interest which is yielded by the year's use or service of the threshing-machine or the field, after deduction of all other costs. And to this question—which the rent theory up till now has entirely omitted to put—no answer can be given, either as regards the field or the machine, but to point to the under-valuation of future goods and future services.

Here Böhm-Bawerk is saying, is he not, that *both* the capital which men make *and* land are valued by a process of

capitalizing or discounting the anticipated future yield into a present value? Here he is definitely overlooking the fact—or so it seems—that the *cost of production* of capital has a *direct* influence on both the demand for it and the supply of it and, therefore, on its price.

But it is along this line that Böhm-Bawerk analyzes the value of "production goods" throughout "The Positive Theory of Capital." Thus, in an earlier chapter in which he treats especially of "The Value of Production Goods,"⁹ as in the passage quoted above, he explains the value of capital as arrived at through the discounting process from the future income yielded by it.¹⁰ Nowhere does he appear to evidence a clear comprehension of the fact that capital cannot, in general and in the long run, be worth more than or less than its marginal cost of production and that this cost, for capital-in-general, is properly expressed in terms of the present (immediately consumable) goods which might be or might have been produced instead. Nowhere does he evidence a clear comprehension of the *direct* influence on the value of capital, stemming from the fact that the factors (labor, land and capital) which produce capital can be devoted, instead, to the production of present goods.

But might not his entire point of view on this matter have been different if he had followed the line of distinction between direct and roundabout production which has been set forth in this article and which brings into view the alternatives of the worker (and also of capital owners and land-owners), *instead of* considering all production other than that

⁹ Chapter X of Book III.

¹⁰ It is true that he shows (pp. 186-9) how a consumable product may appear to get its value from the "productive good" used in producing it and, therefore, as he puts it, from "cost." But he is careful to point out that, in this case, the value of the "productive good" is arrived at (through discounting) from the value of one of its alternative products and that in "the *last resort*" the value of the consumable product really "adapts itself only to the value of another product." Nowhere, certainly, does he show an appreciation of the direct influence of the cost of production of *capital* on the value of the capital.

"with the naked fist" as roundabout? Would he not then have been much more likely to have recognized the *direct* influence on the value of capital of the cost of producing it? And would he not have been much more likely to have recognized a clear and sharp distinction between land and capital and, along with that, between the rent of land and the interest yielded by capital?

The extent to which this practice of relying exclusively on a capitalization or discount process for arriving at the value of capital has permeated Böhm-Bawerk's thinking is indicated further in some of his statements regarding the gain or "profit" on capital. Note, for example, the following paragraph:¹¹

Knowing that the undertaker buys the future commodity, "Means of Production," for a smaller number of pieces of present goods than the number of pieces which will compose their future product, we ask, How does he come by his profit? The answer is very simple. From his "cheap" purchase, indeed, he does not get any result; for, estimated by its present value, the commodity is dear. The profit comes first into existence in his hand. It is during the progress of production that the future commodity ripens gradually into the present commodity, and grows at the same time to the full value of the present commodity. Time elapses; what was next year becomes this year; and on the great changing stage of life everything—man himself, his wants and wishes, and with them the standard by which he measures his goods—shifts one scene forward. The wants which, last year, were future wants, and little thought of as such, attain their full strength and their full right as present wants; and a similar advance attends the goods which supply these wants. A year ago they were goods of the future, and had to be content with the lower value that attached to them as such; to-day they are present goods, ripe for consumption, and enjoy the full value of such goods. A year ago it was to their prejudice that they were measured in the, then, "present" goods. To-day that standard has sunk into the past, and if the men of to-day measure them again in "present" goods, they stand equal with them in the first and chiefest rank, and suffer nothing by the comparison. In short, as time passes it cancels the causes by reason of which the then future commodity suffered a shrinkage

¹¹ *Ib.*, pp. 301-2.

of value, and brings it up to the full value of the present good. The increment of value is the profit of capital.

A simple, clear and logical view of the causation of an interest return on capital is that capital ordinarily *adds* to the output of industry by more than its cost, i.e., by more than enough to meet repairs and depreciation; that this gain naturally goes to the person who owns capital and to anyone who, through saving, brings new capital into existence; that a borrower will gladly pay interest to a lender for the use of capital which is thus productive and that a lender, who can himself use profitably the capital he has saved, will seldom wish to lease or lend it to another without charging interest.

But this is not Böhm-Bawerk's approach. On the contrary, his view is that the value of capital is arrived at not by its cost of production but *solely* through *discounting* its prospective future yield; and that the gain or "profit" or interest yielded results from the fact that, as time passes, *the future discounted value becomes a present realized (and larger) value*.

It is true that Böhm-Bawerk had much to say about roundabout production and the gain yielded by it. And there is no question that he thought of this gain as having something to do with the receipt of interest. But he thought of the relationship as quite different from the simple one set forth above. His view was that there were a number of reasons why future goods are less valuable than present goods,—why men prefer present goods to future; and that one of these reasons was the possibility of gaining by means of roundabout production. Hence this gain from roundabout production tended to influence the rate of discount and, thereby, the rate at which future discounted value increased to present realized value.¹² In short, the rate of gain from roundabout production helped to determine the rate of subjective preference for present as

¹² *Ib.*, Book V.

against future goods and this preference caused a rate of discount or interest in the capital market.

To a somewhat similar view (perhaps not precisely the same) as presented by other and later economists, I have elsewhere¹³ presented the following reply:

If the same amount of labor which would produce 100 units in present goods would, when invested in a roundabout process, bring 110 units a year later, and if this is true as regards all the labor which can be spared for roundabout production, then it requires, in the market, approximately 110 units of next year's goods to buy 100 of this year's.

To make clear the way in which our assumed gain of 10 per cent from roundabout production would influence a borrower, let us suppose the case of a man who needs 100 units of this year's goods to support life during the year and who must, therefore, spend his time in direct production, in order to secure these goods, unless some one else will provide him with the desired 100 units of this year's goods (or the money to buy them), as a loan or in some other manner. If he can secure the 100 units as a loan, that is, if he can borrow, then he will not have to spend his time producing this year's goods, but can engage in roundabout production. In our illustration, this means that his work invested in roundabout production will secure 110 units of goods available next year, instead of the 100 units of present goods which it would otherwise bring. Thus, if he can borrow, his production will be larger by 10 per cent. As long as he can borrow at any lower rate than 10 per cent, whether the rate be 7 or 9 or 9.9 per cent a year, it is to his advantage to borrow and to secure the larger output which roundabout production makes possible.

Unlike a spendthrift borrower, the borrower of our illustration does not borrow in order that he may more largely increase his present income at the expense of a more than equal reduction of his future income. He does not borrow in order to save himself present work, but in order that his present work may be devoted to a more productive roundabout process rather than to a less productive direct process. In borrowing, he really is not comparing this year's 100 with next year's repayment of 109 or 109.9, for he could get this year's 100 without borrowing, by devoting his labor to direct production. Instead, he is comparing the 110 of next year's goods which roundabout production will yield, with the 109 or 109.9 (or anything less than 110) which he must pay for the loan. *He is comparing two futures rather than a present and a future. . . .*

¹³ "Basic Principles of Economics," Columbia, Mo., Lucas Brothers, 1942, pp. 330-3.

Thus, during a twenty-year period, while direct production would, as here assumed, bring but 100 units a year or a total of 2,000 units, a round-about process could produce for each year's efforts, up to and including the nineteenth year, 110 units available the year after, or 2,090 units not counting at all the further product of the twentieth year's efforts. Even if, in order to bring the entire reward of the twenty years of effort within the twenty years, the work of the twentieth year must be devoted wholly to direct, as contrasted with roundabout production, so yielding only 100 units, still the total reward of the twenty years of activity is 2,190 units. And it would be only 2,000 units if productive effort were wholly direct throughout the twenty years. If a producer borrowed to make such round-about production possible, his borrowing would be, surely, in no sense due to a preference for present goods as such or because he wished to enjoy an earlier instead of a later output. Rather would it be due to a preference for a production, during the twenty years, of 2,190 units of goods instead of only 2,000 units.

Whatever may be said as to the possibility and justification of formulating the problem as Böhm-Bawerk does, it can hardly be denied that his formulation keeps pretty effectively out of sight the fact that the significant choice may be between two futures. Böhm-Bawerk's formulation reduces the problem entirely to one of choice between future and present. And thus here again, as in the question of the value of capital, it looks as if he had "shunted the car of economic science on to a wrong line." In fact, this is not a different question but, rather, part of the same question. Indeed, a principal reason for discussing here the quoted passages from Böhm-Bawerk dealing specifically with the theory of interest, is that these passages throw light on his view regarding the determination of the value of capital. It is all part and parcel of the same economic philosophy.

Some contemporary economists who have failed to realize the *direct* influence on the value of capital, of its cost of production—a direct influence operating through both supply and demand—have argued for an indirect influence. Like

Böhm-Bawerk they hold the view that the value of a piece of capital is derived from the value of its expected future yield by capitalizing or discounting this anticipated yield into a present value. But they contend that a lower cost of production of a given kind of capital equipment tends to encourage the construction of more such equipment, that this means a larger total future yield from this kind of capital and, hence, a smaller value per unit of such yield. As a result, they say, the capitalization of such future yield into a present value is less and thus the reduced cost of construction of the capital has brought—through all of these steps in the order stated—a reduction of its value.

To illustrate this point of view, let us suppose the case of a fisherman who owns an old fishing boat that will soon be too depreciated for further effective use. He wishes a new one. He is able to catch \$150 worth of fish per month. But he is also a good boat carpenter and can build himself a satisfactory boat in a month's time.¹⁴ A professional boat builder offers him a boat practically identical with the one he can build, at a price of \$250, and he refuses to buy it. He considers that he can build himself such a boat at a cost of \$150 (in the value of the alternative goods—fish—he might have produced during the month). He will not buy at a price greatly above the *cost of production to him*. Nor will other fishermen who know anything about boat building. (Those who do not know how to build boats will still presumably have the advantage of the competition of boat builders who, also, will find less demand at prices that tempt some fishermen to build their own boats.)

Now let us imagine one of these economists—a Professor Richard Roe—saying to the fisherman:

¹⁴ In our specialized society, no one would be likely personally to do *all* the work, including the making of the screws, cutting the trees for lumber, etc. But to make due allowance for these complications would render the argument harder to follow while nevertheless not at all modifying the general principle involved.

I suppose that when you refused to buy the boat for \$250 you made your adverse decision solely because, knowing such boats to be producible for much less than \$250, you foresaw that fish would henceforth be correspondingly plentiful. You, therefore, believed the fish would be relatively cheap. You then capitalized into a present reasonable value for such a boat the future low-priced fish which could be imputed to (the marginal product from) the use of the boat. And this capitalization came out at considerably less than \$250.

The student of economics who is thoroughly indoctrinated with the theory of capitalization may, indeed, go through this reasoning. And even the fisherman may realize, if the argument is carefully explained to him, that such a train of thought would not be entirely illogical but, in fact, includes a substantial part of the truth. Nevertheless, he is much more likely, in our story above, to think of the *direct* effect of cost of production of capital on its value, and, if the student of economics does not think of this, at any rate he ought to.

The fisherman might well say:

Why no, Professor Roe, I didn't think at all of the matters you speak of. I just thought it was foolish for me to work almost two months to earn \$250 in order to buy such a boat when, by working only a month, I could build one exactly like it.

Is there or is there not, because of the alternatives of different persons, such an influence of cost on value? If there is, then the "capitalization" or "discount" theory of the school of economists described above, notwithstanding that it does contain an element of truth, is certainly a *most inadequate* description and explanation of the facts.

I believe I can claim to speak without undue prejudice. For, although I have been emphasizing for some thirty years, whenever I have had the opportunity, the direct influence of the cost of producing capital on its value, nevertheless I was myself, at an earlier date, an adherent of the other view!

III

THE BLURRING of the distinction between land and capital and between rent and interest which we have been noting in Böhm-Bawerk, is found in the works of a good many later economists, some of them of high distinction. To what extent they have been influenced directly by Böhm-Bawerk, I am not in a position to determine. Probably many of them have been led to their slant on the matter through the comments of John Bates Clark in his well-known study of "The Distribution of Wealth."¹⁵ Clark was a highly original thinker whose analyses of the relation of the productivity of labor and capital to wages and interest placed all economists in his debt. But in view of Böhm-Bawerk's wide influence and the fact that Clark was familiar with his work and cited him several times in "The Distribution of Wealth," it seems reasonably probable that the point of view here referred to (which, I believe, will clearly appear to be a wrong one) really stems from Böhm-Bawerk. Clark's statement of the point of view is as follows:¹⁶

What, then, is interest? Is it not a fraction of itself that a permanent fund of wealth annually earns? . . . Does a building, or an engine, or a ship literally earn in a year a fraction of itself? . . . The *capital* that is embodied in the buildings, the engines and the ships of the world does enlarge itself in this way. *It earns interest; but what the concrete instruments themselves earn is not interest, but rent.*

A popular and accurate use of the term rent makes it describe the amount that any concrete instrument earns. . . . In a use of terms which harmonizes with practical thought and which, as we undertake to prove, is entirely scientific, rent and interest describe the same income in two different ways. *Rent is the aggregate of the lump sums earned by capital-goods; while interest is the fraction of itself that is earned by the permanent fund of capital. . . .*

Science has proposed a different distinction between rent and interest. It has tried to confine the former term to the product of land,—and that,

¹⁵ New York, Macmillan, 1899.

¹⁶ *Op. cit.*, pp. 123-4 and 137.

too, without taking account of changes in the value of land,—defining it as what a tenant pays to his landlord for the use of the "original and indestructible" properties of the soil. This usage probably would never have grown up if the science of political economy had originated in America, where land has always been a commercial article, and where the man who buys a piece of it reckons whether he can get as good interest on his investment in that form as he can in any other.

It is true that the return on land and the return from capital can be stated, either of them, as a percent or as a lump sum. *Superficially* then, the return from land and that from capital may seem much alike. But this is *only superficially*. For the return from capital is naturally reckoned as a percent and ought to be so reckoned,—a percent on the *cost* of the capital. What we are interested in knowing in the case of the return from capital, is how much more we gain by following a roundabout process than a direct process of production, and how much the extra product amounts to *in comparison with* what the product would be had immediately consumable goods (present goods) been produced instead. In other words, we are concerned with knowing the *percent* of the excess gain from roundabout production to what would be or would have been secured by direct production. In still other words, we are concerned with the fact that capital normally yields, during its lifetime, *more* than its cost of production (measured, as we have herein noted several times, in the present goods that might be or might have been produced instead), and we are naturally and properly interested in knowing how large this gain is *in relation to* the cost of the capital which makes it possible.

But the value of land is *not* measured by any "cost" of "producing" the land. Hence it is essentially meaningless to inquire as to the percent yield *on cost*.

It may be said, however, that Clark and the other economists who follow him and Böhm-Bawerk do not refer to a

percent of cost of production but to a percent of *value*. And, it may be asked, why is not the percent of the value of land a matter of significance just as is the percent gain on the value—and so the cost—of capital?

The answer is that this *value* of land depends on the expected future yield *and* on the *percent* at which this expected yield is capitalized into a present value. The market rate of interest used in such a process of capitalization, itself depends largely on and tends to be equal to the rate of net marginal yield of capital on the cost of production of capital. Knowing the *cost* of capital in terms of present goods *and* the rate of net marginal yield on this cost, we know the percent interest rate which should be used in capitalizing the anticipated future rent of land into a present value. Thus, the sale value of land has *no independent significance* but is merely a derivation from the anticipated rent of the land and from an interest rate which is a function of the productivity of capital. To talk about the rent of land as a percent on its value is, therefore, to emphasize as if it were important, a percent of a value which itself can be arrived at *only by knowing that percent in advance*.

The rent of land, then, is logically and properly expressed as a lump sum,—in dollars; while the interest on capital is logically and properly expressed as a percent on cost.

One wonders how many of the numerous neo-classical and other contemporary economists who have followed Böhm-Bawerk and Clark in this analysis have plumed themselves, like these two, on having seen more deeply into the problem of land rent than did Ricardo and other economists of the earlier (i.e., not "neo") classical school; whereas, actually, they have seen *less* deeply into it.

One wonders, too, whether there have not been a number of neo-classicals of conservative bent who, confronted with

the contention of Henry George that the rent of land is the ideal source of public revenue, and reacting antagonistically to this contention but in doubt as to just how to meet it, have been relieved at the thought that land rent is really a percent *just like interest on capital*; and have felt that now, indeed, they could confound the land-value-taxers and discredit their philosophy!

But possibly the day has finally passed of easy victories over the land-value-taxation philosophy, for conservative economists who have too easily accepted, and used in their propaganda, various superficialities and half truths and outright fallacies.¹⁷ Perhaps the time is coming when those who see great advantages to society from the public appropriation of practically all of the annual rental value of natural resources and sites, can no longer be put on the defensive among their professional confreres by such propaganda. Perhaps it will not be they who, in the decades to come, will be looked upon as fair game for satirical comment or, otherwise, as reformers whose case can be safely ignored. Mayhap, instead, it will then be the few remaining intellectual heirs of the satirizers and ignorers who will have to sit in the outer cold and darkness while those of the land-value-tax philosophy are warming themselves at the fire of general professional approval!

¹⁷ See, for an analysis of many of these, my book on "The Economic Basis of Tax Reform," Columbia, Mo., Lucas Brothers, 1932.

Economic Fallacies and Economic Teaching

IT IS HIGHLY IMPORTANT in the teaching of economics that students be taught to analyze various widely held fallacies and that they learn how to refute them convincingly. Any teaching which leaves them the easy victims of such (often) plausible fallacies is to that extent inadequate and superficial. Any such teaching is not less—but, rather, all the more—important when some of the fallacies have had the support not only of many of the politically “great” but of well-known professional economists!

Among the fallacies which, in my own teaching, I seek to guard my students against, through explanation, analysis of quotations, general discussion, and written examinations, are the following:

- (1) That if workers in a particular line are able, through union control of the number of wage earners in it, to get an increase of wages, the prices of goods will rise not only in this line but also in other lines. In fact, in the absence of increased circulating medium, prices and wages in other lines will tend downward.¹
- (2) That the initiatory force in bringing about business depression is a “state of mind” manifesting itself in “liquidity preference” or a tendency to hold money idle (*i.e.*, a reduced velocity of circulation), rather than a decrease of circulating medium as by sharp and persistent bank credit restriction.²
- (3) That spending by government for public works can be relied on as an effective way to mitigate unemployment, entirely regardless whether it is new and additional circulating medium which is thus spent, or funds secured through borrowing from or taxing persons who are thus made to spend less in order that government may spend more.³
- (4) That if other countries depreciate their currency in relation to gold

¹ This is discussed at length in my “Basic Principles of Economics,” 2nd edition, Columbia, Mo. (Lucas Brothers), 1947, Chapter V, §§. Cf. also, “A Postscript and Questions,” Columbia, Mo. (Lucas Brothers), 1946, Part II, Chapter V, §§.

² See “Basic Principles of Economics,” Chapter VI, p. 129, and “A Postscript and Questions,” Part I, pp. 40 and 41. Compare, also, my recent paper in *AM. JOUR. ECON. SOCIO.*, Vol. VII, No. 2 (April, 1947), entitled “Two Decades of Decadence, in Economic Theorizing,” especially pp. 164–5. In this connection, too, I would refer the reader to a communication by Dr. Clark Warburton in *The American Economic Review*, Vol. XXXVIII, No. 1 (March, 1948), entitled “Hansen and Fellner on Full Employment Policies.” This, though brief, is an effectively presented challenge and discussion.

³ “Basic Principles of Economics,” pp. 121–2, and “A Postscript and Questions,” Part I, pp. 30–32.

(as by raising an official government price of gold), we must do likewise or have depression and unemployment. In other words, they will "export their unemployment" to us.⁴

(5) That an increase by the United States in the official price of gold, sufficient to prevent the outflow of gold, is the same in its effect on foreign trade as the levy of a protective tariff, *i.e.*, that it similarly reduces international division of labor.⁵

(6) That there is no loss or economic disadvantage in having a huge national debt provided it is domestically held, so that "we owe it to ourselves."⁶

(7) That government borrowing (as by selling its bonds) cannot, according to the condition of bank reserves and whether government does or does not spend the proceeds, either increase or decrease the volume of circulating medium and the general level of prices.⁷

(8) That "exploitation" of the workers by "capitalists," by making it "impossible for the workers to buy back what they produce," is the cause of business depression and unemployment.⁸

(9) That the existence of low wages and a "low standard of living" in a country gives it a better chance to produce goods cheaply and thus "undersell" countries with higher standards of living.⁹

(10) That to give certain groups subsidies or tariff favors increases the demand for goods because the favored groups have more to spend, and that thus there is no loss but rather a gain to the groups that are taxed to make the favoritism possible.¹⁰

(11) That the best system of valuation of public utilities for the purpose of rate regulation is on the basis of "prudent investment," *i.e.*, the amount in dollars "actually, honestly and prudently invested" in the plant at some date in the past and with no allowance for any change either in particular cost prices or in the general price level.¹¹

(12) That if inequality is unjustifiably great and thus some have large

⁴ "Basic Principles of Economics" p. 116, and especially, "A Postscript and Questions," Part I, pp. 113-4.

⁵ "Basic Principles of Economics," pp. 165-6, and "A Postscript and Questions," Part I, pp. 111-2.

⁶ "A Postscript and Questions," Part I, pp. 25-6.

⁷ "Basic Principles of Economics," pp. 114 and 121-2, and "A Postscript and Questions," Part I, pp. 30-6.

⁸ "Basic Principles of Economics," Chapter VI, §7. Cf. "A Postscript and Questions," quotations and questions in Chapter VI, §7.

⁹ "Basic Principles of Economics," pp. 149-51 and Appendix, §1, and, especially, "A Postscript and Questions," Part II, Chapter VII, §3, numbers 7 and 8.

¹⁰ "Basic Principles of Economics," pp. 167-71.

¹¹ *Ibid.*, Chapter VIII, §§5 to 10 inclusive.

incomes to which they are not properly entitled while others are poor, a good way to obviate the evil is through a government policy of restricting the production of the things the well-to-do desire and of encouraging relatively the production of the necessities and comforts of the poor.¹²

- (13) That the invention and use of labor-saving machinery decreases the opportunities for employment and tends to bring about widespread unemployment.¹³
- (14) That the most expensive part of the supply of a commodity can be identified—at least theoretically—as that part produced by the “high-cost firm” or firms; and that the so called “marginal cost curve” of such an individual “high-cost” firm necessarily indicates the price which must be paid to get *that part* of the supply produced. Whereas the truth is that marginal *opportunity cost* is fundamental in the explanation of supply in a way that the so-called marginal cost of the individual firm (really marginal outlay) is not.¹⁴
- (15) That the value of capital is determined only *indirectly* by cost, *i.e.*, that cost of production of any kind of capital determines the amount of it produced, that the amount of it produced determines its yield, and that its yield determines (through the process of capitalizing or discounting) its sale value, and that it is only *through* this indirect process that the cost of production of capital has any causal relation to its value.¹⁵
- (16) That the productiveness of capital affects the rate of interest *only indirectly*, *i.e.*, only *through* its effect on the “time shape of the income stream” or (otherwise expressed) through “over-endowing the future” as compared with the present.¹⁶
- (17) That interest on capital is not earned in the same sense as wages, *viz.*, through contribution by the saver (if he truly earns what he saves) to production, over and above what would be produced in the absence of the capital his saving made possible.¹⁷
- (18) That when tangible capital is taxed, mortgage holders, bond-holders

¹² *Ibid.*, Chapter VIII, pp. 216-7.

¹³ *Ibid.*, pp. 258-9, and “A Postscript and Questions,” Part II, Chapter XI, §1.

¹⁴ “Basic Principles of Economics,” Chapter XI, §§3, 4 and 5 and Appendix, 3; also, “A Postscript and Questions,” Part I, pp. 19-20.

¹⁵ “Basic Principles of Economics,” Chapter XIII, §§3, 5 and 9 and especially pp. 338-9.

¹⁶ *Ibid.*, Chapter XIII, §§2 to 6 inclusive and 9.

¹⁷ *Ibid.*, Chapter XII, §5, and Chapter XIII, pp. 336-7 and §10.

and other lenders "escape" taxation unless intangibles are also directly taxed.¹⁸

- (19) That the willingness of some wage earners to work for less than labor is worth in a free market, compels other workers to accept equally low wages and so "brings down the whole level of wages."¹⁹
- (20) That there is no distinction significant for economic theory or policy, between capital and land or between the interest yielded by capital and the rent of land.²⁰
- (21) That the effect of taxing land values is to increase the rent paid by tenants, whereas it definitely tends to reduce rent and to increase wages.²¹
- (22) That (within the limit of the amount of revenue either one could yield) a graduated income tax is more favorable to the welfare of wage earners than a tax which would appropriate nearly all of the annual rental value of land.²²
- (23) That although changes in economic policy, including tax policy, which redound to the general advantage are to be desired in other cases, nevertheless an increase in taxes on land values relative to other taxes is ethically indefensible regardless of its beneficence.²³
- (24) That in teaching economics it is just as well to leave out—or to barely mention—the question of who should have to pay whom for *permission* to work and to live on the earth, in those locations where work is relatively effective and where life is not too unpleasant.²⁴

Could it possibly be that the younger generation of economists have given their time so completely to the study of bizarre theoretical systems which, though temporarily of the "new look" variety, may soon be—and perhaps already are—"on the way out", while giving inadequate attention to some of the most fundamental principles and most significant problems of economics, that they must be regarded as in considerable degree a "lost generation?"

And might it be, too, that by leaving out, especially, or soft-pedaling, *what is perhaps the most exciting and vital question economists can face*, they necessarily *rob their teaching of its greatest and most dramatic appeal to students?*

¹⁸ *Ibid.*, p. 378 and Appendix, §4.

¹⁹ *Ibid.*, pp. 409-10.

²⁰ *Ibid.*, pp. 264-5, 276, 310, 351-3, 378 and Chapters XV and XVI.

²¹ *Ibid.*, pp. 426 and 474.

²² *Ibid.*, pp. 426, and 474-84.

²³ *Ibid.*, Chapter XV, §11, and "A Postscript and Questions," Part I, Chapter VII.

²⁴ See my booklet on "The Teaching of Economics," New York, Robert Schalkenbach Foundation, 1948, especially Chapter V.