SMITH ON THE “FOURTH PART OF THE PRICE OF COMMODITIES”: A CRITICAL ANALYSIS

by

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SUMMARY

I critically analyze Smith’s thesis in book I, chapter 6 of “*Wealth of Nations*” that the full value of commodities becomes income in the aggregate because the “fourth part” that makes up for depreciation becomes income in the aggregate. I argue that Smith himself contradicts it in book II, chapter 2. The view that dominates in Smith is the erroneous one of book I, chapter 6; interestingly, this view also prevails in current Macroeconomics and National Accounting. In this paper, I discuss book I, chapter 6 and book II, chapter 2 in order to revise the conception of aggregate income.

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Introduction

In a letter dated 6 July 1863, Marx writes to Engels:

“If at all possible in this heat, will you take a reasonably close look at the enclosed. ‘*Tableau Économique*’ which I am substituting for Quesnay’s table and let me know your objections, if any. It embraces the whole process of reproduction. As you know, A. Smith sees the **‘Natural’ or ‘Necessary price’** as being composed of wages, profit (interest) and rent -i.e. as wholly resolved into *revenue*. This nonsense has been taken over by Ricardo, although he excludes rent from the catalogue as being purely

fortuitous. Nearly all economists have taken this over from Smith, and those who contest it succumb to some other folly. Smith himself is conscious of the nonsensicality of subsuming the *gross product* of a society *simply under revenue* (which may be consumed annually), whereas in the case of *each individual* branch of production he resolves price into *capital* (raw materials, machinery, etc.) and *revenue* (wages, profit, rent). If this were so, a society would have to start each year *de novo, without capital*."

In this paper, I argue that Marx is right in his criticism of Smith, whose position was and still is accepted by "nearly all economists" as correct. Marx is right to say that Smith does not succeed in showing that the full value of commodities "resolves itself" in wages, profits and rent. Marx correctly points out that Smith himself acknowledges in book I, chapter 6, paragraph 11 that the value of the individual commodity contains a fourth part which is neither wages nor profit nor rent; in Marx' terminology, Smith acknowledges that the value of commodities includes a fourth part which is not any "*revenue*", but "*capital*". Despite this fact, Smith keeps speaking of the three parts of the value of commodities as if he had shown that the value of commodities has three parts, when what he has actually admitted is that it has four parts.

Faced with the fact that the value of commodities must pay for the value of "materials" consumed in production, that is, that some part of the value of commodities must make up for the depreciation of the capital equipment, Smith modifies his original thesis and says, instead, that what has three parts (wages, profit and rent) is the value of commodities "taken complexly", to use his own expression. To arrive at this conclusion he argues that the fourth part (that must be present in the value of every particular commodity) "resolves itself" into wages, profits and rent *in the aggregate*; in other words, he proceeds to argue that the "*gross product of a society*" becomes "*revenue*" in the aggregate because the part of price that makes up for depreciation becomes income in the aggregate. The only argument that Smith produces to support this thesis is in book I, chapter 6 paragraph 11.

Marx correctly points out against Smith that his argument is logically unsound and, therefore, inconclusive. Smith fails in his attempt to demonstrate that the part of the value of commodities that makes up for depreciation becomes income in the aggregate. Against Smith, Marx restates the analysis of price of Quesnay, according to whom the price of commodities, no matter whether "taken separately" or "complexly" has *four* parts, one of which makes up for the depreciation of the capital equipment. This implies that the "*gross product of a society*" does not become "*revenue*" in the

aggregate because the part of it that must make up for depreciation does not become income in the aggregate. In my opinion, Marx is right to hold that Smith has no argument to support his thesis that the value of commodities "taken separately" has *four* parts but "taken complexly" has *three* parts because his argument to show that the "fourth part" becomes income in the aggregate is inconclusive. Needless to say, Smith does not have any basis, either, to support the view that the price of commodities "taken separately" has *three* parts, as he equivocally holds in some places in direct opposition to book I, chapter 6, paragraph 11.

The debate between Smith and Marx-Quesnay is of crucial importance, as what is at stake is the basic concept of income. But this is not all: Smith's error has become standard opinion and still today undermines a good deal of Macroeconomic Theory, which rests on Smith's erroneous analysis of price. The situation has changed little since the times of Marx. Indeed, it is revealing to see that Marx' criticism of the Smithian concept of income and of his analysis of price is absent in the literature on Smith and, still worse, in the standard literature on National Accounting. The aim of this paper is to rescue Marx' criticism of Smith and Quesnay's theory from its current oblivion and show that we must correct both the Smithian notion of income and its offspring, the standard Macroeconomic conception of aggregate income.

Before proceeding any further, I would like to make some cautionary remarks. First, let me note that the problem as to whether the value of the part of output that makes up for depreciation becomes or not income in the aggregate is logically independent of the timing in the changes in stocks. The discussion about whether depreciation expenses do or do not become income in the aggregate has nothing to do with the adjustments that are obviously required for the changes in stocks over time.

Secondly, the problem as to whether the value of the part of GNP that makes up for depreciation does or does not become income in the aggregate is totally unrelated to the obvious requirement of avoiding double counting. The mistake of Smith does not involve any double counting and, for all I know, neither does my criticism of it.

Thirdly, the Fisherian conceptions of capital as stock and income as flow are fine as far as they go, but they are not the last word on the subject. Of course, I do not purport to deny that there are stocks of capital or flows of income. What I would add to Irving Fisher is that capital, in addition to be *stocked*, does indeed *flow* or *turn over*, as it is more commonly said in business. This flow has two moments, investment and

amortization or, as the English language makes it excellently clear, *advance* and *return*. In this paper, I intend to show a relevant consequence of this flow of capital for the definition of aggregate income.

The paper has a very simple structure: first, I comment on Smith's relevant texts and, secondly, I summarize my findings in a section devoted to conclusions.

1. Smith's Price Theory

In book I, chapter 6, Smith writes:

> "As soon as stock has accumulated in the hands of particular persons, some of them will naturally employ it in setting to work industrious people, whom they will supply with materials and subsistence, in order to make a profit by the sale of their work, or by what their labour adds to the value of the materials. In exchanging the complete manufacture either for money, for labour, or for other goods, over and above what may be sufficient to pay the price of the materials, and the wages of the workmen, something must be given for the profits of the undertaker of the work who hazards his stock in this adventure. The value which the workmen add to the materials, therefore, resolves itself into two parts, of which the one pays their wages, the other the profits of their employer upon the whole stock of materials and wages which he advanced." (Smith, 2003, 68)

The materials and subsistence that the undertaker supplies to the workmen are the "stock" of the undertaker, that is, his capital, or, in other words, the investment that he advances. Smith says in the final sentence of the quotation that the undertaker gets a profit "upon the whole stock of materials and wages which he advanced". However, right before saying this, he says that the workmen add value to the materials, that is, to the value of the materials. Then, they do not add value to the "whole stock" of the undertaker, but only to the part of it consisting in materials. Is there a contradiction here? Do the workmen add value to the whole stock of the undertaker or only to the part of it consisting in materials?

If the undertaker makes profit "upon" his "whole stock", then the labor of the workmen must add value to the whole stock of the undertaker, not only to the part of it consisting in materials. Since the profit of the undertaker is the excess value of his commodity over the expenses on labor and materials, the labor of the workmen must add value to the value of the materials *and of the subsistence* advanced by the undertaker. The point is that *while the labor of the workmen re-produces the part of the capital consisting in subsistence, it does not re-produce the part of the capital consisting in materials*. This carries the suggestion that the part of the stock consisting in materials need not be re-produced, or, in other words, that it is infinitely lived, in contrast with the part of the stock consisting in subsistence, which is re-produced in

each production period. Since, in actual fact, production involves a consumption of production means, a theory of value that starts from the premise that production does not involve any consumption of production means is necessarily incomplete and invalid. Is this the case of Smith's?

The workmen consume the subsistence advanced by the undertaker as they do their work; thus, their labor re-creates the fund that they destroy. The value of the subsistence advanced by the undertaker ceases to exist because the goods that make it up cease to exist: they are consumed, destroyed. But the labor of the workmen re-produces this value, and even a surplus over it.

As Smith says, the labor time given by the workmen to the undertaker is greater than the labor time required to re-produce the subsistence of the workmen. This surplus, which does not make up for any consumption or destruction of goods, is the profit of the undertaker. Thus, the undertaker advances a fund of subsistence which is destroyed as the labor process goes on, but which is replenished by the same labor process as it is destroyed. The fact that the labor added by the workmen makes up for the labor they consume shows that the price of the commodity produced by the workmen allows the undertaker to get back the money or goods he advanced as subsistence. The re-production of the subsistence or wage fund by the workmen represents the amortization of the capital invested as wages by the undertaker.

So far so good, but what about the replacement of the part of capital invested in materials? Does the price of commodities have a fourth part in addition to wages, profit and rent to make up for the consumption of materials? Smith goes straight to the point and writes:

> "In the price of corn, for example, one part pays the rent of the landlord, another pays the wages or maintenance of the labourers and labouring cattle employed in producing it, and the third pays the profit of the farmer. These three parts seem either immediately or ultimately to make up the whole price of corn. A fourth part, it may perhaps be thought, is necessary for replacing the stock of the farmer, or for compensating the wear and tear of his labouring cattle, and other instruments of husbandry. But it must be considered that the price of any instrument of husbandry, such as a labouring horse, is itself made up of the same three parts; the rent of the land upon which he is reared, the labour of tending and rearing him, and the profits of the farmer who advances both the rent of this land, and the wages of this labour. Though the price of the corn, therefore, may pay the price as well as the maintenance of the horse, the whole price still resolves itself either immediately or ultimately into the same three parts of rent, labour, and profit." (Smith, 2003, 71-2)

Let us closely examine this key text. Smith starts by asking whether his previous statement that the price of commodities has three parts, wages, profits and rent, is true or false. He poses the question in the particular instance of the price of corn, and wonders whether the price of corn has three or four parts. In principle, the reader expects Smith to hold that the price of corn has three parts, not four, but Smith writes:

> "Though the price of the corn, therefore, may pay the price as well as the maintenance of the horse…"

The price of corn pays the price of the laboring horse *in addition to wages, profits and rent*. The laboring horse is the farmer's capital invested in "materials", that is, the capital invested in production means other than labor in the production of corn. Smith acknowledges that the price of corn has *four* parts, that the fourth part makes up for the consumption of "materials" and does not involve any income (wages, profit, rent) for any factor. But this is not the end of the story. Indeed, Smith has made an interesting switch. Remember that he posed the problem as to whether the *price of corn* has three or four parts; look, however, at his answer:

> "Though the price of the corn, therefore, may pay the price as well as the maintenance of the horse, the whole price still resolves itself either immediately or ultimately into the same three parts of rent, labour, and profit"

The initial question was not about the parts of the *whole price*, but about the parts of the *price of corn*. Having acknowledged himself that the price of corn has four parts, Smith has to modify his original thesis; his point, now, is rather that the "whole price" does not have four parts, but three. The "whole price", obviously, is the price of the corn and of the laboring horse *taken together*; in other words, the total value of the corn and of the laboring horse. Smith's thesis is, therefore: though the price of corn has *four* parts, the price of the corn and of the laboring horse taken together has *three* parts, not four, because the price as well as the maintenance of the horse becomes wages, profits and rent in the hands of the producers of laboring horses.

We can give an alternative wording to this thesis: the price of any commodity regarded in isolation has four parts, but the price of all the commodities in the economy taken together, that is, the aggregate value of output, has only three parts, not four, because the value of the part of output that provides for the re-production of the materials destroyed in production resolves itself ultimately into wages, profits and rent.

It is not the case that the value of the national product has three parts and no more because the price of the individual commodity has only three parts and no more.

This is the idea that Smith presents in book I, chapter 6, but also, interestingly, in book II, chapter 2, in contradiction with the text just quoted:

> "It has been shown in the first book, that the price of the greater part of commodities resolves itself into three parts, of which one pays the wages of the labour, another the profits of the stock, and a third the rent of the land which had been employed in producing and bringing them to market. Since this is the case, it has been observed, with regard to every particular commodity, taken separately, it must be so with regard to all the commodities which compose the whole annual produce of the land and labour of every country, taken complexly. The whole price or exchangeable value of that annual produce must resolve itself into the same three parts, and be parcelled out among the different inhabitants of the country, either as the wages of their labour, the profits of their stock, or the rent of their land." (Smith, 2003, 363).

What has actually been shown "in the first book" is, as we have just seen, "that the price of the greater part of commodities resolves itself into *four* parts", because in addition to profits, wages and rent, the price of commodities must pay for the replacement of the materials, and this part of price does not represent any income for any factor. Smith's position in the first book was, rather, that even though the price or value of the particular commodities has *four* parts, the price or value of commodities in the aggregate has three parts because, supposedly, Smith has an argument that establishes that the fourth part required to make up for depreciation becomes wages, profits and rents in the aggregate. For the sake of clarity, let me note that Smith's view is not that aggregation annihilates the fourth part, but that it changes its formal appearance.

Let us therefore critically examine the argument which, in Smith's opinion, implies that the fourth part becomes income in the aggregate. Is it logically sound? Has Smith succeeded in proving that the value of corn and the horse taken together has three parts? Marx answers, correctly in my opinion, that he has not. The reason is that Smith does not realize that, if the reasoning applied to corn is consistently followed, then there must also be a fourth part in the price of the laboring horse to make up for the consumption of materials, unless the horse industry be able to grow horses with labor only. The money paid by the farmer to the producer of horses does not become wages, profits and rent only, but also a fourth part in the price of the laboring horse to make up for the consumption of materials in the production of horses.

Therefore, Smith's argument, instead of "resolving" the fourth part of the price of corn into wages, profits and rent, displaces the problem from the corn industry to the horse industry without really solving it. As Marx comments:

"Was it not equally obviously necessary to consider that just as the farmer included the price of the horse and the plough in the price of the corn, the horse breeder or the plough maker from whom the farmer bought the horse and the plough, would include in the price of the horse and the plough the price of the instruments of production (in the case of the former, perhaps another horse) and of raw materials such as feeding stuffs and iron, whereas the fund from which the horse breeder and plough maker *paid* wages and profit (and rent) consisted only in the new labour which they *added* in their sphere of production to the amount of value present in their constant capital?" (Marx, 1977, 77)

Every producer will use some production means other than labor, some "materials" and, therefore, the price of all commodities will have a fourth part to amortize this investment in materials. The problem is, therefore, whether or not the aggregate price of all the commodities of an economy has a fourth part that is not any income for any factor, but the value of the materials consumed in production, the value of the part of aggregate capital that has to be invested in materials.

Smith does not appeal to any infinite regress in order to resolve the fourth part of the price of corn into wages, profits and rents, as some of his modern commentators interpret him. This is an extrapolation that Smith himself did not do. The idea is that, though the price of the laboring horse may also have four parts, by displacing the fourth part of the price of corn to the horse industry, you transform into income some fraction of the fourth part of the price of corn. You do not get rid of the whole fourth part of the price of corn, but you take a step towards it. Now, with the fourth part of the price of the horse, repeat the procedure. Look for a third industry from which the horse industry purchases its materials. Though the price of the product of this industry will once again have a fourth part, you have transformed some fraction of the fourth part of the price of horse (and, therefore, of the price of corn) into wages, profits and rent. Repeat the operation of displacement infinitely many times and the fourth part of the price of corn tends to zero. *Ergo*, Smith was right to hold that, though the price of the individual commodity has four parts, the aggregate price of commodities has three parts, namely, wages, profit and rent.

Note that this "resolution" is not actually such, as it requires an infinite series which never ends. An infinite regression is not argument to establish a conclusion because , by definition, it has no conclusion, no end. Besides, an economy with infinitely many producers is not the kind of economy that Smith wants to study. Rather than an infinite process of endlessly displacing the fourth part to another producer, what Smith has in mind is an input-output table with two sectors, namely, corn and laboring

horses, in which the corn industry depends on the horse industry but the horse industry does *not* depend on the corn industry.

Recast in this way, Smith's argument to "resolve" the fourth part of the price of corn into income is that, in such an economy, the value of the laboring horse, which constitutes the fourth part of the price of corn, becomes wages, profit and rent in the hands of the producer of horses. Note, by the way, how Smith is taking it for granted that his two-sector economy can be taken as a representative of the general case. According to Marx, however, it is not. Smith would succeed in proving that the fourth part of the price of corn finally "resolves itself" into wages, profits and rent, if the producer of horse could rear horses with labor only. In more general terms, Smith's example would support his thesis only if there existed a productive sector in which no means of production whatsoever were employed and which provided in the end for all the productive processes of the economy, a very unlikely occurrence in this cruel world. In the real world, which is the one for which Smith wants to build a price theory, the replacement of used-up capital goods is the result of a complex interaction between industries which consume capital goods to mutually replace capital goods.

Smith's tacit assumption that the producer of horses needs no production means amounts to assuming that there can be some "undertaker" in the economy whose workmen add value to no "materials". If there were such a producer, and if all the productive processes in the economy converged to him in the last term, then Smith's argument would reach a conclusion and would establish his thesis, namely, that though the price of commodities *taken separately* has *four* parts, the price of commodities *taken complexly* has *three* parts. Since this is not the case, I agree with Marx that Smith's argument of book I, chapter 6 to conclude that the fourth part of price becomes income in the aggregate is inconclusive.

In the section of the "*Theories of Surplus Value*" entitled "*Smith's Error in Resolving the Total Value of the Social Product into Revenue. Contradictions in His Views on Gross and Net Revenue*", Marx writes:

> "Since therefore Adam Smith admits, in relation to the farmer, that the price of his corn includes, besides the wages, profit and rent paid by him to himself and others, also *a fourth constituent part which is different from these*—the value of the constant capital he has used up, such as horses, agricultural implements, etc.—this must also hold good for the horse breeder and the manufacturer of agricultural implements; and it is of no avail for Adam Smith to send us from pillar to post. Incidentally, the example of the farmer is peculiarly unhappily chosen for sending us from pillar to post, for in this

case the items of constant capital include one that does not at all need to be bought from somebody else, namely the seed; and does this constituent part of the value resolve itself into wages, profit or rent for anybody?" (Marx, 1977, 77-8)

How can we, then, lead Smith's example to a logical conclusion? What would be the truly general case? As Smith himself acknowledged, the price of corn has four parts; this fourth part is the value of the laboring horse consumed. But the price of the laboring horse must likewise have four parts, because some part of the value of the laboring horse must make be used to replace the materials required to rearing horses. Conclusion: the prices of the corn and of the laboring horse, taken *separately*, have *four* parts, and the "whole price", that is, the price of the corn and of the laboring horse taken *complexly* has *four* parts. If we relate the two industries and assume that some part of the output of corn is consumed in the production of horses, and some part of the output of horses is consumed in the production of corn, we simplify the problem without any loss of generality.

The conclusion is that the fourth part of price which provides for the replacement of the materials cannot be consumed either by the workmen, or the undertakers or the landlords. In other words: some part of the value of aggregate output (corn + horses) cannot become wages, profit and rent in the aggregate; if it did, both the production of corn and horses would stop or, at least, be impaired: there would be no accumulation of capital, but annihilation or diminution of capital. The reason is simple: there would not be enough horses to keep the production of corn at the same level, or enough corn to keep the production of horses at the same level. Therefore, Smith is wrong: the aggregate value of output must have four parts.

Following the suggestion of Marx when mentioning the seeds, we can look from another standpoint at the mistake made by Smith. Smith is baffled by the intermediation of money. That the transactions related to the replacement of used-up capital are or not intermediated by money is irrelevant for the question at stake, which is whether the fourth part of price of individual commodities becomes wages, profits and rent in the aggregate. To make Smith's error clear, let us dispense with money and assume that all transactions are made "*in specie*". Imagine, therefore, that the materials of the farmer do not consist of horses, but of seeds. The price of corn would have four parts: wages, profits, rent and a fourth part to replace the seeds consumed. Suppose that the amount of corn produced by the farmer is 100 quarters. Out of this amount the farmer must pay the rent of his landlord, the wages of his workmen and his own profits.

If the total of these payments amounted to the 100 quarters, the farmer would cease to be such, as he could not restart production for want of seeds. The farmer, therefore, has to keep a fraction of his output from being distributed as wages, profits and rents: with this fraction, he replaces his used-up capital. This idea can be extended to the economy as a whole: some part of output can never be distributed as wages, profit and rent because depreciation is to be made up for out of the current production of the economy.

The part of total output that just makes up for the consumption of seeds cannot be brought to the market and sold to the consumers, no matter whether they are wage, profit or rent earners. This is why the consumers do not have to pay for it: the body of workmen, undertakers and landlords do not pay the fourth part of the price of commodities *because it cannot be sold to them*. This is why the total of wages, profits and rents can buy in its entirety an output which, in addition to for wages, profits and rents provides for the replacement of depreciation. The reason is that the body of consumers cannot consume this part of national output without impairing the accumulation of capital. Accordingly, the part of aggregate output that makes up for depreciation cannot be sold to the consumers; as it were, it remains enclosed within production. The fourth part of price represents the capital of the economy invested in materials, or, more accurately, the return of capital to the investor. The corresponding flows of money do not represent any income for any factor in the economy. The fact that then the farmer does not make up for his consumption of seeds out of his own output but, rather, out of the output of a fellow farmer specialized in the production of seeds, does not alter the validity of the previous result.

Right after having acknowledged that the price of corn has *four* parts and having taken the trouble to argue that this fourth part becomes nonetheless income in the aggregate, Smith makes his presentation still more confusing by proceeding as if he had shown that the price of corn (of individual commodities, in general) has *three* parts; thus, in paragraphs 16 and 17 Smith writes:

> "The whole price of any commodity must still finally resolve itself into some one or other, or all of those three parts; as whatever part of it remains after paying the rent of the land, and the price of the whole labour employed in raising, manufacturing, and bringing it to market, must necessarily be profit to somebody. As the price or exchangeable value of every particular commodity, taken separately, resolves itself into some one or other or all of those three parts; so that of all the commodities which compose the whole annual produce of the labour of every country, taken complexly, must resolve itself into the same

three parts, and be parcelled out among different inhabitants of the country, either as the wages of their labour, the profits of their stock, or the rent of their land."(Smith, 2003, 74)

Some three hundred pages after, in Book II, chapter 2, the question about the fourth part arises again in connection with the Physiocratic distinction between "*produit brut*" and "*produit net*", which, for some reason, Smith wants to incorporate to his theory of price. Now, he senses that his baseless thesis that the fourth part of price becomes income in the aggregate clashes against this distinction. As I understand the Physiocrats, their distinction between gross and net income implies that the fourth part of price does not become income in the aggregate.

Indeed, the whole point of the Physiocratic distinction is to distinguish aggregate production cost from aggregate income, or capital from income, or cost of production from surplus value. Contrary to the view prevailing today, income and cost are not for the Physiocrats two sides of the *same* coin, but *opposite* notions. The "*produit brut*" is the whole value produced in a period of time, but the "*produit net*" is only the *new value* created in that period time; the value newly produced in excess of the *old* value, that is, of the value *consumed in production*. Since the value consumed in production (production cost) must be made good out of production itself, it follows that only a part of the value of the *yearly output* represents *yearly income*. For Quesnay, the price of commodities in particular and in the aggregate has *four* parts: replacement of materials, wages, profits and rent (rent was very often referred to as the "fourth part" proper of the agricultural products). The only part which represents new value is the rent of land; hence the idea that the rent of land is the "*produit net*" or the true income of the economy. The replacement of materials, wages and profits are the three elements of production cost, which is the part of the gross product which represents value of the capital that has turned over in the period in question. This value is a part of the value of yearly output but does not constitute any income for any class.

In the Physiocratic system, aggregate surplus value or income is represented by the rent of land. The aggregate production cost is made up of three elements: 1) amortization of productive means other than labor (Smith's "fourth part"); 2) wages; 3) profits (which, according to the Physiocrats, are wages). These are the three basic parts of the capital of the economy; indeed, two: the capital invested in labor and the capital invested in the production means other than labor.

Contrary to Quesnay, Smith claims that profit is a share in surplus value and not a value consumed in production; therefore, an income. As he takes it for granted

that wages are the income of the laboring class, he concludes that wages, profits and rent are the three parts of aggregate income. If the full value of output becomes income in the aggregate or, what amounts to the same, if the fourth part of the price of commodities becomes wages, profits and rent in the aggregate, what room is left for the Physiocratic distinction between gross and net revenue? In my opinion, none. *Gross* revenue would be equal to wages, profits and rents, but so would net revenue. Having said that wages, profit and rent are income, Smith's "resolution" of the fourth part of price into wages, profit and rent deprives himself of the only production cost that could sustain a distinction between gross and net income. Smith feels in book II, chapter 2 that the analysis of price of book I, chapter 6 is erroneous and rejects as he tries to make room for a distinction between gross and net revenue based on the Physiocratic opposition of cost and income.

> "But though the whole value of the annual produce of the land and labour of every country is thus divided among and constitutes a revenue to its different inhabitants, yet as in the rent of a private estate we distinguish between the gross rent and the net rent, so may we likewise in the revenue of all the inhabitants of a great country. The gross rent of a private estate comprehends whatever is paid by the farmer; the net rent, what remains free to the landlord, after deducting the expense of management, of repairs, and all other necessary charges; or what, without hurting his estate, he can afford to place in his stock reserved for immediate consumption, or to spend upon his table, equipage, the ornaments of his house and furniture, his private enjoyments and amusements. His real wealth is in proportion, not to his gross but to his net rent." (Smith, 2003, 363-4).

Smith introduces here the distinction between *gross* and *net* income in relation to a particular instance. In the particular case of the landlord, Smith defines his net income as his net rent. Smith tells us that not all the money that the landlord receives as payment of rent is actually such, because the landlord must share in this payment with different kinds of workmen to whom he must pay their wages. This money, although paid to the landlord as rent, cannot remain with him and must be transferred to the workmen as wage payments. This implies that not all that the landlord got as rent was actually such; some part of it was actually wages. This is shown by the fact that the landlord cannot retain for himself some of the money that he gets as "rent": some of that money has to be transferred to other classes of people.

Smith is implying that what is nominally paid to the landlord as rent can be called "gross rent". Note, however, that what he actually means is that not the whole of gross rent is actually rent, because gross rent includes something that is not rent at all, namely, wages. Thus, to call "gross rent" simply rent is equivocal, for gross rent is not

rent, but a mixture of rent and of something else that is not rent, namely, wages. What is rent and only rent is “net rent”; thus, “net rent” is the same as simply “rent”, and Smith’s definition of net rent is a definition of rent simply, because the wages that the landlord pays to his workmen are no rent at all.

If we follow Smith’s analogy between the rent of the landlord and national income, we ought to say that gross income includes something that is not income at all, just like gross rent included something that was not rent at all. Logic implies that, just like the only rent is net rent, then the only income is net income; in other words: the definition of net income must be the definition of income as such.

The question then is: what is the part of gross aggregate income that is not net income, that is, that is not income at all? In order to answer this question, Smith applies what he just said about rent to national income and writes:

> “The gross revenue of all the inhabitants of a great country comprehends the whole annual produce of their land and labour; the net revenue, what remains free to them after deducting the expense of maintaining first, their fixed, and, secondly, their circulating capital; or what, without encroaching upon their capital, they can place in their stock reserved for immediate consumption, or spend upon their subsistence, conveniencies, and amusements. Their real wealth, too, is in proportion, not to their gross, but to their net revenue.” (Smith, 2003, 364).

Smith takes two reference points in this text for defining net income: first, production cost; secondly, consumption. In terms of production cost, net income is what remains after having deducted production cost from gross output. In terms of consumption, net income is what can be devoted to consumption without encroaching upon capital. Of course, the two definitions must ultimately refer to the same thing, and we have to check whether this is the case. Note, by the way, that the definition of net income in terms of *consumption* is, actually a definition in terms of *surplus value*, because Smith takes it for granted that the *consumable* part of the yearly output is that which is not necessary to make up for any *production cost*; thus, net revenue is the *surplus value* of the yearly output over the yearly production cost.

Both definitions of “net revenue” contradict the conclusion of Smith’s example of the laboring horse of book I, for they imply that there is some part of “gross revenue” that, because it cannot be consumed outside production, cannot become wages, profit or rent for anybody in the economy. In other words: in this text, the basis of the distinction between “gross” and “net revenue” is that some part of “gross revenue” is not revenue at all. Accordingly, the declared goal of the inquiry is to separate the part of “gross

revenue" that is not revenue at all from that which is really revenue ("net revenue"). This separation contradicts the (supposed) conclusion of book I, chapter 6, namely, that the whole of "gross revenue" becomes revenue in the aggregate because the fourth part of the price of corn becomes income in the aggregate. If the fourth part of price becomes income in the aggregate and, therefore, the full value of output does so, it is senseless to look for the part of "gross revenue" that does not become wages, profit or rent, because, according to book I, chapter 6, paragraph 11, the whole of "gross revenue" becomes wages, profit or rent in the aggregate.

We can formulate the opposition between book I, chapter 6 and book II, chapter 2 in yet another way. Smith says in book II, chapter 2 that net revenue is what remains free after deducting the expense of maintaining capital; or what, without encroaching upon capital, can be consumed. According to book I, chapter 6, paragraph 11, the expense of maintaining capital becomes wages, profit and rent in the aggregate, so it can be consumed without encroaching upon capital; indeed, book I, chapter 6 paragraph 11 implies, as Marx rightly noted in the opening quote of this paper, that the nation consumes its capital as wages, profits and rent in every production period; that production starts from nothing every period. In book II, chapter 2 Smith correctly feels that this is false and, contradicting book I, chapter 6, maneuvers to recover the Physiocratic thesis that some part of the value of output cannot become income in the aggregate, so the aggregate value of output is not equal to aggregate income.

We can look at Smith's contradictory positions about the "fourth part" from the viewpoint of money. His ground for holding in book I, chapter 6 that the full value of aggregate output becomes income is that every flow of money must accrue to somebody, and, therefore, that every flow of *money* must involve, by definition, a flow of *income* for somebody. According to this idea, there is an *income* wherever there is a flow of *money*. This view ignores the fact that the return to the investor of the capital invested does not constitute any income for the investor: it is a flow of *money* that does not involve any *income*, but represents the second stage of the flow of: the return to the investor. In a capitalistic economy, there is a flow of income not when a flow of money stands for a flow of *value*, but when a flow of money stands for a flow of *surplus* value. This was clearly understood by the Physiocrats and, following them, by Marx. In a capitalistic economy, income necessarily means "income of capital", and this, in turn, necessarily means "surplus value", the excess of the value produced by capital over its

own value. At times, as for instance in book II, chapter 2, Smith rightly adopts this view; for the most part, unfortunately, he relies on his erroneous analysis of price of book I, chapter 6.

3. Conclusions

From the previous discussion we can derive the following conclusions:

First, the argument of Smith in book I, chapter 6 that aims at establishing that the amortization of depreciation (the "fourth part") becomes income in the aggregate is unsound. Smith fails to prove that the full value of commodities becomes income in the aggregate. Since every producer must use some production means, there remains even in the aggregate a fourth part of the value of commodities which does not represent any income for any factor. This fourth part which is not any income, represents the re-production of the non-labor capital, that is, the amortization of depreciation.

In more modern terms: the erroneous view of Smith in book I, chapter 6 is that the value of the part of GNP that makes up for depreciation becomes income in the aggregate. As the whole of GNP becomes wages, profit and rent in the aggregate, NNP becomes equal to GNP and the gross-net distinction collapses. This is the standard view in National Accounting since Smith, but Smith, unlike his heirs, always suspected that it is wrong, as book II, chapter 2 shows.

Secondly, if it is accepted that the value of aggregate output is equal to aggregate income, as Smith does in book I, chapter 6, there is no room for the Physiocratic "brut-net" distinction, because this is a distinction between capital and the income of capital. If, on the contrary, the Physiocratic gross-net distinction is accepted, then the aggregate value of output cannot be equal to aggregate income because, in addition to income, output must provide for the amortization of capital. In more modern terms: the part of GNP that makes up for depreciation does not become wages profit or rent in the aggregate. Smith, in book II, tries to make room for this correct Physiocratic view and, in doing so, he contradicts his implicit rejection of the gross-net distinction in book I.

We can summarize the two conclusions in an alternative terminology. The output of an economy within a period time consists in final and intermediate goods. The total value of output is the value of the output of *final* goods. The value of the *intermediate goods consumed in the period in question* is included in that of the final goods *sold in that period* and, obviously, we do not want to count it twice. However, the

consumption of intermediate goods must be made good "*pari passu*", that is, as final goods are produced (and sold), which means that some part of current production is putting out fresh intermediate goods that will be consumed next period, that is, the value of which has not yet been embodied in final goods. Certainly, we do not have to count twice the value of the *intermediate goods already embodied in that of final goods*, but we must count the value of the *output of intermediate goods that has not yet been consumed in production* because it is a part of the total value of output in the period of time considered.

It is clear that both the production of final and intermediate goods must pay for wages, profits and rents. However, the price of all goods, final as well as intermediate, will have a fourth part that represents the corresponding consumption of intermediate goods, as the production of intermediate goods also requires intermediate goods. The problem is whether the aggregate of these fourth parts becomes wages, profit and rent in the aggregate. In book I, chapter 6 Smith answers that it does; in book II, chapter 2, his very formulation of the distinction gross-net income implies that it does *not*. Marx, unlike the mainstream of standard Macroeconomics, follows Quesnay and rejects Smith's answer in book I, chapter 6, while he accepts the implicit answer of book II, chapter 2. Though the price of the output of intermediate goods has four parts, just like the price of final goods, the view of Quesnay and Marx is that the value of the output of intermediate goods can be thought of as the *capital* ("fixed" in Smith, "constant" in Marx) the turnover of which produces the *income* (surplus value, that is, profit and rent) that is materialized in the sale of final goods.

My thesis can be illustrated with a simple example. Suppose an economy made up by two industries bread (representative of final goods) and flour (representative of intermediate goods). In this economy, the consumption of flour is Smith's "materials". If, at the same time as bread is produced, flour were not produced, the production of bread would eventually stop. Therefore, the two production processes must go on together, and each must yield its corresponding output. The *value of the output* produced in the economy as a whole is the value of the output of bread *plus the value of the output of flour that makes up for the consumption of flour in the bread industry*. However, *aggregate income* is the value of *bread only*, that is, only the value of the part of output that consists in final goods.

Standard Macroeconomics textbooks warn that we are not to count the value of output as the value of bread and the value of flour, because the value of flour is already included in that of bread. This holds good in the case of the "old" flour *consumed* in the production of bread, but *not* in the case of the "new" flour produced to make up for the consumption of the "old" flour by the bread industry. The production of bread presupposes the previous existence of flour, and this starting point is to be re-produced *as bread is produced*. Otherwise, the cyclical flow of capital of advance and return would be interrupted and, with it, the production of income. If, as Smith and standard Macroeconomics hold, the full value of output became income in the aggregate, the economy would be consuming its entire capital and, next year, social production should start from scratch.

I dare suggest that current Macroeconomics would do very well to follow on Smith's footsteps and revise its conception of national income. It would shed new light on many debated questions of Macroeconomic policy. The works of Quesnay and Marx and, as we have seen, some parts of Smith's, provide a useful reference point for this much needed revision.

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