

The following is an excerpt from the draft version of
CAPITALISM A TREATISE ON ECONOMICS
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**7. Gross and Net National Product: A Defense of
"Double Counting"**

Common sense observation, and the discussion of the elementary principles of production in Chapter 1 of this book, imply that the total production of the economic system in any given period of time, such as a year, is the total of all of the goods and services produced in that period of time. It is, for example, the sum of the bread, flour, and wheat, of the automobiles, steel sheet, and iron ore, of the tractors and auto plants, and of all other goods and services produced in the year. The preceding sections of the present chapter, of course, make it clear that in the context of a division-of-labor society, the production to be counted must be confined to production carried on for the purpose of earning money. For all other, merely physical production is, in actuality, consumption.

This total of production can be called *the gross national product (gnp)*.

Much of production, of course—indeed, the greater part of it—is the production of means of production, which are consumed in the process of further production. In this category fall such products as flour and wheat, and steel sheet and iron ore, as well as the equipment and factory buildings used. All such products are productively consumed in the course of further production.

When the total of productive consumption is subtracted from the gross national product, the result can be termed *the net national product (nnp)*. Net national product, in other words, is simply gross national product minus productive consumption.

Net national product is equal mainly to that part of gross national product which is unproductively consumed—i.e., to consumers' goods and services. This is because the part of gross national product which consists of capital goods is largely netted out in the subtraction of productive consumption. If, for example, in a given year, there are x bushels of wheat, y sacks of flour, and z loaves of bread produced, and in the same year x bushels of wheat and y sacks of flour are productively consumed, then the net product is equal to the z loaves of bread alone.

To the extent that the production of capital goods in a given year exceeds or falls short of productive consumption in that year, the stock of capital goods in existence

increases or decreases. In such a case, the net product is equal to the supply of consumers' goods produced plus this increase or minus this decrease—i.e., it is equal to the sum of consumption plus net investment or minus net disinvestment.

Money not a Measure of GNP

While the importance of earning money and the connection between money making and productive activity cannot be stressed too strongly, it is a great mistake to believe that the total of the money which is exchanged for goods and services is any sense *a measure* of the total output of the economic system. The expenditure of money to buy any given good or service relative to any other given good or service can be taken as a measure of the *relative* amounts of wealth or production involved. For example, the expenditure of \$25,000 to buy a Cadillac, versus the expenditure of \$12,500 to buy a Chevrolet, can be taken as an indication that the Cadillac represents twice the wealth as the Chevrolet. But the total expenditure of money to buy all the goods and services produced in the economic system is not a measure of those goods and services in any sense. If, for example, the total annual output of the American economic system should sell for twenty trillion dollars rather than ten trillion dollars, say, that is in no sense an indication that the production of the economic system has doubled. As we shall see in Chapter 11, such a development is likely to be an indication that *the quantity of money* in the economic system has doubled. The quantity of money, not the physical volume of output, is the determinant of the total volume of spending in the economic system. Only under a system of commodity money, i.e., a gold or silver standard, is there any connection between production and spending, and then it is only insofar as the ability to produce more or less results in an ability to produce more or less gold and silver—i.e., only insofar as the ability to produce influences the quantity of money in the economic system.

The fact that the money which is exchanged for the output of the economic system is not a measure of that output is confirmed by the resort to price indexes in an effort to convert nominal gnp—i.e., gnp expressed in terms of current expenditures—into such a measure.

When nominal gnp doubles, say, it is recognized that this in no sense necessarily means that total production has doubled. It may mean merely that the same amount of production is sold at twice the prices. The attempt is made to convert nominal gnp into a measure of real gnp by means of dividing it by the rise in prices. Thus, it is held, in this particular case, there is no rise in real gnp; but if nominal gnp should triple, say, while prices double, then real gnp has increased in the ratio of three to two.

It should be realized that even the application of price indexes does not enable gnp to serve as any kind of precise measure of total production. The price indexes make no allowance for changes in the quality of products. And if they did, the allowances would necessarily be highly subjective. Thus, for example, an automobile is counted as an automobile, irrespective of whether it is an automobile of 1987 or 1937. All that is looked at is the price of "an automobile." Also, the problem arises of how to *weight* the changes in individual prices over time. Obviously a change in the price of a relatively minor good, such as carrots, on which people spend only a relatively small portion of their incomes, cannot be counted as heavily as a change in the price of a major good, such as housing, on which people spend a very substantial portion of their incomes. The change in the price of housing will be entered in the index with a much greater weight than the change in the price of carrots. It will enter with a weight that is greater in degree than the fraction of total income spent for housing is greater than the fraction of total income spent for carrots. The problem, however, is that the way the expenditure of income is divided between the different goods does not remain the same over time. The consequence is that different overall price indexes will result depending on which years' expenditure pattern is chosen for determining the relative weights to be assigned to the different price changes. Consider for example, the different weights that must be assigned to changes in the price of television sets and movie admissions depending on whether one takes 1947 as the year for assigning relative weights or 1967.

These problems, of course, are problems totally apart from the question of converting nominal gnp into a measure of real gnp. They are problems of price indexes as such, irrespective of the purpose for which they are used. In the last analysis, it is difficult to see how the use of price indexes, and thus measures of real gnp, provide any greater actual precision than such qualitative judgments as: there is no perceptible change, there is a slight change, there is a significant change, there is a large, very large, or enormous change.

The Contemporary Concept of GNP and the Claim of "Double Counting"

The concept of gnp presented above is essentially that of the British Classical Economists. For example, Adam Smith writes:

Though the whole annual produce of the land and labour of every country, is, no doubt, ultimately destined for supplying the consumption of its inhabitants, and for procuring a revenue to them; yet when it first comes either from the ground or from the hands of the productive labourers, it naturally divides itself into two parts. One of them, *and frequently the largest, is, in the first place, destined for replacing a capital, or for renewing the provisions, materials, and finished work, which had been withdrawn from a capital;* the other for constituting a revenue either to the owner of this capital, as the profit of his stock; or to some other person, as the rent of his land. Thus, of the produce of land, one part replaces the capital of the farmer; the other pays his profit and the rent of the landlord; and thus constitutes a revenue both to the owner of this capital, as the profits of his stock; and to some other person, as the rent of his land. Of the produce of a great manufactory, in the same manner, one part, and that always the largest, replaces the capital of the undertaker of the work; the other pays his profit, and thus constitutes a revenue to the owner of this capital.⁸

The Smithian view of gnp is propounded by James Mill, another major Classical Economist, who states: "The whole annual produce of every country is distributed into two great parts; that which is destined to be employed for the purpose of reproduction, and that which is destined to be consumed. That part which is destined to serve for reproduction, naturally appears again next year, with its profit. This reproduction, with the profit, is naturally the whole produce of the country for that year."⁹

Indeed, there is virtually no difference between my view of the gross national product and that of the Classical Economists. Where I part company from them in this area is only when it comes to the question of what is to be included in the concept of productive consumption and hence in net national product. They frequently, but not always, regard the consumption of the wage earners as productive consumption, which I, of course, do not. As a result, they tend to view net national product as essentially the same as profits, while in my view, when stated in monetary terms, it includes wages as well.¹⁰

Contemporary economics, on the other hand, presents a radically different view of gross national product. It presents gnp—as the very expression itself implies—as the total output of the economic system, or at least as the monetary measure of that output. Yet it also claims that gnp is measured exclusively by the amount of *final*

product, which, as the name suggests, consists essentially of *consumers'* goods. The treatment given by Samuelson and Nordhaus is typical. "What is GNP?" they ask. And they answer, "It is the name we give to the total dollar value of the goods and services produced in an economy during a given period."¹¹ And then, five pages later, they declare, "GNP, or gross national product, is measurable as the flow of final product."¹²

Now if gnp were presented merely as the total of the final products produced in the economic system, then its measurement as such would be unobjectionable. In that case, however, it would have to be realized that what is being called *gross* national product was in fact a highly netted national product, that, indeed, it was virtually indistinguishable from net national product. But this is not the procedure of contemporary economics. It advances the concept of gross national product simultaneously as the total output of the economic system—that is, as the true gross product—and as merely the final product of the economic system. Indeed, so ingrained is its confusion between total product and final product that it regards as a positive error any attempt even to express the actual gross national product. In the words of Samuelson and Nordhaus, "You must clearly include the bread in GNP, but you must avoid including the wheat and dough that went into the bread."¹³

Gardiner Ackley, who was President Kennedy's Chairman of the Council of Economic Advisers, expresses these views as clearly and forcefully as possible:

National product is the economy's total current output of goods and services valued at the market prices they command....

The main difficulties in computing national product lie in the avoidance of double counting. We should not count as output the bread, the flour that went into the bread, the wheat that produced the flour, and the fertilizer that helped grow the wheat. Despite all the steps in the process, we end up only with bread—bread is the product, not bread plus flour plus wheat plus fertilizer. In other words, we want to count only "final products," excluding "intermediate products."¹⁴

To his credit, Ackley is aware that "Final products might be limited to consumer goods and goods sold to the government (collective consumption)."¹⁵ He is aware that the actual contemporary practice of including the production of plant and equipment in gnp (though, of course, not the production of materials or supplies) represents a contradiction of the final product approach. He writes:

There is much to be said for the idea that new capital goods are not final products. They are certainly not wanted for their own sake, but only to produce (directly or indirectly) other final products. The machine services which contribute to the production of bread are essentially like

the flour. Machine methods are more productive than hand methods; therefore machinery is produced and used. But sooner or later this production of machines means that more bread will be produced than otherwise. Having counted the production of bread, this argument would have it that we should not also count the production of machinery.¹⁶

The doctrine, so clearly expressed by Ackley, that the final product *is* the total product has truly amazing implications. Ackley himself has stated one of them when he declares, "bread is the product, not bread plus flour plus wheat plus fertilizer." True enough, bread may be all that we end up with, but bread is certainly *not* all that is produced in the course of getting to the bread. The production of the flour, wheat, and fertilizer are no less real and no less a part of total production than the production of bread; and if they were not produced, bread could not be produced. The production of bread does not actually represent the production of any of these things. On the contrary, in the mere act of producing bread, one not only does not produce flour, wheat, or fertilizer—one simply *consumes* flour. In order for the consumption of flour, and thus the production of bread, to be possible, there must be a production of flour. And, of course, in exactly the same way, there must be a separate production of wheat, to make possible its consumption and thus the production of flour; and of fertilizer, to make possible its consumption and thus the production of wheat. The only proper procedure is to acknowledge both the production and the subsequent productive consumption of all such "intermediate goods."

The view of contemporary economics, so well expressed by Ackley, is that it is an error to claim that all that is produced is in fact produced—that to do so is to claim that more is produced than is in fact produced. Only the bread, we are told, is produced. To claim that the bread plus the flour plus the wheat plus the fertilizer are produced is to claim that more is produced than really is produced. It follows, according to this view, that such usually reliable publications as *The Statistical Abstract of the United States* are in error. For example, the 1986 edition of that publication reports on page 765 separate figures for the production of raw steel and steel products in the United States in the year 1984. According to contemporary economics, since the raw steel enters into the steel products, it is counted in the steel products. To count its production separately is to represent total production in the United States as greater than it actually was.

Thus, the contemporary concept of gnp is not only, in actuality, a highly netted product concept, but it goes so far as to seek to *obliterate* both the production and the productive consumption of the so-called intermediate products. In so doing, its concept of total production

denies the very existence of what may well be the far greater part of total production in the economic system.

What underlies the notion that the final product literally is the total product is a bizarre notion of what it is that the individual producer actually produces. According to common sense, the product of a baking company is bread; that of a flour mill, flour; that of a wheat farmer, wheat. According to contemporary economics, this is a mistake. In its view, what each producer produces is not his product, but *the difference between his product and the means of production he uses up in order to produce it*. Thus, a baking company does not produce bread, in its view, but the difference between bread and flour; a flour mill does not produce flour, but the difference between flour and wheat; and similarly for a wheat farmer and any other producers who may still more indirectly help to make possible the production of bread. This notion is clearly expressed in the textbook of Prof. Lloyd G. Reynolds of Yale University, who writes:

A farmer produces \$100 worth of wheat, which is sold to a flour miller. The milling company, by adding labor and capital inputs to this raw material, produces flour which it sells for \$150. A baking company uses this flour to produce \$225 worth of food....

How much has the milling company produced? Not its sales revenue of \$150, since \$100 of this was really produced by the farmer. The milling company's output is the sales value of its product minus its purchases from the preceding stage of production. We call this the value added at the milling stage, which in this example is \$50.¹⁷

It bears repeating: the milling company, according to Prof. Reynolds (who speaks for practically the whole of contemporary economics on this point) *does not produce "its sales revenues of \$150, since \$100 of this was really produced by the farmer. The milling company's output is the sales value of its product minus its purchases from the preceding stage of production."* Thus, for all the world to see, we have the doctrine baldly stated that *producers do not produce their products but the difference between their products and the means of production they consume in producing them*, and, further, that the part of their products that they may naively believe they produce, but don't produce, is produced by their suppliers. Their product in turn is not only the difference between their product and the means used up in producing it, but also part of the product of their customers. Thus, flour millers not only do not produce flour, as they may naively believe they do, but the difference between wheat and flour; the part of the flour not produced by the flour millers is produced by the wheat farmers, who do not produce wheat, but the difference between wheat and fertilizer. In turn, the flour millers, and the wheat farmers, produce the part of the bread that the baking companies may naively believe they produce.

Thus, according to Prof. Reynolds and contemporary economics, the producers do not produce their products but conceptual differences, which represent an abstract part of their products and part of the products of their customers.

It is on this basis that contemporary economics arrives at the conclusion that gnp—the *total* of production—can be measured equivalently either by the sum of the values added at each stage of production or by the value of the final product. If what the baking company produces is bread minus flour, rather than bread; and what the milling company produces is flour minus wheat, rather than flour; and what the wheat farmer produces is wheat minus fertilizer, rather than wheat; and so on back to the remotest stages of production, then the total product of all these parties combined is, indeed, the bread alone. For in adding up the sum of such differences all items but the bread cancel out. In reality, this is only a manifestation of the fact that contemporary economics confuses the gross product with the net product, for its procedure here is identical to the one we applied above in arriving at nnp by subtracting productive consumption from gnp.

The value added at each stage of production represents the income earned at that stage of production. For example, the difference between the value of bread and the value of flour (and, of course, all the other inputs purchased from other firms and used up in the production of bread) is the sum of the profits earned by the baking company, plus the wages it pays to employees and the interest it pays to its creditors. The profit of the baking company is, of course, its sales revenues minus its costs. The value of the means of production purchased from other firms that are used up in producing bread represents all the costs *but* wages and interest. The subtraction from the value of the bread of all the costs but wages and interest equals the sum of the profits, wages, and interest earned in the production of the bread. Hence, the value added in the baking stage is reflected in the total of the incomes earned in that stage. Generalizing to all stages of production together, contemporary economics concludes that total output is measured by total income—i.e., by "national income"—as the equivalent of value added. National income, of course, is the sum of profits, wages, and interest income. (In the official statistics, a fourth item, "rental income of persons," is also included in national income, but, as explained in Section 5 of this chapter, much of this item is actually of a fictional nature; what is not, can be counted with profits.)

To be strictly accurate, as indicated in the quotation from Ackley, contemporary economics is not entirely consistent in its confusion of gross and net national product. In contradiction of its principles, it includes in its description of gross national product the production

of plant and equipment, which it manages arbitrarily to place under the heading of final product. Accordingly, when it measures gnp by the value added approach, it resorts to a concept that is somewhat larger than national income and which is sometimes called *gross* national income—namely, national income with profits gross of depreciation charges. But even with this contradictory concession to actual production, gnp is still a very highly netted concept, for it continues to omit the value of all the so-called intermediate products produced in the economic system.

* * *

The error of contemporary economics in connection with the issue of “double counting” can be described in terms not so much of an ignoring, but of a misinterpretation of the influence of the division of labor on the concept of productive activity. Namely, the fact that others produce the means of production with which one begins one’s own production is taken to imply a diminution in what one produces oneself. Because, for example, others produce the flour that is necessary to one’s ability to produce bread, it is argued that one does not actually produce bread oneself, but must share credit with the producer of the flour, whose product is allegedly “counted” in the bread. The fact is, of course, that each producer produces his product, neither less, nor more. (By this last, I mean that just as a producer’s suppliers do not produce his product, so he does not produce the product of his customers.)

The world of contemporary economics is indeed a strange one. By its logic, economics professors do not write books, but the difference between books and paper. When they go home to dinner, they must find that their wives have not prepared a meal, but the difference between a meal and its ingredients.

Indeed, the world of contemporary economics is stranger still, as further quotations from Prof. Reynolds will make clear. It is not content with propounding the absurdity that producers produce merely the difference between their products and their productive consumption, rather than their actual products. (Perhaps it is embarrassed to make this claim too often or too consistently.) In any case, it finds it necessary to make the further claim that its procedure counts *all the actual products produced*.

In the real world, as we have seen, a wheat farmer produces \$100 worth of wheat, a flour miller produces \$150 worth of flour, and a baking company produces \$225 worth of bread. Prof. Reynolds includes in his example the further stage of retailing the bread to consumers for \$300. Given these assumptions, he then asks:

Now, what is the total output at all stages of production? Simply adding the sales receipts of the farmer, the miller, the baker, and the retailer would give a total of \$775. This is clearly too large. *It counts the value of the original wheat four times, the value of the flour three times, and the value of bread twice.*¹⁸

After explaining the value added method as the means of determining the value of the total product, Prof. Reynolds writes:

There is another, simpler approach which involves only the value of final output at the point of sale. In our bread example, it’s the value of bread sold by retailers. If we use this method, *we can forget about the farmer, the miller, and the baker. Why? Because the value of their output is already included in the retail price of bread.* The method yields \$300, the same output figure as the other method...¹⁹

What is being propounded in these passages, and, again, not by Prof. Reynolds as an isolated individual, but as a representative of views held by almost all contemporary economists, is a bizarre notion of the nature of entities and a contradiction of the laws of arithmetic.

Before delving into these vital matters, I want to acknowledge that the retailer of bread, of course, does not produce a distinct entity as his product. His product is an alteration in an existing entity—namely, a change in the location and accessibility of the bread, which represents an increase in its utility. While his sales revenues are \$300, and should be counted as such in any measure of aggregate spending and receipts, the value of his product can legitimately be represented as just \$75, since his product is not a distinct entity but, as I say, merely an alteration in or with respect to an already existing entity. Accordingly, my answer to Prof. Reynolds’s question concerning the value of the total output at all stages of production would be \$550, which is the sum of the \$100 of wheat produced plus the \$150 of flour produced plus the \$225 of bread produced plus the \$75 of increase in the utility of the bread. This answer, of course, is still far in excess of what Prof. Reynolds believes to be the correct answer, namely, \$300.

The bizarre notion of entities that I have alluded to is implied in the claim that the value of the wheat and flour is included in the retail price of the bread. (It is because it is allegedly included, that counting the value of each item separately would allegedly mean counting “the value of the original wheat four times, the value of the flour three times, and the value of bread twice.”) Now this notion rests on the more fundamental notion that in some sense *the physical wheat and flour are included in the physical bread*. This latter view in fact is stated openly by Prof. George Leland Bach, who, at the time of writing the following words, was a professor of economics at Stanford University: “For example, in converting the iron ore to steel above, Bethlehem adds something to

the value of *the product it passes along*.”²⁰ Similarly, Professors Alchian and Allen declare in their textbook: “For example, most steel bought from U. S. Steel by General Motors is not at that time bought by the final user, for *General Motors later resells the steel as an automobile*.”²¹ Here we have a view of products as consisting of the means of producing them, as though automobile companies somehow passed along and sold steel sheet and, by the same reasoning, iron ore, and that that is what automobile owners drove. Of course, the same logic implies that bread in some sense is flour, wheat, fertilizer, and tractor parts, and that that is what the people who eat bread eat. What a marvelous digestion people must have!

Now this is a Platonic-Heraclitian view of the nature of entities. It is a view of the nature of entities not as being independently existing physical objects which man’s mind must grasp, but as being the *creation* of the human mind in the form of bundles of abstractions which can be put together and taken apart at will to form different entities. I call it Platonic in that it views entities as consisting of concepts. I call it Heraclitian, in that it presents a kaleidoscopic flux, in which a thing is alleged to be simultaneously itself and other things. Instead of the Aristotelian formula that *A is A—a thing is itself—we have the formula that A is A+—a thing is itself plus more than itself.*

On this view, a loaf of bread is not conceived of as a thing that exists independently, out there in reality—that is, as a simple loaf of bread. It is conceived instead as a bundle of abstractions: bread minus flour, plus flour minus wheat, plus wheat minus zero (zero, for the sake of brevity and simplicity). If all three of these abstraction are held together, then bread is conceived of as bread. If the abstraction bread minus wheat is placed on dim, as it were, and allowed to fade from consciousness, the result is that the loaf of bread now appears as flour minus wheat plus wheat minus zero—that is, it now appears as flour. If, finally, the two abstractions bread minus flour and flour minus wheat are both placed on dim, then the loaf of bread appears as wheat. In this way, a loaf of bread appears as a loaf of bread, a quantity of flour, and a quantity of wheat. On this basis, the value of the loaf of bread appears to count the value of the loaf of bread, the value of the flour from which it was made, and the value of the wheat from which the flour was made. And on this basis, counting the value of the bread, the flour, and the wheat separately appears to imply counting the value of the flour and wheat more than once.

It should come as no surprise to learn that the arithmetic implied by such a procedure is as bad as the underlying ontology. What we have is the following situation (to work with Prof. Reynold’s example). \$300

worth of bread at retail can be conceived of as the sum of the following items: \$300 worth of bread at retail minus \$225 worth of bread at wholesale, plus \$225 worth of bread at wholesale minus \$150 worth of flour, plus \$150 worth of flour minus \$100 worth of wheat, plus \$100 worth of wheat minus zero.

Let us depict each of these constituent abstractions within parentheses, in order to show them as the conceptual building blocks of product values that contemporary economics deems them to be. Let us use brackets and italics to depict the combination of these abstractions which is currently on bright, as it were, and which thus denotes the product value momentarily under consideration. The parenthetical expressions standing outside the brackets will be the abstractions “on dim” at the moment. Thus, what we have is the series of equations presented in Figure 10-1, below.

Equation one shows the value of a quantity of bread at retail equal to the value of that quantity of bread at retail. Equation two shows the value of a quantity of bread at retail equal to the \$75 added by the retailer, which is “on dim” plus the \$225 value of the bread at wholesale. Equation three shows the value of a quantity of bread at retail equal to the \$75 added by the retailer and the \$75 difference between the wholesale value of bread and the value of the flour used to produce it, both of which are “on dim,” plus the \$150 value of the flour. Equation four shows the value of a quantity of bread at retail equal to the \$75 added by the retailer, plus the \$75 difference between the wholesale value of bread and the value of the flour used to produce it, plus the \$50 difference between the value of the flour and the value of the wheat used to produce it—all three of which are now “on dim”—plus, finally, the \$100 value of the wheat.

Now what must be understood from these equations—purely as a matter of mathematics and even allowing for the absurd view of bread at retail as four loosely glued together abstractions—is that it does not follow that the value of bread at retail counts anything more than *itself*. All that one is entitled to say consistently with the principles of mathematics is that the \$300 value of the bread at retail is equal to any one of four different *alternative* formulations of the same facts. It is equal either to 1) the value of the bread at retail, which is \$300, or 2) \$75 plus the \$225 value of the bread at wholesale, which is still \$300, or 3) \$150 plus the \$150 value of the flour, which is once again still \$300, or 4) \$200 plus the \$100 value of the wheat, which yet once again is still \$300.

The little word “or” between each of these formulations cannot be overemphasized. The value of the bread at retail is equal to four different *alternative* formulations, each of whose existence precludes the existence of any of the other three at the same time. Thus, when the

Figure 10-1

**How Contemporary Economics Double Counts the Value of a Loaf of Bread
(and of Consumers' Goods in General)**

1.	\$300	=	$[(\$300-\$225) + (\$225-\$150) + (\$150-\$100) + (\$100-0)]$
	The value of a quantity of bread at retail		The value of a quantity of bread at retail
2.	\$300	=	$(\$300-\$225) + [(\$225-\$150)+(\$150-\$100)+(\$100-\$0)]$
	The value of a quantity of bread at retail		The value of the bread at wholesale
3.	\$300	=	$(\$300-\$225)+(\$225-\$150) + [(\$150-\$100)+(\$100-\$0)]$
	The value of a quantity of bread at retail		The value of the flour
4.	\$300	=	$(\$300-\$225)+(\$225-\$150)+(\$150-\$100) + [(\$100-\$0)]$
	The value of a quantity of bread at retail		The value of the wheat

value of the bread at retail equals the value of the bread at retail, it does not in addition equal \$75 plus the value of the bread at wholesale, or any of its other possible formulations. It is equal to just one formulation at a time. And while three of these formulations may be expressed in a way which highlights components that, considered separately, appear to represent the values of other goods or of bread at the wholesale level, still nothing may actually be omitted from any of the equations. The result is that all four formulations actually continue to represent *only* the value of bread at retail.

This discussion should make clear that contemporary economics commits two major mathematical errors in its belief that the value of bread at retail counts all the other values. First, after expressing the same facts in four different ways, it impermissibly jettisons some of the facts—that is, in equations two, three, and four, it places value abstractions on a level of such dimness, that it simply forgets all about them. It regards equation two not as \$75 plus the \$225 value of the bread at wholesale, but simply as the value of the bread at wholesale—forgetting all about the \$75 added by the retailer. It regards equation three not as \$150 plus the \$150 value of the flour, but simply as the value of the flour, forgetting all about the first \$150. Finally, it regards equation four not as \$200 plus the \$100 value of the wheat, but simply as the \$100 value of the wheat, forgetting all about the first \$200. It then compounds the error of these omissions by impermissibly adding up mutually exclusive alternatives—i.e., it adds the remaining elements of equations two three and four to equation one, and reaches the conclusion that the \$300 value of bread at retail “counts” \$775 in total

values. Thus, contemporary economics arrives, implicitly, at the equation

$$\begin{aligned} \$300 = & [(\$300-\$225)+(\$225-\$150)+(\$150-\$100)+(\$100-\$0)] \\ & + [(\$225-\$150)+(\$150-\$100)+(\$100-\$0)] \\ & + [(\$150-\$100)+(\$100-\$0)] \\ & + [(\$100-\$0)]. \end{aligned}$$

It is only in this way, that the value of the bread at retail can be made to count itself, the value of the bread at wholesale, the value of the flour, and the value of the wheat.

Thus, paradoxically, as this equation makes clear, *it is contemporary economics which is guilty of the error of double counting!* It counts the final product as more than the final product—as itself plus all the other products which directly or indirectly contribute to its production. It is on this basis that it concludes that to count the full actual product of the economic system is to count more than is produced. If bread alone is already bread plus flour plus wheat, then bread plus flour plus wheat is more than itself. Indeed, when one considers it, nothing could be more obvious than that contemporary economics double counts. If one believes that part of the product—the so-called final product—is the whole product, one must be double counting that part.

The further errors to which contemporary economics' double counting of the final product—of consumers' goods—leads is a macroeconomics that is not at all a macroeconomics, but an economics virtually of the con-

sumer sector alone. It is an economics that has virtually obliterated the role of saving and productive expenditure in the conviction that all economic activity is incorporated essentially just in consumption. It is an economics fully geared to the Keynesian fantasy world in which one not only may eat one's cake and have it too, but in which one bakes the cake in the very act of eating it.

These matters will be discussed in Chapter 14, which, among other things, deals with the role of saving as the source of demand, and which will set forth a system of national income accounting that is consistent with the full volume of production and spending that takes place in the economic system.

* * *

The first part of the present chapter was dedicated to dealing with those errors in connection with the concept of productive activity which define it too broadly, by failing to take into account the vital importance of money making. Nevertheless, this last section could not help entering into a critique of the more pervasive error of viewing productive activity too narrowly—in the form of obliterating the production of the so-called intermediate goods. The second part of this chapter, of course, will continue along the lines of this last section, but in connection with the deadly errors of excluding from the concept of productive activity such vital activities as those of businessman and capitalist, retailer and wholesaler, and so forth.

Notes

8. Adam Smith, *op. cit.*, Book II, Chapter III. Italics supplied.

9. James Mill, *Commerce Defended, op. cit.*, Chapter VI; the passage appears on pp. 128f. in Donald Winch, editor, *Selected Economic Writings of James Mill, op. cit.*

10. The Classical Economists were not consistent on this point. Thus, Adam Smith states: Whatever part of his stock a man employs as a capital, he always expects to be replaced to him with a profit. He employs it, therefore, in maintaining productive hands only; and after having served in the function of a capital to him, it constitutes a revenue to them." *Ibid.* Italics supplied.

11. Samuelson and Nordhaus. *op. cit.*, p. 102.

12. *Ibid.*, p. 107.

13. *Ibid.*, p. 108.

14. Gardner Ackley, *Macroeconomic Theory* (New York: The Macmillan Company, 1961), p. 28.

15. *Ibid.*

16. *Ibid.*, p. 29.

17. Lloyd G. Reynolds, *Macroeconomics*, Fifth Edition (Homewood, Illinois: Richard D. Irwin, 1985) p. 73.

18. *Ibid.* Italics supplied.

19. *Ibid.*, p. 74. Italics supplied.

20. George Leland Bach, *Economics*, Sixth Edition (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1968), p. 40. Italics supplied.

21. Armen A. Alchian and William R. Allen, *University Economics*. Third Edition (Belmont, California: Wadsworth Publishing Company, 1972), p. 530. Italics supplied.