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A Fundamental Contradiction in Keynes' Conception of Income.

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A CONTRADICTION IN KEYNES' NOTION OF INCOME

ABSTRACT

I contend that Keynes provides two contradictory definitions of aggregate income. According to the first definition, which is the dominant in Keynes as well as the standard in current Macroeconomics, the full value of output becomes income in the aggregate. This view can be traced back, at least, to Adam Smith. According to the second definition, on the contrary, not the full value of output becomes income, but only the part of it not required to make up for capital consumption. This view can be traced back to the Physiocrats. In the "*General Theory*", Keynes inconsistently appeals to these two contrary views, as I show by analyzing his treatment of the concept of "user cost". In chapter 3, user cost becomes income and investment gives rise to income; in chapter 6, in the first half, approximately, user cost does not become income and investment does not give rise to income. I contend that the first definition is wrong, whereas the second is right. The first definition of aggregate income leads to the erroneous principle that investment gives rise to income. The second definition implies that investment does not give rise to income, but to a change in capital.

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Introduction

This paper deals with the two contradictory definitions of income that Keynes provides in his “*General Theory*”. For all I know, so far nobody has noted this contradiction, and its consequences. Of the two definitions of income, I hold that one is right, the other wrong. The wrong definition is that which Keynes adopts, and which undermines his subsequent definitions of saving and investment and his subsequent entire analysis. The right definition appears only at times in the “*General Theory*”, and, on the whole, Keynes does not pay much attention to it.

Keynes’s wrong definition of income, which is traceable back to Adam Smith’s “*Wealth of Nations*”, with which I deal in another paper, and which is standard in current Macroeconomic Theory, holds that the amortization of capital consumption gives rise, in the aggregate, to income. Accordingly, aggregate income is equal to the full value of output. The full value of output becomes income, in the aggregate. The right definition holds the contrary, namely, that the amortization of depreciation does not give rise to income. It is the capital of the economy. Not the full value of output becomes income, but only the part of output (or its value) that is not required to make up for depreciation. The part of national output that makes up for the values consumed in production represents the capital of the economy. The view that the full value of output becomes income carries the clearly false implication that national capital is, as a matter of principle, zero. This view is traceable back to Dr. Quesnay; in Keynes, it only appears at times. Keynes feels that there is something wrong about the standard notion of income, but, in the end, he is unable to determine what it is, and sticks to the standard error.

The error that the amortization of depreciation becomes income in the aggregate because it gives rise to a flow of money, and every flow of money involves a flow of income, leads to the mistaken principle that investment is a component part of aggregate income because it is spending, and every spending gives rise to income. Thus, investment is income because it involves the equivalent flow of money. In a

market economy in which all goods are marketed, investment involves the exchange of money for production goods, and, thus, does not essentially differ from the exchange of money for final goods, that is, from consumption spending: in both cases, the exchange of money for goods gives rise to a flow of money that represents the value of the goods purchased. In both cases, we have spending because we have exchange, and the spending of some particular agent gives rise to a corresponding income for the recipient of this spending.

Thus, we can say that expenditure determines income because, wherever there is a flow of money, there is an income for the agent that receives this flow of money. Spending is the action which gives rise to the movement of money, that is, to the flow of money. Since investment involves an exchange of money for goods, then investment involves spending, and, therefore, income. It is interesting to note that this error is, today, standard Macroeconomic Theory, and, surprisingly, can be found even in Keynes' most ferocious critics. If we succeed in getting rid of this error and in understanding why it has had such wide appeal, we have a sound basis to redraw Macroeconomic Theory on entirely new lines.

The bulk of Keynes' discussions on the subject of the relationship between income and spending are, mainly, in chapters 3 and 6 of the "*General Theory*". These chapters are especially interesting because the analysis of them shows that Keynes held opposite views. In chapter 3 income is spending; in chapter 6, in the first half, approximately, income is not spending, but, as the chapter goes on, and until its end, Keynes restates the view of chapter 3 as if it did not pose any conflict with what he has just said. Keynes poses the question in relation to the concept of "user cost. He Keynes doubt about whether or not expenditure determines income shows as the doubt about whether, in the aggregate, user cost does or does not becomes income.

This paper is divided into sections. In the first, I analyze chapter 3. In the second, I analyze chapter 6. Thirdly, I discuss the relationship between stocks and income, a problem that arises in chapter 6 and which, if not clarified, may obscure the discussion of the main theme. The fourth section is devoted to conclusions.

1) *Chapter 3: User Cost Becomes Income in the Aggregate:*

The notion of “user cost” is introduced by Keynes in chapter 3, as a fundamental part of the definition of income. Keynes writes:

“We need, to start with, a few terms which will be defined precisely later. In a given state of technique, resources and costs, the employment of a given volume of labour by an entrepreneur involves him in two kinds of expense: first of all, the amounts which he pays out to the factors of production (exclusive of other entrepreneurs) for their current services, which we shall call the *factor cost* of the employment in question; and secondly, the amounts which he pays out to other entrepreneurs for what he has to purchase from them together with the sacrifice which he incurs by employing the equipment instead of leaving it idle, which we shall call the *user cost* of the employment in question.” (Keynes, 1936, 23)

Judging by the setting that Keynes himself makes use of in the second chapter, we may safely assume that, when he speaks of the “factors”, what he has in mind is the standard production function with two variables, namely, “labor and capital”. The share of other “factors”, such as the Classical “land”, can be explained upon the basis established in the nowadays standard model in which the factors are capital and labor.

The income of an entrepreneur, that is, the income of the firm, or the income of the capital invested by a firm, is the surplus of the value of its output over the total cost of this output. The value of output is represented by the flow of money accruing to the firm as sale proceeds. Total cost is represented by the money flowing out of the firm as expenses of production or outgoings. These expenses or costs are classified by Keynes into two types: factor cost and user cost.

Factor cost is the money outgoings that represent the equivalent of the productive services rendered by the factors to a firm. It is to be noted that the distinction between factor cost and user cost implies that the services of capital do not belong in factor cost. This means that, in the end, factor cost is the same as the cost of

labor, for we have two variables in the production function, namely, labor and capital. Since the payments to capital are excluded from factor cost by definition, it follows that only the payments to labor are reckoned within factor cost.

The notion of user cost is somewhat more complicated. To begin with, it has two elements:

“The amounts which he pays out to other entrepreneurs for what he has to purchase from them together with the sacrifice which he incurs by employing the equipment instead of leaving it idle, which we shall call the *user cost* of the employment in question.” (Keynes, 1936, 23)

The first element is the payments to other firms in exchange for inputs; the second, the loss in value of the equipment as a consequence of its usage. The question that logically comes to mind is: what is the relationship between these two elements? If the firm does not produce the particular equipment that it uses, it will have to purchase it from other firms. If this is the case, we can say that, at least, some part of volume of purchases from other firms is determined by capital consumption. Accordingly, our firm purchases equipment from other firms to the extent that it has to make up for its consumption of equipment, that is, for depreciation.

If the firm purchases equipment just to the extent required to make up for depreciation, the capital of the firm remains, in some acceptable sense, constant. We lose nothing if we examine Keynes on this assumption. Certainly, since the constitutive goal of firms in a capitalistic economy is the maximization of profit, that is, the accumulation of capital, then just making up for depreciation is not the goal of any firm. However, the accumulation of capital implies, trivially, the amortization of depreciation; indeed, the accumulation of capital begins where the amortization of capital ends. On this basis, I dare ask the reader to assume, for the time being, that the amortization expenses of our firm just make up for depreciation; thus, the two elements of Keynes' definition of user cost are equal. We may remove this assumption once we analyze the theoretical problems involved in Keynes' notion of

user cost, the solution of which does not depend on whether capital grows or just stays constant.

Having defined cost, Keynes defines profit:

“The excess of the value of the resulting output over the sum of its factor cost and its user cost is the profit or, as we shall call it, the *income* of the entrepreneur.” (Keynes, 1936, 23)

The *income* of the entrepreneur is, thus, the *profit* of the capital invested in the firm in question. Note, however, that the profit of the entrepreneur is not presented in this text as the remuneration of any factor; it is, as Keynes says explicitly, the *excess* that remains after having deducted all the costs, that is, after having retributed all the factors, which implies that the receiver of the excess is not any factor itself. Certainly, the profit of the firm is the payment to the capital invested on the firm, but this payment, as Keynes texts stand, is not meant to accrue to capital as a result of its contribution to output. Capital gets the excess over what is required to retribute all the factors; thus, it is certainly assumed to have a right to the excess, but the foundation of the right is not that capital is a factor itself; Keynes’ wording bears quite clearly the implication that it is not.

If profit were the income of a productive factor, of capital, then profit would be a part of factor cost, together with wages. Factor cost would have two parts, namely, wages and profits. But this is exactly what Keynes does *not* say; what he does say is that profit is the excess of the value of output over factor cost, that is, over wages.

Note that, in order to estimate the remain that constitutes profit, Keynes deducts from the value of output both factor cost and user cost. Then, he notes:

“The factor cost is, of course, the same thing, looked at from the point of view of the entrepreneur, as what the factors of production regard as their income. Thus the factor cost and the

entrepreneur' profit make up, between them, what we shall define as the *total income* resulting from the employment given by the entrepreneur.” (Keynes, 1936, 23)

Since ‘factor cost’ amounts to ‘cost of labor’, that is, to wages, then aggregate income is the sum of total wages to total profits, that is, the total income of the class of laborers (Keynes’ ‘factor cost’) plus the total income of the class of entrepreneurs (Keynes’ ‘entrepreneur’s profit’). This view is not peculiar of Keynes, but just standard Macroeconomics.

The text says that factor cost and wage-income are not different things, but the same thing looked at from two different standpoints. There are two different standpoints simply because the transaction involves two parties, namely, the entrepreneur and the worker. The entrepreneur purchases in the market the services of the labor of the workmen; the workmen deliver to the firm a commodity that has some value, namely, their labor services, and receive from the firm the same value in money as wages. The workmen sell labor to the firm and the firm sells money to the workmen: the flow of money from the firm to the workmen involves a flow of labor services from the workmen to the firm.

Keynes focuses in the text on the flow of money, and says that, from the point of view of the entrepreneur, this flow is a cost, but that, from the point of view of the other side of the transaction, that is, the workmen, it is income. The two sides of the same coin.

One is tempted to think that, following the same logic, user cost is the income of some factor looked at from the point of view of this factor. After all, factor cost involves an equivalent income because the purchase of labor gives rise to a flow of money to the seller of labor, to the workman. By the same token, if user cost is a cost, and it is a fact that it bears this name, then it involves a flow of money from the firm to somebody, to some factor, a purchase of productive services; then it follows that the income of this factor is user cost looked at from the standpoint of the factor. But, surprisingly, Keynes writes:

“Thus the factor cost and the entrepreneur’s profit make up, between them, what we shall define as the *total income* resulting from the employment given by the entrepreneur.” (Keynes, 1936, 23).

Where logical consistency requires:

“Thus the USER COST AND factor cost and the entrepreneur’s profit make up, between them, what we shall define as the *total income* resulting from the employment given by the entrepreneur.”

User cost has been excluded from aggregate income without any explanation. As it seems, the payments to other firms do not give rise to income for these other firms, according to Keynes. According to this logic, Keynes would have had to say that factor cost does not involve any income for labor: if the firms do not have an income when they get as money the value of the services that they render to our firm, why should labor? In other words. The money payment to a worker in exchange for his services gives rise to the equivalent income, but the money payment to a firm in exchange for its services does not give rise to the equivalent income.

As I noted above, the profit of the firm has been defined as the excess of the value of output over the value of input or total cost. This implies that the profit of the entrepreneur is not factor cost, nor user cost, but the excess over them. But this give rise to a question. We have said that our firm purchases equipment from other firms, to the extent determined by depreciation. Let us assume, for the sake of simplicity, that all the equipment of our firm is made by only one supplier. The purchase of goods and services from this supplier is a cost for our firm, just as labor is a cost. But, just like wages, it gives rise to a flow of money for the supplier firm. Why does Keynes deny that this flow of money to the supplier firm is income for it?

What, from the standpoint of our firm, is cost, from the standpoint of the supplier firm, is the value of its output, its sales revenue. But Keynes said that the

value of the output of a firm is not its income; the income of a firm is what remains after having deducted user cost and factor cost from the value of its output. So far, we just can say that the revenue of the supplier firm is what, from our standpoint, is user cost. Thus, user cost has not given rise to the equivalent income; at most, it has given rise to an income smaller than user cost.

In order to ascertain the income of the supplier firm, we have to deduct factor cost and user cost. The factor cost is wages; therefore income for the workers who sell their labor to the supplier firm. And there will be some user cost, determined by depreciation. Thus, we can say that what for our firm was user cost, has become, in the hands of the supplier firm, profits, wages and user cost. Note that this implies that, part of what for us was user cost, has become factor cost and, thereby, income. It also implies that part of what for us was user cost has become profit and, thereby, income. But there seems to be a part of our user cost that remains as user cost, and, according to Keynes, this part of the value of our output, does not become income for any entrepreneur or laborer. This result is weird, for it says that there is a flow of money that does not give rise to any income.

We may look from another perspective at the problem raised by the exclusion of user cost from income. We assumed that user cost, the outgoings to the firms that supply our firm with inputs, are equal to depreciation. The thesis, rejected by Keynes, that aggregate income is the sum of user cost, factor cost and profit, can be restated thus:

Aggregate income = aggregate profit + aggregate wages + amortization of depreciation

Keynes excludes from this formula the amortization of depreciation; thus, his thesis is:

Aggregate income = aggregate profit + aggregate wages

Which, naturally, raises the question: what about the amortization of depreciation? One possible answer to this question is to say that there is no depreciation, and, therefore, that there are no amortization expenses. This answer has

the inconvenience of not being the case in the real world, which, by the way, is the one for which Keynes wants to design policies. In the real world there is depreciation, and there is the need to make up for depreciation. The thesis that aggregate income is equal to wages plus profits amounts to saying not that depreciation disappears, but that amortization expenses give rise to the equivalent income in the shape of wages and profits.

Thus, Keynes' definition of income implies that what in the accounts of the particular firms of the economy considered in isolation is rightly reckoned as user cost, becomes profit and factor cost (wages) in the aggregate, so that, in national accounting, user cost is reckoned as wages and profits.

This view is not peculiar of Keynes; again, it is standard Macroeconomics since Adam Smith. It is very reasonable, and has a very solid foundation, namely, that the firms that produce the goods and services which make up for the consumption of production means in the economy must receive the value of what they sell as money. This is taken to mean that the value of their output becomes income when looked at from their standpoint: they get money in exchange for their goods; therefore, the value of the goods that make up for depreciation becomes income in the aggregate. This idea was originated by Adam Smith, and, as we have just seen, appears again in Keynes, though in a rather forced way. My contention is that it is false.

The thesis that the full value of output becomes entirely income in the aggregate can also be stated saying that every flow of money is a flow of income. According to the contrary view, which is the one that I uphold, not every flow of money represents a flow of income: part of the total flow of money in an economy represents the flow of capital, which is "advanced" and "returns" to the investor. As I said, Keynes takes from Smith the identification of flow of money with flow of income. The surprising thing is that no critic of Keynes puts him to task for having uphold this thesis; in fact, it is a fundamental error that even Keynes' critics accept. Look, for instance, at Friedman; in his famous "*The Role of Monetary Policy*", he writes:

‘One man’s spending is another man’s income.’ (Friedman, 1969, 100)

But what he had in mind is:

‘One man’s spending is another man’s MONEY.’

He takes it for granted that wherever there is a flow of money, there is a flow of income, and this is why he writes ‘income’ instead of ‘money’. He does not seem to be aware of the fact that this identification implies that no part of the flow of money is a flow of capital; in fact, the identification of money with income implies that aggregate capital is zero. In order to free it from this error, Friedman’s quotation ought to be rewritten in the following terms:

‘One man’s spending is another man’s INCOME if, and only if, the man who receives the MONEY SPENT *does not have to amortize any capital out of this money*. If he has to, which, in a capitalistic economy, is the rule, then his income is the surplus of the flow of money accruing to him as a result of the other man’s spending over the flow of money going away from him as a result of the amortization of capital consumption.’

Thus, Friedman shares in the error of Keynes, which means that his theory is, like Keynes’, fatally flawed. But this is the subject of another paper.

Note an interesting consequence of the view that, in the aggregate, the amortization of depreciation becomes income. As Keynes rightly notes, it implies that aggregate income is equal to factor cost plus aggregate profit. But factor cost was said to be the same as the income of labor looked at from the standpoint of labor. Then, it follows that the profit of the entrepreneur, which is the surplus over the only cost that remains in the aggregate, is not the income of a productive factor. Since the income of the entrepreneur is the income of capital, it follows that capital is not a

productive factor. This leaves labor as the only productive factor. In fact, Keynes employs the “wage unit” as unit of account. One may understand that this line of reasoning suggests that Keynes upheld some form of the labor theory of value in his “*General Theory*” (see Blaug, 1996, 48-50).

I do not purport to discuss in this paper whether this perception is right or wrong. But it should be noted that, according to what Keynes writes, the size of wages or of profit has to do with the distribution of output and not with the determination of the volume of output. A fall in wages implies an equivalent rise in profit, but no change in output: the reason is that profit is but a share in an output which is entirely the produce of labor. The existence of wages and profit involves a distribution of the produce of labor between labor and somebody else, capital, who contributed nothing to production.

After having defined aggregate income, Keynes goes on, and treats again of the exclusion of user cost from income:

“It is sometimes convenient, when we are looking at it from the entrepreneur’s standpoint, to call the aggregate income (i.e. factor cost *plus* profit) resulting from a given amount of employment the *proceeds* of that employment. On the other hand, the aggregate supply price of the output of a given amount of employment is the expectation of proceeds which will just make it worth the while of the entrepreneurs to give that employment.

It follows that in a given situation of technique, resources and factor cost per unit of employment, the amount of employment, both in each individual firm and industry and in the aggregate, depends on the amount of the proceeds which the entrepreneurs expect to receive from the corresponding output. For entrepreneurs will endeavour to fix the amount of employment at the level which they expect to maximise the excess of the proceeds over the factor cost.” (Keynes, 1936, 24-5).

An investment is ‘just worth the while’ when it yields profit at the average rate, that is, at the going rate prevailing in the economy. I make this remark for the reader not acquainted with Marshall, from whom Keynes borrows the expression; Marshall coined it to make reference to the average competitive profit rate of

Ricardo, the famous one that falls with capital accumulation until the stationary state is reached. Thus, the “aggregate supply price of output” is the price at which the sale of output covers the amortization of cost and leaves profit at the average competitive rate. The very notion of “aggregate price” is funny, but we can leave this aside for the time being. The point is that “aggregate supply price” coincides with “proceeds” when the value of output is such that it covers factor cost (wages) and leaves profit at the competitive rate.

This stress on supply price is quite unnecessary, for, as we have seen, if aggregate profit is not set at its competitive level, this just means an equivalent change in the share of wages, but nothing as to the aggregate value of output or as to aggregate income, which is the notion at issue.

There is a subtle switch in Keynes’ language; his writing suggests quite plainly that the production function has only one variable, namely, labor. The income of the entrepreneur is the excess value of his output over the wages bill. Keynes justifies again the omission of user cost in a footnote:

“The reader will observe that I am deducting the user cost both from the proceeds and from the aggregate supply price of a given volume of output, so that both these terms are to be interpreted net of user cost; whereas the aggregate sums paid by the purchasers are, of course, gross of user cost.” (Keynes, 1936, 24n).

If the purchasers as a whole pay for user cost, on what basis does Keynes exclude it from proceeds and aggregate supply price? Would not be much more reasonable to include it? If the purchasers pay for user cost, where does this money go to? Does it disappear?

Though I might be advancing something that should come later, let me point out that the statement that “the aggregate sums paid by the purchasers are, of course, gross of user cost” is an alternative statement of the fundamental error criticized in this paper. The proposition is false. The purchasers do not pay for user cost. This is not to mean that user cost disappears, but that it cannot be sold. It is true that the price

of the particular commodities sold to particular consumers must cover user cost. But in the aggregate, and this is why Keynes' proposition is false, the purchasers as a whole do not pay for user cost because this part of the value of aggregate output cannot be sold to them.

To put it otherwise: it is true that, in each particular commodity that you buy, the seller charges you some sum in the price so as to cover user cost, in addition, of course, to factor cost and profit. But this does not imply that the purchasers as a whole pay an amount of money that is the equivalent of the total output of final goods sold all over the economy. Let me explain it with an example.

Suppose that you produce and sell shirts. Suppose that you produce 2 shirts. Out of the sale proceeds from the sale of the shirts you have to pay for wages and make your own profit; but you also have to pay for the consumption of cotton which, in this case, represents your capital invested on productive means other than labor. If you did not have to make up for depreciation, you may sell the two shirts, and out of this value, you pay wages and make your profit. But, if there is depreciation, you cannot do that, because, in addition to wages and profits, you have to provide for the purchase of cotton.

You may do this in two ways. First, you can withdraw one shirt from sale to the public or purchasers of shirts, and trade it for cotton with your cotton supplier. The other shirt, you sell to the public. You sell it at a price which is high enough so as to just pay for wages and profit at the going rate in the economy. Thus, you have sold half your output; the other half, you cannot sell to the purchasers of shirts, for, if you did, you could not afford to buy cotton and your business, making shirts, would stop for want of raw materials. The value of your output has three parts: first, you barter one shirt for raw cotton, so that the value of the raw cotton, or of the shirt that you trade for it, represents the value of the depreciation of your stock of capital of cotton: half your output. Out of the money accruing to you as a result of the sale of the other shirt, you pay out wages and make your own profit: the value of wages and profits together is the same as that of one shirt. Total: two shirts.

Suppose that the price per shirt that allows you to pay for wages and make your profit at the going rate is \$2. This means that the wages bill is \$1, your profit is \$1 and depreciation is \$2. Aggregate value of output gross of depreciation is \$4; net of depreciation is \$2. This way of making up for depreciation makes sense when your output is also input; for instance, when you raise wheat, because you make up for the consumption of seeds out of your own harvest of wheat. You bring to the market for sale what remains after having provided for your own consumption of seeds. It is clear that you cannot sell to the purchasers your whole harvest of wheat, for, if you did, next year you will not have any wheat.

If this is not the case, and it often is not, then you have to resort to exchange in order to make up for your consumption of inputs. This is the situation faced by the shirt-maker: he makes shirts, but his raw material is cotton, not shirts. The shirt-maker, thus, must resort to exchange in order to periodically replenish his stock of raw cotton. Accordingly, you now sell your full output of shirts, two, to the purchasers of shirts. But, since you have to make up for the consumption of raw cotton, you have to build an amortization fund out of your sale proceeds. If you sell your shirts at \$2 each, your sales proceeds is \$4.

Previously, your sale proceeds was \$2, out of which \$1 was your profit. You did not sell your full output; now, you do it, but end up in exactly the same situation. Truly, your sales proceeds is \$4, but you cannot say that your profit is \$3. The reason is that, if you said so and acted accordingly, next year you will not have any income nor any business, because you would be unable to purchase raw cotton. Therefore, you set aside \$2 of your sale proceeds and pay with them to your cotton supplier. Thus, you pay wages, \$1, and make profit as before, \$1.

Your cotton supplier must make profit at the same rate as you, pay wages to his workmen, at the going rate, and provide for depreciation. This he may do like the producer of wheat, that is, by withdrawing from sale some fraction of his harvest of cotton.

The shirt-maker has sold to the consumers two shirts, true, not only one, despite the fact that the value of one shirt does not become either wages or profits for

the people engaged in the shirt-making industry. The shirt-maker might have withdrawn one shirt from sale and pay with it to the cotton provider in order to make up for depreciation. But, since they live in a monetary economy, he cannot do so and has to turn the value of his shirt into money. Then, it seems that the purchasers of shirt pay for the consumption of cotton, as Keynes said they do. But this is false.

To see why, remember that the shirt-maker has to exchange half his sale proceeds for raw cotton. In doing so, he transfers that part of his sales revenue to the cotton-farmer. With this money, the cotton farmer pays wages and makes his profit. But he also has to make up for the consumption of seeds; thus, he withdraws a part of his harvest of cotton and returns it to the land as seeds.

Did the consumers pay for the value of shirts gross of user cost? They did not. Part of the money that they gave to the shirt-maker was directly transferred to the farmer. But the farmer receives money from the shirt-maker just to the extent that he has something to sell. What he has to sell is the value that is already embodied within the value of the shirt, that is, the value of the raw material to which the shirt-maker added value. But there is a part of the whole output of cotton and shirt that is never sold to the consumers. The consumers do not pay for this. They pay for the value added by the shirt-maker, and for the value added by the farmer, but not for the seeds.

The value of the shirts has three parts: 1) the profit and wages of the people engaged in the shirt-making industry, 2) the value of the cotton consumed by the shirt-maker, which is but the value of the cotton sold by the farmer: this value accounts for the profit of the farmer and the wages of his workmen; 3) the value of the remaining output of cotton, which is not sold and returns to the land as seeds. We see that the consumers do not have to pay for the part of the value of output that does not represent wages or profits. Keynes' statement would be true if the capital of the farmer became value added, that is, wages and profit. But this is impossible, if the ultimate goal of the farmer and the shirt-maker is the accumulation of capital.

The shirt-maker cannot distribute the amortization funds as wages and profit; the value of this part of his output represents the value of the part of the output of cotton which is consumed in the production of shirts. The amortization fund of the

shirt-maker becomes wages and profits in the hands of the farmer, but the farmer did not sell the whole of his output. The value of the seeds represents the value of the capital that has turned over and given rise to the shirt-maker's income and to the farmer's income: it represents the production cost of the output of shirts and cotton. This cannot be sold to the purchasers, and they did not have to pay for it: Keynes was wrong.

In a monetary economy in which all transactions are intermediated with money, the amortization of depreciation, that is, of capital consumption, triggers a flow of money of the same amount. This poses the problem as to whether the flow of money corresponding to the amortization of depreciation gives rise to the equivalent income for the producers of capital goods. Smith's answer was in the affirmative, from which he concluded, logically, that the capital of the economy becomes ultimately income in the aggregate. My answer is opposed to that of Smith: I contend that the value of capital never becomes income, though it gives rise to income, because it must remain circulating within production.

Keynes follows in the footsteps of Smith. He seems to be rather unsure about what he writes, and he does what logic invites him not to do. His thesis is that proceeds are equal to aggregate profits plus factor cost, (wages), despite the fact that the value of output includes the amortization of depreciation and despite the fact that he believes that the consumers have to pay for it. Indeed, this latter belief is false, and is an alternative statement of Smith's false answer. Every single producer must build an amortization fund that is to be spent sometime in the replacement of the stock of productive means; but, in the aggregate, what in the hands of single producers is neither wages nor profits, becomes so when productive means are actually paid for in the market.

This is why aggregate proceeds do not include user cost, even if the body of purchasers paid for it. Keynes' point, just like Smith's, is not that user cost is annihilated; it is rather that it becomes income, that is, wages and profits, in the aggregate. To reckon user cost beside factor cost and profit would amount, for Keynes and Smith, to double counting, because the value of the intermediate goods is already included in the value of the output of final goods. In other words: capital

consumption is already included in the value of the output of final goods; if you reckon user cost in addition to profits and factor cost, you are counting twice the value of capital consumption. To avoid this mistake, says Keynes, remove user cost from the formula of aggregate income, because it must have already been counted as factor cost (wages) and profits.

2) Chapter 6: User Cost DOES NOT Become Income in the Aggregate:

In chapter 6, Keynes takes up again the definition of income. This time he does not start from income in general, but looks at the matter from the point of view of the particular entrepreneur. He writes:

“During any period of time an entrepreneur will have sold finished output to consumers or to other entrepreneurs for a certain sum which we will designate as A . He will also have spent a certain sum, designated by A_1 , on purchasing finished output from other entrepreneurs. And he will end up with a capital equipment, which term includes both his stocks of unfinished goods or working capital and his stocks of finished goods, having a value G .” (Keynes, 1936, 52).

Note the absence of wages, I will deal with this later. A is the sale proceeds or gross income of the firm. A_1 is the deduction from current gross income for the amortization of capital consumption. The firm had, at the beginning of the period, a capital stock of a value K , made up by fixed and circulating capital. It has been consumed, but not fully, so that its value is G at the end of the period for which income is to be estimated. $(K-G)$ is the depreciation of the stock of capital of the firm.

“Some part, however, of $A+G-A_1$ will be attributable, not to the activities of the period in question, but to the capital equipment which he had at the beginning of the period. We must, therefore, in order to arrive at what we mean by the income of the current period, deduct from $A+G-A_1$ a certain sum, to represent that part of its value which has been (in some sense) contributed

by the equipment inherited from the previous period. The problem of defining income is solved as soon as we have found a satisfactory method for calculating this deduction.” (Keynes, 1936, 52).

Note: not the problem of defining “profit”, but the problem of defining “income”. This suggests either that profit is the same as income or that there is no problem as to the determination of factor cost or wages, which, no doubt, are the other part of income. In the end, it will be the second interpretation.

It simplifies the exposition to assume that A_1 is to be calculated as equal to depreciation: this would be the case in a stationary economy. It is not difficult to extend the results to a growing economy, which is why, in fact, it is the usual approach. Thus, A_1 will be equal to depreciation or $(K-G)$, and all we need to estimate the income of the firm during the time period considered is the magnitude of depreciation.

Let us first look into the meaning of the expression $(A+G-A_1)$. A_1 is, clearly, a deduction from current sales proceeds; in this sense, it is a deduction from income. But, what does G in the formula of income? Current sales proceeds are A , not $(A+G)$. As Keynes says himself, G stands for the value of any inventories that the firm may have at the end of the period, that is, for the value of the capital stock *after* the production of A . Then, G is no income for the firm; to begin with, it is not even a flow of money to the firm. This is not to deny that the stocks of circulating or fixed capital will yield income or that they are wealth in the hands of the entrepreneur: the point is that they are a capital that has not yet yielded any income for the firm. They are wealth, assets, capital or whatever, but not income.

G is to be reckoned in the capital account, not in the income account. The right expression for aggregate income (profit) is $(A - A_1)$. One might reply the G is income for the factors to which is was paid and, therefore, that aggregate income is $(A + G - A_1)$. It is true that G is not income for the firm in question, but capital waiting for yielding income. But this is a restricted point of view that distorts national accounting: for the economy as a whole, G involves an equivalent income for the factors that produced G . After all, somebody produced G and was paid for it, was not

he? This reply deserves a detailed answer, which I will give in a separate section right after having presented the definition of income of chapter 6. For the time being, I can just ask the reader to concede. However, as I will show in the corresponding section, the reply does not affect the truth value of what I am saying now.

A_1 stands for the purchases of capital goods from other entrepreneurs. On the assumption that A_1 is equal to depreciation, or $(K-G)$, then A_1 represents user cost. Note that, as Keynes' formula stands, the firm does not incur any factor cost, which implies that the full cost is user cost. Thus, the income of the firm is its sale proceeds, A , minus total production cost, which, in this case, reduces to user cost or depreciation, A_1 . There remains a stock of capital the value of which is G . The difficulty for defining the income of a firm is to estimate A_1 .

Keynes says that there are two principles for calculating this magnitude: the first has to do with consumption and the second with production. Let us begin by the first, which is presented by Keynes as follows:

“The actual value G of the capital equipment at the end of the period is the net result of the entrepreneur, on the one hand, having maintained and improved it during the period, both by purchases from other entrepreneurs and by work done upon it by himself, and, on the other hand, having exhausted or depreciated it through using it to produce output. If he had decided *not* to use it to produce output, there is, nevertheless, a certain optimum sum which it would have paid him to spend on maintaining and improving it. Let us suppose that, in this event, he would have spent B' on its maintenance and improvement, and that, having had this spent on it, it would have been worth G' at the end of the period. That is to say, $G'-B'$ is the maximum net value which might have been conserved from the previous period, if it had not been used to produce A . The excess of this potential value of the equipment over $G-A_1$ is the measure of what has been sacrificed (one way or another) to produce A . Let us call this quantity, namely, $(G'-B')-(G-A_1)$, which measures the sacrifice of value involved in the production of A , the *user cost* of A . *User cost* will be written U . The amount paid out by the entrepreneur to the other factors of production in return for their services, which from their point of view is their income, we will call the *factor cost* of A . The sum of the factor cost F and the user cost U we shall call the *prime cost* of the output A . (Keynes 1936, 52-3)

Factor cost has been restored to the picture. Thus, we can define aggregate income as the sum of the income of the entrepreneurial class to the income of the working class. The difference with chapter 3 is that now depreciation, U , is excluded from the income of the entrepreneurial class. Thus, in chapter 3:

$$Y = \text{aggregate profit} + \text{factor cost}$$

Whereas in chapter 6

$$Y = (\text{aggregate profit} - \text{user cost}) + \text{factor cost}$$

Note that G is referred to as standing for the value of the ‘capital equipment’, which suggests that Keynes is not thinking of the stocks of circulating capital that might remain in the firm after the production of A , but only of the value of fixed capital, and, therefore, of the amortization of fixed capital. Since the difference between circulating and fixed capital is one of degree, Keynes’ unadvertised switch does not affect the substance of the argument.

The problem is to estimate the depreciation of the capital stock, which, in Keynes’ text, amounts to a machine. Keynes’ procedure is very simple, though his presentation of it is remarkably clumsy. Let us strip it of accessory complications.

G is the value of the machine at the end of the period. G' is the value that it would have if it had not been used, in other words, the value that it would have if it were new, or the value that it had when it was new. For the sake of simplicity, we can consider that the price of the asset already included the costs of maintenance, B' ; therefore B' is already included in G and in G' and we can dispose of it.

Depreciation is, then, $(G-G')$, that is, the loss in value of the machine, its current value minus the value it had when it was new. For accountants, the problem of estimating depreciation arises mainly from the fact that there are no perfectly competitive markets for used pieces of machinery; in other words, the problem is, simply, to estimate G , for G' is determined in the market and, therefore, known.

Keynes, however, tells us that U is $(G-A_1)-G'$. Why $(G-A_1)$ and not only G ? Contrary to Keynes, I hold that A_1 is to be left out; in fact, the expression $(G-A_1)$ does not make sense. You cannot deduct a flow from a stock, and G is a stock whereas A_1

is a flow. Moreover; the problem is to estimate the deduction that we have to make from the sale proceeds in order to exactly make up for depreciation. In fact, Keynes is defining user cost on the assumption that depreciation is just made good, and nothing more; that is: on the assumption that the capital stock remains stationary. Since the only way to make up for depreciation is to purchase goods from other entrepreneurs, since the beginning, and contrary to appearance, Keynes' problem has been to estimate the amount of A_1 such that $A_1 = (G - G')$. Thus, $A_1 = U = (G - G')$ is the right formulation of the problem.

Having thus defined 'user cost', Keynes has all he needs to define aggregate income:

"We can then define the income of the entrepreneur as being the excess of the value of his finished output sold during the period over his prime cost. The entrepreneur's income, that is to say, is taken as being equal to the quantity, depending on his scale of production, which he endeavours to maximise, i.e. to his gross profit in the ordinary sense of this term;—which agrees with common sense. Hence, since the income of the rest of the community is equal to the entrepreneur's factor cost, aggregate income is equal to $A - U$." (Keynes, 1936, 53-4).

Here is the definition of aggregate income again. Note that Keynes' 'first method for estimating depreciation' is, in actual fact, an alternative definition of depreciation which contributes nothing to the estimation of it; in fact, it presupposes G . This is no defect of Keynes' book, which is not about Practical Accounting, but about Macroeconomic Theory. In actual fact, and his confusing mode of expression notwithstanding, Keynes' problem was not to devise a method for estimating G , but to reach the definition of income, which is what really matters. To estimate the amount of G is the job of accountants; the question, for the theorist, is whether G does or does not become income in the aggregate.

In the aggregate, says Keynes, the sum of all the A 's of all the firms of the economy gives us the aggregate sale proceeds. If we deduct aggregate factor cost and

aggregate user cost from aggregate sale proceeds, we get aggregate income; accordingly:

$$Y = A - F - U$$

But this is not a right definition of aggregate income, because F , though not income for the firms who pay for the labor that they employ, is, however, income for the working class. Accordingly, we have to correct the previous formula as follows:

$$Y = A - F - U + F$$

That is:

$$Y = A - U$$

Since, by hypothesis, though not necessarily, $U = A_1$, then we may also write:

$$Y = A - A_1$$

Aggregate income is equal to the value of output, A , minus aggregate user cost, U , which is equal to the aggregate value of the output of productive means; the money exchanged for these means is A_1 . According to this formula, aggregate user cost is a value that is not income; part of the aggregate value of output does not become income in the aggregate. U represents the part of the value of output that does not become income for anybody. In other words: there is depreciation, and there are purchases among the firms of the economy the goal of which is to make up for depreciation, A_1 . The value of these purchases, which represents the value of the goods traded in these purchases, does not become income in the aggregate. This means that U does not give rise to any income, neither for the class of entrepreneurs nor for the class of workers. We have reached exactly the contrary view to that reached in chapter 3, where $Y = A =$ aggregate wages + aggregate profits.

My contention is that the view arrived at in chapter 6 is right, whereas the view of chapter 3 was wrong. Keynes, however, does not mention any contradiction, and proceeds as if he had a consistent concept of income. In actual fact, he has built two reasonings that lead him to opposite conclusions, but he does not seem to note

any opposition. This strongly suggests that, in the end, Keynes does not have much control over the basic concepts of his theory. In fact, he lacks a concept of income, which amounts to saying that he lacks a concept of capital. On this ground, he wants to show the reader why ‘Classical Economics’ went astray and was wrong about the fundamental principles of Economic Theory. What follows is, no surprise, a maze of equivocations in which even his critics have fallen prey.

Note that, in the text quoted, Keynes says that the ‘entrepreneur’s income’ is ‘his gross profit’. Why ‘gross profit’ and not ‘net profit’? If $(A - U)$ is ‘gross profit’, what is ‘net profit’? Note how the adjective ‘gross’ is meaningless; indeed, Keynes presents as ‘gross profit’ the definition of ‘net profit’. In my opinion, $(A - U)$ is not ‘gross profit’, but ‘net profit’; ‘gross profit’ should be A .

Having defined aggregate income as $(A - U)$, Keynes goes on and explains to the reader the content of the definition of income that he has provided to the reader for a second time. However, it is curious to see how, in the course of his explanations, he actually turns back to the definition of income of chapter 3 as A and contradicts the new definition that he has just provided as $(A - U)$:

“This set of definitions also has the advantage that we can equate the marginal proceeds (or income) to the marginal factor cost; and thus arrive at the same sort of propositions relating marginal proceeds thus defined to marginal factor costs as have been stated by those economists who, by ignoring user cost or assuming it to be zero, have equated supply price to marginal factor cost” (Keynes, 1936, 55)

Where logical consistency requires:

“This set of definitions also has the advantage that we can NOT equate the marginal proceeds (or income) to the marginal factor cost; and thus WE CANNOT arrive at the same sort of propositions relating marginal proceeds thus defined to marginal factor costs as have been stated by those economists who, by ignoring user cost or assuming it to be zero, have equated supply price to marginal factor cost, WHICH IS A MISTAKE.”

Keynes does not seem to be very sure himself about whether user cost represents income, and adds a footnote to this paragraph:

“*Supply price* is, I think, an incompletely defined term, if the problem of defining user cost has been ignored. The matter is further discussed in the appendix to this chapter, where I argue that the exclusion of user cost from supply price, whilst sometimes appropriate in the case of aggregate supply price, is inappropriate to the problems of the supply price of a unit of output for an individual firm” (Keynes, 1936, 55n)

Stripped of euphemisms, what Keynes is saying is: if we look at the price of a particular commodity, user cost is a part of its price because depreciation has to be made good. But, in the aggregate, the flow of money to which the amortization of depreciation gives rise, is a flow of income. In the aggregate, the amortization expenses of user cost become income. Therefore, aggregate income is not $(A - U)$, but simply A . Thus, Keynes restates the view of chapter 3 and contradicts the definition that he has just provided in chapter 6. The view that dominates in Keynes, and virtually everywhere in Macroeconomic Theory since Adam Smith, is that of chapter 3.

This view is the same as that held by Smith in “*Wealth of Nations*”, book I, chapter 6, paragraph 11, and book II, chapter 2: the price of commodities, taken *separately*, has four parts, but the price of commodities, taken *complexly*, has three parts. The reason is that what appears not to be income in the hands of the particular producers, namely, depreciation funds, become income in the aggregate, when depreciation is made up for by means of exchanges which involve an equivalent circulation of money.

As it seems, Keynes considers that his explanations of the role of user cost in chapter 6 are not sufficiently clear, and, in order to settle the matter, he writes an appendix which deals solely with user cost; there, Keynes writes:

‘Now in the modern theory of value it has been a usual practice to equate the short-period supply price to the marginal factor cost alone. It is obvious, however, that this is only legitimate if marginal user cost is zero or if supply price is specially defined so as to be net of marginal user cost, just as I have defined (p. 24 above) ‘proceeds’ and ‘aggregate supply price’ as being net of aggregate user cost. But, whereas it may be occasionally convenient in dealing with *output as a whole* to deduct user cost, this procedure deprives our analysis of all reality if it is habitually (and tacitly) applied to the output of a single industry or firm, since it divorces the ‘supply price’ of an article from any ordinary sense of its ‘price’; and some confusion may have resulted from the practice of doing so. It seems to have been assumed that ‘supply price’ has an obvious meaning as applied to a unit of the saleable output of an individual firm, and the matter has not been deemed to require discussion. Yet the treatment both of what is purchased from other firms and of the wastage of the firm’s own equipment as a consequence of producing the marginal output involves the whole pack of perplexities which attend the definition of income. For, even if we assume that the marginal cost of purchases from other firms involved in selling an additional unit of output has to be deducted from the sale-proceeds per unit in order to give us what we mean by our firm’s supply price, we still have to allow for the marginal disinvestment in the firm’s own equipment involved in producing the marginal output. Even if all production is carried on by a completely integrated firm, it is still illegitimate to suppose that the marginal user cost is zero, i.e. that the marginal disinvestment in equipment due to the production of the marginal output can generally be neglected.’ (Keynes, 1936, 67)

Again, Keynes contradicts his definition of income of chapter 6 and restates the Smithian view that he upheld himself in chapter 3 and in parts of chapter 6: the price of commodities considered in isolation has a part which is neither wages nor profit and which makes up for user cost. But the value of all the commodities of the economy taken as a whole does not have any part in addition to aggregate wages and aggregate profits. The reason, obviously, is not that depreciation has ceased to exist because we make accounts at the aggregate level; the reason is that user cost has become income when the amortization funds built up by the firms of the economy are exchanged for capital goods so as to replace the goods destroyed by capital consumption. Therefore, according to the paragraph just quoted, the parts of chapter 6 where aggregate income is defined as $(A - U)$ are wrong; the right definition is that given in chapter 3, which appears at times in chapter 6, and according to which aggregate income is A .

On the basis of a contradictory view on income, Keynes intends to explain to the reader why the Classicals were hopelessly wrong. In chapter 2, before his “clarification” of the concept of income in chapters 3 and 6, he announces to the reader:

“From the time of Say and Ricardo the classical economists have taught that supply creates its own demand; –meaning by this in some significant, but not clearly defined, sense that the whole of the costs of production must necessarily be spent in the aggregate, directly or indirectly, on purchasing the product.” (Keynes, 1936, 18)

But they were wrong, and the source of their error is that they started from the wrong conception of *aggregate income*:

“The conclusion that the *costs* of output are always covered in the aggregate by the sale-proceeds resulting from demand, has great plausibility, because it is difficult to distinguish it from another, similar-looking proposition which is indubitable, namely that the income derived in the aggregate by all the elements in the community concerned in a productive activity necessarily has a value exactly equal to the *value* of the output.” (Keynes, 1936, 20)

Thus, the definition of income of chapter 3 was “indubitable”, and supplies the basis to confute the old error that led mainstream Economics to upholding Say’s Law and to conquer England as the Holy Inquisition had conquered Spain. However, a definition of income contrary to the “indubitable” one was stated in chapter 6 by Keynes himself. Then: does still Keynes have a basis on which to refute Say’s Law? Did he ever understand what this Law and the principle which, supposedly, was confused with it were?

3) *Stocks and Income*

Having shown how Keynes arrives at opposite conclusions as to the definition of income, let me stop for a while to discuss the question as to whether G is to be reckoned as income together with A . Note that, again, Keynes holds contradictory views. In the beginning of chapter 6, he writes:

“We must, therefore, in order to arrive at what we mean by the income of the current period, deduct from $A+G-A_1$ a certain sum, to represent that part of its value which has been (in some sense) contributed by the equipment inherited from the previous period.” (Keynes, 1936, 52)

But a few paragraphs below, he writes:

“Since the income of the rest of the community is equal to the entrepreneur' factor cost, aggregate income is equal to $A-U$.” (Keynes, 1936, 53-4).

Now, aggregate income is not $[(A + G) - U]$, but $(A - U)$, that is, $[(A + 0) - U]$. Where has G gone to? It has disappeared, which means that it is no longer regarded as income by Keynes. Is he right to hold that G is not part of aggregate income?

G represents the value of the stock of capital that remains as capital after having produced A . The structure of this capital is not relevant for the question as to whether there is an equivalent income in the economy as a whole, which means that G may contain fixed and circulating capital in any proportion. The question is whether there is an income of a magnitude G somewhere in the economy which is to be reckoned in addition to A .

It is clear that G is not income for the firm which records the value of its worn-out machine or of inventories in the asset side of its balance sheet, but capital. It is capital that has not yet circulated and, therefore, that has not yet yielded income for

the firm which is holding it. G remains as capital with the firm because, within the time period considered, there is no room for a profitable circulation of G . G will fully circulate after a definite number of periods. The firm undertook the investment on the belief that this will be the case. But the operation implies that it will have to hold G because it has had to advance a value greater than that which it expected to be able to launch into circulation.

This would be the case, for example, if the firm had to buy a durable machine. If possible, the firm would prefer to invest the fraction of the value of the machine that it will actually get back from the sale proceeds of output, together with profit. But, if it is not possible to buy a machine by parts, which it often is not, then the firm must advance the full value of the machine, which is received by the seller of the machine. Let us call this value K .

The firm invests K on the machine. After producing A , some part of the value of K has been transferred to the value of output, that is, to A , and, thus, has actually worked as capital. For the firm that bought the machine, working capital is not K , but the part of K that it has actually been able to turn into account, that is, the amortization of the depreciation of K , which is the value of the capital that has been advanced and returns to the investor, the firm. $(K - G) = \text{Depreciation} = U$. G is the capital value that has not yet turned over, but that, in the future, will do so. The value that has turned over within the period for which income is being estimated is $(K - G)$.

If aggregate income is $(A - U)$, then, since $U = (K - G)$, then $Y = A - K + G$. Note that G appears with a positive sign, which seems to imply that G is part of aggregate income; therefore, that G is income. Not for the firm the balance sheet of which we were examining, of course, but for the firms that supplied this firm with K , of which G still remains. Thus, we could rewrite the definition of aggregate income saying that $\text{GNP} = (\text{aggregate income} + \text{stocks})$, that is, $\text{aggregate income} = (\text{GNP} - \text{stocks})$. Aggregate income is equal to GNP only when stocks are zero. Stocks are zero when inventory investment is zero and when fixed capital is zero. In other words, when the full value of the capital invested has turned over within the time period considered: nothing has remained unused as fixed capital and nothing has remained to be sold in the future as inventories.

To put it otherwise: our firm may not have consumed fully the machine that it bought this year, but the machine was produced, and our firm had to pay for its full value. Whether we undertook the operation on borrowed money or on capital is irrelevant for the question at stake. The fact is that our firm had to hand down the equivalent in money of the value of the machine to the seller; therefore, it is a fact that this money circulated through the economy. It paid for the profit of the seller-producer of machines, and for the wages of his workmen; also, for the corresponding depreciation allowances.

The problem is: our firm made a payment of a value K to the seller of machines. With the aid of the machine we produced goods and, from their sale, got back part of the money paid out for the machine, namely, Depreciation. $(K - \text{Depreciation}) = G$; the question is: is G an income in addition to the value of final goods, A ?

An often used example may be useful to answer this question. Suppose that we have an economy in which there are two industries. One of them produces bread, which is the representative of all final goods. The other produces wheat, which is the representative of all intermediate goods. Bread is produced with labor and wheat; wheat is produced with labor and wheat. But the oven of the baker is not too big, and, thus, cannot turn at once into bread the full output of wheat. It takes half a year to turn wheat into bread. At the end of the year, the full output of wheat is turned into bread, but, during the first half of the year, there is an idle stock of wheat waiting to be turned into bread, which is half the output of wheat.

The problem as to whether G is to be included in aggregate income arises when we estimate income for the first half of the year. G is the value of the wheat that has not been baked as yet. Is this income? Is $\text{income} = \text{output of bread} + \text{stock of wheat} - \text{depreciation}$?

The farmer keeps some part of his output as seeds. The rest is to be sold to the miller, out of which sale the farmer gets his profit and his workmen their wages. Note that the workmen of the farmer and he himself cannot consume wheat, because wheat is an intermediate good. They have to exchange this part of the output of wheat

for bread; through this exchange, the baker gets the wheat that he turns into bread. Thus, some part of the output of bread is allocated to the farmer and to his workmen in exchange for wheat. The profits of the farmer and the wages of his people are but the value of the wheat consumed by the baker.

The remaining part of the output of bread will be allocated to the miller and to his workmen. They do not have to exchange bread for anything else, because bread is a consumption good.

Suppose that the baker has to purchase the full harvest of wheat, half of which is temporarily redundant in relation to his capacity (G). The farmer and his workmen, at the end of the first half of the year, exchange for bread half their output of wheat. But, what about the other half, which the baker had to purchase without having bread to give out? This is G . To avoid unnecessary complications, imagine that the baker pays to the farmer with a bill of exchange convertible into bread, of a value G . In so doing, the baker is in the same situation as a firm that purchases a machine which will not be fully used up within the current production period. The purchaser of the machine, like the baker, has to advance some capital that he will not get back with the first sale of bread; he has to wait for the second sale. But, for some reason, the advance has to be undertaken.

Let us do the national accounts of our imaginary economy at the end of the first half of the year. The baker has sold A as bread, part of which was distributed as profit and wages in the bread industry, and part of which was given to the farmer in order to make up for the consumption of capital, that is, of wheat, by the baker. This second part of A is distributed as wages and profits within the wheat industry, after having subtracted some wheat as seeds for the next year. But there still remains G , wheat that has not yet been turned into bread. The farmer has in bills of exchange the same value as what the baker has in wheat, that is G . The existence of G shows that part of the output of wheat of the farmer has not entered production, and, therefore, has not been turned into bread.

This means that, if the farmer and his workmen brought their bills to the market at the end of the first half of the year in order to exchange them for bread,

they will have to keep the bills, because the equivalent in bread of these bills, G , does not exist yet. The farmer and his people will see that they hold a redundant stock of money, in the shape of bills of exchange. In other words: the surplus wheat held by the baker is but the surplus money held by the farmer (as bills). The farmer holds surplus money because, and to the extent, that the baker holds surplus wheat.

Accordingly, at the end of the first half of the year, aggregate income is the sales of bread by the baker, A , minus depreciation, represented by the portion of the output of wheat that the farmer keeps as seeds. ($A - U$). G is no income at all; at the end of the full year, G will have fully turned over and given rise to the full income that it is able to yield. But at the end of the first half of the year, just half K has actually functioned as capital. Keynes was right to exclude stocks from aggregate income. Neither U nor G are income, but capital: U represents the portion of K that has been advanced and is returning within the time period in question; G is the capital that is still advancing within the time period in question.

We can look at the example from another standpoint. The farmer might not sell the full output of wheat to the baker; he might store as inventory the part of the output of wheat for which there is no room in the bread industry, G . In such a case, the previous situation would be reversed, but would remain the same as far as the implication for the problem at hand is concerned. The farmer would hold as inventories what the baker holds as a redundant stock of money for which there is no profitable investment within the first half of the year. Whether this or the previous case will prevail depends on such considerations as liquidity or scale, which are accidental.

No matter who holds the money or the goods, the point is that G will become income when the baker will produce bread, but not before. The capital for which G stands will give rise to income when it circulates, that is, when it is consumed within production. Meanwhile, G does not become income, even though the baker gave the farmer a bill of exchange of a value G . Within the first half of the year, when there is a redundant stock of wheat, or a depreciated machine, that is, some G , the flow of money that represents the value of stocks, G , does not give rise to any income in the aggregate.

It is a mistake to say that the farmer has an income because he receives a payment, that is, because there is a flow of money to him. This money cannot circulate within the first half of the year, and must be stocked; thus, the flow of money from the baker to the farmer does not represent any income for anybody, but a forthcoming investment. The surplus money held by the farmer represents the surplus wheat, which, in turn, represents the value of the bread that will be produced in the future with the wheat for which there was no bread in the first half of the year.

We can look from this new standpoint at the thesis that flow of money is equivalent to flow of income. We saw a reason why this thesis is false, namely, that part of the total flow of money is devoted to making up for depreciation, and, thus, it does not represent any flow of income, but flow of capital. Now we have found a second reason to support the view that flow of money is not flow of income. The advance of forthcoming value in the shape of money is a step in the circulation of capital in a monetary economy, not a step in the flow of income. The receiver of the surplus money can buy nothing, because the commodities that the money would buy do not exist yet; they will exist in the future, which is the belief on which the investment was performed. As production takes place actually, as the production goods the value of which the surplus money represents enter production, capital will circulate and give rise to income.

Therefore, Keynes was right to exclude G from aggregate income, and so he mended the mistake that he had made at the beginning of chapter 6, when he wrote that aggregate income is $(A + G - A_1)$. Now, he is right to write off G and to define aggregate income as $(A - U)$ or as A , without G .

4) Conclusions

I have tried to show that Keynes holds contradictory views about the relationship between the aggregate value of output and the flow of income. The prevailing view is the standard one in current Macroeconomics that wherever there is a flow of money there is a flow of income. According to this, since investment in a

monetary economy involves an exchange of money for goods and, thereby, a flow of money, then investment gives rise to income, and can be said to be spending.

To reach this conclusion, however, one has to start from the premise that there is a flow of income wherever there is a flow of money. This premise is an alternative statement of the standard view that the aggregate value of output becomes entirely income in the aggregate. That this premise is false as far as a capitalistic economy is concerned is shown by the inescapable implication that, if the whole flow of money in the economy is a flow of income, then no part of it can be a flow of capital: aggregate capital would be zero by definition. In a capitalistic economy, however, there must be a flow of capital, that is, a flow of money that represents the “advance” of money by the investors and a flow of money that represents the “return” of capital to the investors; in other words: there must be a capital turning over, which is what gives rise to income.

Acknowledging the fact that, in a capitalistic economy, the only income is the income of capital (which is distributed under a multitude of different titles) leads one to the view that Keynes upholds at times in chapter 6, namely, that there is some part in the aggregate flow of money which does not represent any flow of income, but the flow or turnover of capital. In chapter 6, at times, the capital of the economy does not become income because it involves exchanges of goods for money. The capital of the economy is represented by “user cost”, U , the aggregate value of the intermediate goods that are consumed in production and which production itself must produce again not only in order to maintain aggregate capital, but also in order to accumulate capital, which, by the way, is the primary goal of the economic system called “capitalism”.

User cost is the part of the total flow of money, or of the value of output, which does not represent any income for anybody in the economy because it is the *capital* of the economy, which is turning over. To make room for the distinction between capital and income, one must reject the view that flow of money is conceptually the same as flow of income. But this implies the rejection of the thesis of chapter 3 that user cost becomes income in the aggregate. Keynes does not take

this step and, after having sensed the right view at times, in the end he turns back to the standard error of Smith.

REFERENCES

Blaug, Mark (1996): *“Economic Theory In Retrospect”*, Cambridge U.P.: Cambridge, England.

Friedman, Milton (1969): *“Studies In the Quantity Theory of Money”*, Aldine: Chicago.

Keynes, John Maynard (1936): *“The General Theory of Employment, Interest and Money”*, Macmillan: London.