Sismondi's Macroeconomic Model
An Annotated Translation

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Introduction

Ray Petridis, together with John Pullen and John Wood, was responsible for the first meeting, held at the University of New England in 1981, of what was to become the History of Economic Thought Society of Australia, and has been both a regular participant at subsequent HETSA conferences and a prolific writer of articles in the history of economic thought area. The University of New England meeting began with one of my papers, entitled 'A Model of Underconsumption Theories'. That paper was to lead me to a more intensive investigation of the ideas of the underconsumptionist Sismondi, one of which forms the subject-matter of this article, which I am pleased to be able to dedicate to Ray, a friend to me for two decades.

Born in Geneva in 1773, though domiciled in Pescia, Tuscany, from 1794, Jean-Charles-Léonard Simonde de Sismondi is mainly known through the critique of orthodox classical political economy to be found in his *Nouveaux principes d'économie politique* (1819), which led him to be cited favourably by Marx[a], and as the author of histories of Italy and France. Inadequately recognised, however, is the fact that he was also the first to set out relationships between national output, income and expenditure algebraically.[b] The purpose of this article is to ensure that Sismondi's pioneering macroeconomic model is more widely known.

Part II of the article is a translation of Book I, Chapter IV, of *De la richesse commerciale, ou principes d'économie politique, appliqués à la législation du commerce*, published by Sismondi under his original name of Simonde sixteen years earlier than the *Nouveaux principes*. It was in footnote 7 of this chapter that Sismondi's macroeconomic model was set out. The whole chapter has been translated because the algebra is difficult to interpret correctly without reference to the classical assumptions which underlie it, and the text provides some guidance as to these assumptions; it is to keep faith with the classical way of thinking that in the translation *revenu* has in general been translated not as 'income', but as 'revenue', describing income received in the form of either rent or profit, but excluding wage income.

Richesse commerciale predates '[t]he real Sismondi, the Sismondi of later years' (Schumpeter 1954, p. 493), as does Sismondi's 'Political Economy' entry written for Brewster's *Edinburgh Encyclopedia* in 1816-17.[c] It was subsequent to the writing of 'Political Economy' that Sismondi, influenced by the economic distress of post-Napoleonic Europe, made a traverse from the relatively orthodox economic views he had held up to that time to the new line of thought expressed in his *Nouveaux principes*.[d] In particular, Sismondi became a fierce critic of what later became known as Say's Law of Markets, namely the proposition that in the aggregate supply creates its own demand.

In the *Nouveaux principes* Sismondi undertook some period analysis[e], praised by Schumpeter (1954, pp. 494-6). Specifically, he distinguished between the period in which production of output takes place and the subsequent period in which expenditure on output generates income. A consequence of making this distinction is that income may not match output. As Schumpeter put it, using an example in which income generation precedes rather than succeeds output:

> … suppose the economic process is chopped up into periods in the following way; the money income of any period *t* is generated by processes of production, the output of which becomes available in period *t* + *1*; and this same income is spent in period *t* on the output of period *t* - *1*. In this case we lose one of the reasons we have for believing that income and output will correspond to each other … [Schumpeter 1954, p. 495].

By 1819 Sismondi had in fact come to the conclusion that:

> The confusion of annual income with annual product casts a thick veil over the whole science. On the contrary, everything becomes clear, all the facts fit the theory, as soon as income and product are distinguished from each other [1819, p. 342].

Looking back on the *Nouveaux principes* in an article published in 1820, Sismondi attempted to summarise his argument in that book relating to 'an oversupply of all goods' as follows:

> I have explained this oversupply by what I believe to be a new theory of the nature of the income which enables everyone to buy his share of the annual product. I tried to show that the nation's income is not identical with the product of the nation's labour and hence that it is quite possible for the product to grow while income contracts, that shops may fill up while purses empty, and that goods may find no buyers because people have worked too much [1957, p. 8].

The *Nouveaux principes* argued that a remedy for such a state of underconsumption was to be found in a redistribution of income from the wealthy to workers.

Barely a hint of this 'later Sismondi' is to be found in *Richesse commerciale*, which contains nothing that might indicate a questioning of the idea that in the aggregate supply creates its own demand. The Introduction to *Richesse commerciale* states that its aim is 'to explain and to apply to France the doctrine of Adam Smith' (1803, p. xxvi). By 1803 *The Wealth of Nations* had already been translated into French three times (by Blavet, Roucher and Garnier), but with respect to the effective dissemination of Adam Smith's ideas in France, that year turned out to be the most important. Of the two books on Adam Smith's theories which appeared in French in 1803, *Traité d'économie politique* by Jean-Baptiste Say was the more influential. Both contemporaneous and later critics of Say asserted that he was 'just a popularizer' of Adam Smith's teachings (Schumpeter 1954, p. 491), and while these critics did not do justice to the elements of originality in the *Traité*, notably the explicit formulation of what has since become known as Say's Law of Markets, the grain of truth in their appraisal is that it was mainly through Say that Adam Smith's ideas became widely known in France. Sismondi's *Richesse commerciale* played a lesser role, possibly because it was published in Geneva as opposed to Paris, though it was sufficiently widely read to make his reputation as a political economist and to cause him to be invited to take up a chair in Political Economy at Wilna in Poland, an invitation which he ultimately declined.

Like Say's *Traité*, Sismondi's *Richesse commerciale* has sometimes been regarded as merely echoing *The Wealth of Nations*. Aftalion claimed that Sismondi intended only to popularise Adam Smith's ideas (1899, p. 12). Halévy referred to the book as 'destitute of originality, mere popularisation of the ideas of Adam Smith' (1933, p. 2). Others have come closer to the truth. Schumpeter's assessment was that 'even if we disregard the un-Smithian recommendations in the second volume', *Richesse commerciale* is 'not quite the Smithian brew it has been made out to be.' (1954, p. 493). Babel (1945) was more specific, arguing that a foreshadowing of Sismondi's heretical *Nouveaux principes* is to be found not only in the Preface to *Richesse commerciale* - an argument reinforced in Nuccio (1974) - but also to some extent in the Introduction. De Rosa (1973) went even further, listing no less than ten respects in which *Richesse commerciale* could be said to represent an advance on the ideas of Adam Smith.

None of these appreciative critics, however, made any reference to the fact that the period analysis to be found in the *Nouveaux principes* was foreshadowed in the *Richesse commerciale* macroeconomic model, which is couched in terms of differences between one year and the next.

Barucci (1966) traces the history of the 'discovery' of Sismondi's macroeconomic model. After 1803 it disappeared from view until 1888, when, probably owing to Foxwell's influence, reference was made to it in the Appendix to the third edition of Jevons's *Theory of Political Economy* listing 'mathematico-economic books, memoirs, and other published writings', where the *Richesse commerciale* pages containing the algebraic footnote were described as 'slightly mathematical'. Between 1888 and 1966 it is known to have resurfaced only twice, on both occasions being prompted by the reference to it in 1888, namely in Fisher's bibliography of mathematical economics appended to Cournot (1897) and in Theocharis (1961). Theocharis gave a brief exposition of it, and added, on the basis of remarks made by Sismondi himself in the Introduction to *Richesse commerciale*, the comment that it probably owed something to Canard's use of mathematics in his *Principes d'économie politique* (1801), a conclusion supported by Barucci.

However, perhaps because it was published in Italian, Barucci's article did not lead to a full appreciation of Sismondi's macroeconomic model. The summary and critique of it in Sowell (1972b) probably did more to bring Sismondi's achievement to light, but the exposition there is relatively brief. The translation below is intended to ensure that Sismondi's model is more widely appreciated.

This model, which Sismondi himself justifiably described at the time as 'absolutely new' (see above, footnote *a*, and below in the translation), anticipated the approach of what became known about a hundred and fifty years later as macroeconomics, albeit within a Smithian framework[f]; if Keynes had been familiar with Sismondi's model when writing the *General Theory*, he might have used it to highlight the fundamental distinction between what he termed the 'classical' theory on the one hand, and his own theory that in the aggregate supply is determined by demand on the other. Not confining himself to expounding the model in literary form, Sismondi both illustrated it with numerical examples and set it out algebraically.

Sismondi was principally interested in the factors on which a nation's economic progress or retrogression depends. This led him to seek the determinants of aggregate net investment. In the algebraic version of his model net investment is represented by X, the increase in the 'necessary' or subsistence wage bill this year compared with that of the previous year, the previous year's subsistence wage bill being represented by N. Production this year is represented by P, and $(P - N)$ defines 'revenue'. Consumption expenditure net of the subsistence wage bill, that is to say consumption out of revenue, is represented by D. In essence Sismondi's argument was that aggregate net investment is determined by the extent to which D falls short of $(P - N)$, and that economic progress hence depends on restraint with respect to consumption expenditure. Far from being an underconsumptionist at this stage in his thinking, the 'early' Sismondi could be described as an 'undersavingist'.

The analysis is extended to an open economy by the inclusion of loans to or from foreigners (C, which when a nation lends to foreigners is regarded as a subtraction from expenditure, and when it borrows from foreigners is added to expenditure). In this case any excess of $(P - N)$ over D may take the form of either net investment or lending to foreigners, both of which Sismondi regarded as contributing to a nation's progress.

In his illustrative examples Sismondi assumed given ratios between each of net investment and lending to foreigners on the one hand, and last year's necessary wage on the other. With both X and C now being expressed in terms of N, Sismondi was able to draw up a 'balance' for a borrowing nation between D and $P + C - (N + X)$, and for a lending nation between D and $P - C - (N + X)$, concluding that the nation was progressing or retrogressing respectively depending on whether the right hand side fell short of or exceeded $(P - N)$. To take the last of the examples in Sismondi's algebraic footnote, a nation's lending to foreigners may be more than offset by the disinvestment represented by a negative X, in which case consumption expenditure net of the subsistence wage bill will exceed revenue and the nation will be 'ruining itself'. Sismondi's model thus reinforces Adam Smith's criticism of the Mercantilist emphasis on the importance of consumption. It is also worth noting that in this open economy macroanalysis Sismondi anticipated the modern concept of 'absorption'[g], which is represented by $(D + N + X)$ in the equation $C = P - (D + N + X)$, where C is the balance of payments on current account.

In the translation below Sismondi's footnotes have been relegated to endnotes. They are denoted by superscript numbers, in contrast with superscript letters, which denote editorial comments.

Translation

Social revenue and expenditure: their balance

In the three previous chapters we have examined in turn the origin of national wealth, and the two ways in which it can be accumulated; we have seen that, whether it is fixed or circulating, it is in the nature of capital to produce annually an increase in value, which, we have already been able to surmise, constitutes the national revenue. But it is very important to pause longer on this investigation, and to settle the question which presents itself: what is this national revenue? Or, what is the part of the wealth circulating within a nation, which the individuals who comprise it can consume each year without causing a decline in its current prosperity? Since a nation, like an individual, has receipts and expenses, it must also, like an individual, maintain a balance between them. If its expenditure equals its revenue, its wealth will remain at the same level, without increasing or decreasing; but that wealth will increase if its expenditure is less than its revenue, and it will be dissipated if the former exceeds the latter. The annual balance-sheet of its revenue and its expenditure can thus be considered as the thermometer of its prosperity.

Thus we intend in this chapter to examine what is the expenditure and what is the revenue of society; how this revenue is divided between the various classes; on what principles we must calculate the balance between the two; and, finally, what we should think of a system, all too widely propagated, according to which a large expenditure is considered to be a great national advantage because it spreads around a great deal of money.

The combined expenditure of all individuals is not the sum of their money outlays, but rather the sum of their consumption; in fact anyone spends who is fed by the wheat he himself reaps, even though he does not buy it. This expenditure is equal to the mass of produce, merchandise and other circulating wealth which each individual applies to his own use, which he removes from circulation and intends not for further exchange but for his own consumption; not to profit from, but to live on, or to enjoy.[1]

This expenditure by each individual is not always equal to what he himself considers as his expenditure; in fact, he includes in the account of his outlays not only his own consumption but also that of the people whom he maintains. However, if we were to add up in this way the expenditure of all the members of a nation, we should often be double-counting; in other words we should be counting the expenditure of the rich, which includes that of all their domestic servants, and then once again the expenditure of all their servants, who are also part of the nation. But if only each individual's own consumption is considered there cannot be any double-counting, and the mass of circulating wealth which is withdrawn from circulation each year for the use of all citizens must necessarily equal the annual national expenditure.

We can formulate an equally precise idea of the national revenue. We have already seen[h] that revenue derived from land and from all fixed capital is included in the price of the product of labour, and increases it. We have also seen[i] that circulating capital is exchanged for more substantial labour, and that in consequence the profit of this capital is added to the price of the product of that labour.[j] It follows from this that the annual product of labour, rendered more profitable by the accumulation of circulating and fixed capital, must include all the national revenue.[2]

We may note here that a portion of the wages of productive labourers represents that part of circulating wealth which is strictly necessary for their maintenance.[3] This portion, which is also necessarily included in the price of their product, does not, properly speaking, form part either of the expenditure or of the income of the nation. We can subtract it from the one and from the other; it is the same quantity, which, taken away from both sides, will in no way alter the relation between them. We shall call it the necessary wage.

It is all the more convenient to subtract this necessary wage from both sides in that we cannot really consider it as an item of national expenditure. For what the productive labourer devotes to his subsistence is supplied to him by speculation on the part of those who advanced it to him, who are confident that the work which he gives them by way of payment will be worth more than his consumption, represented by the wage which they advance to him. All other individuals in the nation spend, but the productive labourer only makes an exchange. The nation itself, as we saw in previous chapters, can enrich itself only by exchanging the present against the future.[k]

According to this new point of view, the national expenditure is no longer the annual consumption of every individual, but this consumption less what is required to maintain the productive labourers, or their necessary wage. In the same way the national revenue is no longer the annual product of labour, but this product after we have subtracted payment of the necessary wage to those entitled to it, namely the subsistence of the productive workers who have created the year's revenue.

We cannot form a more exact idea of the necessary wage than by comparing it with the seed which the husbandman commits to the land. As it will be recovered from the harvest, and as it can be set aside from the harvest in advance, we are not obliged to include it either in the expenditure of the farm or in its output; we therefore subtract it from both sides. But it is in proportion to the amount which the husbandman sows each year, and to the amount which the capitalist advances each year in necessary wages, that they must both look for a more or less abundant harvest, other relevant circumstances being unchanged. In both cases these circumstances are the more or less direct effect of more or less accumulated fixed capital: in the one case to improve the land and facilitate working it; in the other case to improve the labourer himself, his tools and his ability to work. An increase in the necessary wage is thus the sign of growing activity in a nation, just as for the husbandman an increase in the amount sown is the sign of greater cultivation.

The necessary wage must be evaluated in merchandise and provisions, in objects of basic necessity for the labourers. Thus it is always the same relative to the labour which it sets in motion; in other words, the same quantity of food and clothing is always necessary to bring about the permanent employment of the full powers of a labourer. However, the work which he can do with the full employment of his powers increases with the progress of society, when through the multiplication of its capital there is more division of labour and everyone is assisted by better implements.

When the cost of living is raised by a bad harvest or ill-conceived taxes, the necessary wage expressed in money appears to have increased. But in fact it is unchanged; it is still the same quantity of strictly necessary food and clothing. Thus, in spite of this alteration in nominal value, the product of the labour which it sets to work is the same. But, if people who were previously idle or were unproductive labourers undertake productive work, the total necessary wage does increase in real terms. Thus it will produce in the following year a greater amount of wealth from their work, and in the current year a reduction in expenditure, part of their consumption being subtracted from the national expenditure because it is included in the necessary wage.

As the revenue of society is thus the same thing as the annual product of its labour, less the necessary wage which has put it in motion, we must now see how it is distributed among all the citizens. We can in this context divide the nation into six classes, three of which share directly in its revenue, while the other three do not, but obtain their income from that of the others. These latter three classes can be combined into one, which I shall call the unproductive class.

The first class which shares in the national revenue is that of the productive labourers, who, besides the necessary wage, almost always obtain a more or less substantial part of the surplus resulting from their production. They can either save it or devote it to their enjoyment. I shall call this part the surplus wage.[1]

The owners of circulating wealth, those who lend their capital as much as those who use it, take as their share of this revenue the full value of their profits, or the entire portion of the surplus of the product of labour which the worker yields to them in exchange for their advances of capital.

Finally, the owners of fixed capital and land share in the national revenue to the full extent of the value which the labour they embody adds to the annual labour of man: their rent.

These three classes, which we can call productive, since they create the national revenue, which they own in its totality, must also in the final analysis bear all the costs, so that their balance-sheet must be that of the nation as a whole. The most important of these costs is that of feeding the unproductive class, which lives absolutely at their expense. This class consists both of people who are very useful to society, and those who are detrimental to it: all those whom we respect the most, and all those whom we despise the most. It is only on a pecuniary level that we can bring under one heading people who resemble each other so little as magistrates, men of letters and soldiers, on the one hand, beggars, prostitutes and thieves on the other, with a multitude of intermediate ranks, who, like the others, live at the expense of the three first-mentioned classes of society.

The class which has no revenue can be divided into three, because it employs three different means of sharing in the revenue of the productive classes. The first way is to undertake the defence of the interests of the others, in return for payment from their wealth; the incomes of a legitimate government, of a military establishment appropriate to the needs of the nation, of judges, lawyers, doctors, or ministers of religion, stem from this source. The second method is the sale of services to those who, having a surplus revenue, devote part of it to nourishing their spirit, satisfying their senses, or flattering their vanity; to this second category belong the incomes of philosophers, poets, musicians[4], actors, wigmakers, barbers, bath-keepers, etc., and finally those of all domestic servants. The third section of the unproductive class obtains part of the wealth of others without quid pro quo, through violence, deception or pity; in this category belong despotic and unjust governments, or even those which are too costly, along with those whom they pay, as well as brigands, robbers of every type, and beggars. As we see, the three productive classes all contribute, to a greater or lesser extent, to the maintenance of the unproductive class, so that the expenses of the latter are all passed on to the accounts of the former. Thus the national expenditure is equal to the mass of circulating wealth which the three productive classes have either consumed themselves or given up permanently and without hope of return; this includes the taxes which the citizens of these three classes have paid to the government, the recompense which they have accorded to all those who have contributed to their well-being, and those parts of their revenue taken through force, fraud or pity. This definition however entirely excludes the necessary wage, because it is never given up without hope of return.

The revenue and expenditure of society can thus be seen from a third point of view. The former belongs to a part of the nation, which is its sole owner, while the latter relates to the same part of the nation in its capacity of giving the others their livelihood.

If the expenditure of the three productive classes exceeds their revenue, the nation must undoubtedly become poorer, unless the unproductive class makes economies in the income which it receives from the productive classes equal to the deficit in the latter's balance, and puts back into circulation as much capital as the productive classes have taken out of it. But we cannot rely on this. It is scarcely possible that the productive classes should ever dissipate their capital, unless they are forced to do so by violence or fraud; the capital extorted from them will therefore fall into the hands of the third section of the unproductive class. This section, consisting of the minions of a tyrannical government, of brigands and robbers, never saves, because it counts on the same methods to obtain fresh funds after dissipating those which it possesses. It seems that this is what happened in almost all the provinces of the Ottoman Empire, and especially in Egypt, where by their ostentatious living the Mamelukes dissipated not only the revenue but also the capital of the productive classes. Besides, the members of the fourth (unproductive) class who do accumulate wealth, whether fixed or circulating, by virtue of that fact, and for that part of their wealth, belong to one of the productive classes, so that they are included in our overall balance.[5]

If we take a nation which usually has no foreign trade, the product of its labour will in consequence be equal to its consumption[m]; for if it were to produce more than it could consume, without exporting anything, a part of the fruits of its labour would be of no use to it, lowering prices and checking production in the following year. Notwithstanding the isolation, and the equality between production and consumption, the balance between revenue and expenditure can be exact, or favourable, or unfavourable. It will be exact if the three productive classes devote to the necessary wage exactly the same proportion of their circulating wealth as in the previous year. For, taking away two identical sums from two equal quantities (that is, consumption and production), the remainders will be equal, and the nation will have neither lost nor gained; the same necessary wage will set in motion the same amount of labour in the following year, and the revenue will be the same. It will be favourable if the expenditure of the three productive classes is less than their revenue. This is possible only because the necessary wage which they advance this year is greater than that advanced in the previous year. Consumption and production are equal, and the only difference between them is that we must deduct from the former the necessary wage of the previous year, to obtain revenue, and deduct from the latter the necessary wage of the current year, to obtain expenditure; a higher necessary wage this year will put more labour to work, and revenue next year will be greater. In the same way if each year a saving is made out of revenue, the revenue of the following year will be progressively higher, and the wealth of the nation will constantly be growing, without the need for any foreign trade. Finally, the balance will be unfavourable if the expenditure of the three productive classes exceeds their revenue, as in this case, since each year they will advance a smaller necessary wage, each year the national revenue will diminish, without its decline necessitating any exports or any foreign nation profiting from it.[n]

If the nation of which we are speaking does have trade with foreign countries, this might consist chiefly of the exchange of its products for other products, and its consumption might be equal to the value of the fruits of its annual labour. But it could also exchange part of its goods against foreign credit, and lend to the nations with which it trades. Or, on the other hand, it might obtain foreign goods on the strength of its own credit; that is to say, it might borrow from nations with which it trades. In the first case its expenditure will be equal to its production, less the necessary wage which it advances and the loans which it has made. In the second case, its expenditure will be equal to its production, plus the borrowings which it has made, less the necessary wage which it advances. This must be so, since on the first supposition its consumption falls short of its production by the value of its credits, and on the second supposition consumption exceeds production by an amount equal to the value of its debts.[o]

As this method of presenting the nation's balance is absolutely new, as it is extremely important for it to be fully understood, and as we must try to dispel any obscurity which may still envelop it, we shall represent some small nations by assuming figures for revenue, expenditure, the necessary wage, and the loans to or from foreigners, in order to explain various changes which the balance between their revenue and their expenditure can undergo.

Let us suppose that there exist three cantons, or small merchant communities, with exactly the same consumption, amounting in the year 1800 to ten million livres for each.[p] We denote these three cantons by the letters A, B and C. According to the system of the Economists[q], and even that of many of the Mercantilists, consumption is the gauge of reproduction, so that these three peoples should enjoy the same degree of prosperity. However, we shall see that, on the contrary, each of these peoples can advance a larger or a smaller necessary wage, and enjoy a higher or lower revenue, according as their industry grows or declines, and according also to the state of their credit or debt in relation to foreigners.[r]

Let canton A have no foreign trade; its production will in consequence equal its consumption. Let its capitalists have advanced in 1799 four million livres in necessary wages, which has produced for them in 1800 work to a value of ten million, with six million in revenue to be distributed among the inhabitants. If in 1800 the canton were to devote 4,400,000 livres to necessary wages, it would this year have eaten up 400,000 livres less than its total revenue. Therefore in 1801, applying the same proportions, it would have a gross production of 11,000,000 livres, 6,600,000 livres in revenue, and so on.

Let canton B engage in foreign trade, in such a way that its production exceeds its consumption, and it sells abroad 250,000 livres more than it receives, so that it becomes the creditor of foreigners to that amount. Let the product of its labour be valued at 10,250,000 livres, the fruit of a necessary wage of 4,100,000 livres advanced in 1799.[6] Since in 1800 its consumption amounted to no more than 10 million, it will have saved the credit extended to the foreigners. If moreover, like canton A, it can devote 400,000 livres to increasing the necessary wage, it will be richer than the former by the full amount of its credit.

Let canton C also engage in foreign trade, but in such a way that its consumption exceeds its production by 250,000 livres, so that it borrows from foreigners that sum in goods over and above what it obtains from them in exchange. As the product of its labour in 1800 only reaches a value of 9,750,000 livres, we must, following the same proportions, assume that the necessary wage which it advanced in 1799 amounted only to 3,900,000 livres. If in 1800, like the other two, it advances 400,000 livres more in necessary wages than the previous year, it can only have saved 150,000 livres in the year, whereas A will have saved 400,000 and B 650,000; for in this first case the balance-sheet of the three cantons is as follows:

	Revenue	**Expenditure**	**Saving**
A	6,000,000	5,600,000	400,000
B	6,150,000	5,500,000	650,000
C	5,850,000	5,700,000	150,000

Now suppose that the three cantons, instead of advancing a larger necessary wage in 1800, advance exactly the same amount as in 1799. All other circumstances remaining the same, the balance-sheet of each will be as follows:

	Revenue	**Expenditure**	**Saving**
A	6,000,000	6,000,000	0
B	6,150,000	5,900,000	250,000
C	5,850,000	6,000,000[s]	-250,000

In this case the first canton remains stationary, the second enriches itself, and the third is ruining itself.

Let us suppose, finally, that all three cantons are ruining themselves, each devoting 400,000 livres less to necessary wages in 1800 than in 1799. The balance-sheets for 1800 would be as follows:

	Revenue	**Expenditure**	**Deficit**
A	6,000,000	6,400,000	400,000
B	6,150,000	6,300,000	150,000
C	5,850,000	6,400,000[t]	650,000

Thus we see that the most important observation which can be made about the rise and fall of national prosperity is the comparison of the necessary wage advanced in the current year with that advanced in the previous year. According as the difference is zero, or positive or negative, the nation can enrich itself or ruin itself, even though the state of its foreign trade might appear to indicate the opposite.[7]

Hence the general balance of exports and imports, which is known as the balance of trade, even if calculated exactly (an extraordinarily difficult thing), would not be enough to establish whether a nation is in a retrograde state, or in growing prosperity, unless we combined it with the one decisive consideration, which is the proportion between the necessary wage to be deducted from the price of the production obtained and the necessary wage advanced for production to be obtained.

It is only the necessary wage, and not the total wage of the productive labourers, which determines the mass of labour set in motion, and which is recovered in its entirety in the course of production. The surplus wage is used by the labourer for luxury and enjoyment. Sometimes he substitutes, for the mere necessities of life to which he is entitled, food and clothing more to his taste; sometimes he devotes this surplus, which forms his revenue, to the upkeep of unproductive labourers who contribute to his pleasures; sometimes it is taken away from him by government taxes to maintain other unproductive labourers, supposed to be useful to his defence. These different uses of the surplus wage are all included equally in the national expenditure, and, whatever the proportion between the surplus wage and the necessary wage, if the latter remains constant the value of production does not change. It is unaffected even when the worker cannot obtain any surplus wage from the capitalist, or when it is taken away from him in its entirety by taxes. But in either case a sensitive man cannot see without sorrow the class in the nation which most engages our sympathy, the class which feeds the whole nation by the sweat of its brow, deprived of all its enjoyments, in order to provide the share of idle people who are a burden on them.

When a nation enriches itself, which is always, to repeat, when it devotes each year a greater amount of circulating wealth to advancing the necessary wage, and to maintaining a larger number of productive labourers, it brings them into existence, it summons them from abroad, or it chooses them from among the men who make up the unproductive class. But to make them work it is not enough to offer them the necessary wage. The capitalists induce them to work by offering a more generous share of the surplus, by offering them a wage large enough to overcome their inertia or prejudice, and by causing normal labour to be considered, as in free America, one of the most abundant sources of revenue. Thus it is that, in those nations whose prosperity is increasing, there are more enjoyments and the greatest amount of happiness for the least comfortable class in society, for that class to which entry is open to everyone.[8]

As circulating wealth is only ever produced for the eventual use of man, there exists a necessary relationship between the total production and the total consumption of the trading world. For if the circulating product of a year's labour for the whole human race exceeds its consumption in the same year, there will be an excess to be consumed in the following year, which will discourage subsequent production by making it unprofitable.[9] In the same way a nation with no foreign trade, being unable to export its surplus production, will be obliged to consume it all. But a nation which has a foreign trade can export its entire excess, and can in consequence save from its revenue in two ways, and increase its capital in two ways. The first, which is within reach of all nations, and of the whole trading world as well as of each of its parts, is each year to allocate a larger proportion of the products of labour to provide the necessary wage, and thus to facilitate a bigger revenue in the following year; just as a farmer can each year increase his seed in proportion to his crops, or even in greater proportion. The second way of saving out of revenue is available only to a nation which has foreign trade, and which finds in its vicinity other nations, less frugal and less wise, which have need of it. It involves selling to them, or, to put it better, lending to them its excess production; just as the farmer, to whom we have compared the nation, if he is within reach of a market, will sell all the excess wheat which he does not wish to sow. Whereas, if he does not wish to sell it, he will increase his family and his rate of cultivation, so that the increase in his consumption will always be proportionate to the increase in his crops.

Consumption certainly encourages production, and as the most important market for productive labourers is that of their own country, one cannot deny that a nation which only consumed very little could find itself in difficulties in placing its production abroad, if this production should be substantial. A large disproportion between the production and the consumption of a people can probably be sustained in the long run only when its territory is very restricted. This was the case with Geneva and with the Hanseatic and Imperial cities; each owed the rapid growth of its wealth to its fortunate spirit of economy. But, if we can scarcely hope to see a great people profit from such advantages, at least we must not encourage them to the opposite excess, and represent luxury to them as necessarily a source of opulence.

A nation enriches itself only when the individuals of which it is composed enrich themselves, and increase their capital from their savings out of their revenue. As long as they make such annual savings, whatever their expenditure, we can scarcely consider them extravagant; they are only enjoying the decent comfort appropriate to their position. But if this spirit of order gives way to a love of pleasure or ostentation, and if, taking the mass of the citizens, the one counterbalancing the other, the nation no longer makes annual savings, it will be given up to an extravagance which stops its progress to prosperity. If this love of pleasure entails dissipation, and if the nation's revenue is no longer sufficient for its expenditure, the nation is prey to ruinous extravagance.

Among the means which modern policy has used in order to enrich nations, encouraging extravagance is not the least extraordinary. If a government can bring about a great assembly of rich men, and encourage them to compete against one another in displaying the greatest ostentation, it believes itself to have done much for the prosperity of industry, and will be applauded everywhere for having caused a great deal of money to be spread around. No doubt it has obtained for the merchants a better market than they would otherwise have had. But if the buyers are prevented by their ostentation from making the savings which they had intended, if they have even gone beyond their revenue and borrowed against their capital, they have created for themselves and for the nation a much greater evil than the slight advantage which they have obtained for the merchants. It is true that the consumption of goods from their stores occurs a little more promptly than in the ordinary course of things, but, instead of being profitable, it is done in a ruinous manner. It is as if the government were to set fire to the granaries of the wheat merchants and subsequently pay them generously for all the grain inside. These merchants might have done very well from such a bargain, but the nation would certainly have lost from it. Instead of two values, that is the wheat and its price, there would be only one; and the wheat, instead of being consumed in a profitable manner, would have been consumed ruinously.

If extravagance of any sort is always ruinous for a nation, it becomes even more contrary to its interests when it consists of maintaining unproductive workers. For, as we have seen, everything which passes from the hands of the proprietors to the unproductive class is lost without return; it is permanently lost from the national property. And the more unproductive workers the proprietor class maintains, the fewer producers can be supported. The more one sees fiddlers, actors, hairdressers and personal servants multiplied in a people, the fewer artisans, manufacturers and husbandmen one sees. Thus of all forms of extravagance the most harmful is that which, identifying grandeur and pleasure with passing enjoyment rather than with the output of industrial workers, opens no market for the products of these last and does not encourage their efforts.

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established in subsequent correspondence not to be true. Very conscientious reports by two anonymous referees are also gratefully acknowledged. Any remaining errors or omissions are my responsibility.

Notes to the Introduction

[a] One referee pointed out that Marx cited *Richesse commerciale*, in volume I of *Das Kapital*. However, Marx cited this passage as an example of an argument with which he disagreed (see Marx 1954, p. 536, footnote 3).
[b] Examples of these relationships had already been set out numerically, but not algebraically, by Petty in 1662 in *A Treatise of Taxes and Contributions* (1963, pp. 30-1), by Cantillon in 1734 in his *Essai sur la nature du commerce en général* (1931, pp. 42-5), and by Quesnay in the various versions of his *Tableau économique* (1758-66).
[c] Sismondi has most commonly been supposed to have written 'Political Economy' in 1815 (though several other dates have been suggested), but his correspondence makes it clear that he had decided to write the entry by 4 November 1816, and that on 25 May 1817 he expected to have completed both that entry and another for the *Edinburgh Encyclopedia* on 'Prejudice' within fifteen days.
[d] For more detail on Sismondi's 'traverse' see Schneider (1997, pp. 624-5).
[e] Period analysis was not however invented by Sismondi. A relatively primitive form, no doubt inspired by Quesnay's *Tableau économique*, is to be found in Mercier de la Rivière's *L'ordre naturel et essentiel des sociétés politiques* (1767). See Sowell (1972b, pp. 24-25).
[f] Both Hicks's Smithian growth model (Hicks 1964, pp. 30-48) and Anspach's circular flow representation of Adam Smith's analysis of economic growth (Anspach 1976, p. 497) have much in common with Sismondi's macroeconomic model.
[g] This term, coined in Alexander (1951-52), is widely used in modern open-economy macroeconomics. See, for example, Dornbusch (1980, chapter 3) and Williamson and Milner (1991, chapter 12).

Notes to Sismondi

1 Expenditure by individuals is not always accompanied by the immediate destruction of the objects intended for their consumption; clothing, furniture and carriages wear out more or less slowly, but they do not cease to exist as useful objects. Other things, such as china, paintings and jewellery, can last for centuries. From the moment when the last buyer has reserved them for his use, they no longer form part of circulating capital, and no longer produce revenue; they are withdrawn from capital and pass into the funds intended for expenditure. The prolongation of their existence is, however, an advantage; the individuals or the nation who put their revenue to such a use remain richer than those who consume theirs in the luxury of the table. At all times this wealth, unproductive but as yet unconsumed, adds to national affluence, and in the event of disaster it is a resource, since it can be exchanged for wealth in a more useful form.
[[h] In chapters I and II of *Richesse commerciale*. Translators' notes are in square brackets.]
[[i] In chapter III of *Richesse commerciale*.]
[[j] This is a close-to-literal translation of a sentence whose meaning is not entirely clear.]
2 The reader may be surprised that I calculate the national revenue without mentioning those other types of capital which will be examined in the following two chapters: money, and credit or intangible capital. But, as we shall see, the first is absolutely sterile and by itself contributes nothing to the increase of value or of revenue; the second, which may

appear to yield a return to individuals, yields nothing to the state, intangible capital being merely a right to a share in the revenue from material capital. Thus it is in the accumulation of fixed and circulating capital alone that all the revenue of society is to be found.

3 See the note on page 30. The subsistence of the worker's children must be included in his necessary wage. [There is no footnote on page 30 of *Richesse commerciale*. It was almost certainly Sismondi's intention to refer here to his footnote 3, chapter III, which appears on pages 63-64. This footnote makes the same point as that made in the text of Chapter IV, adding that the population is equally reduced, whether poverty causes mortality in an existing population or prevents children being born or being able to survive. Neither of these footnotes is in the manuscript of *Richesse commerciale* held in the Sismondi archives at the Biblioteca Magnani, Pescia; the pagination error may be associated with last-minute revision. Trs.]

[[k] Sismondi actually discusses this only in chapter III, where in the course of comparing the savings habits of nations he says, with reference to wage advances, that the present is exchanged against the future.]

[[l] Sismondi used the term '*le salaire superflu*' to indicate not disapproval but a wage additional to that necessary for the subsistence of the labourer (and his children). It is in that sense that our translation of the term as 'surplus wage' should be interpreted. As Barucci (1966) points out, the term is to be found in Canard (1801).]

4 Men of letters and musicians are productive workers when they publish their works, for the value of their labour is to be found embodied in that of their manuscripts; they are unproductive, on the other hand, when they content themselves with giving lessons, reciting, or performing their compositions. Painters are in all cases productive workers.

5 M. Garnier (note XX, p. 181) has rightly observed that some unproductive occupations are distinguished by their taste for economy; that domestic servants in particular support a considerable part of the trade of the large towns from their small capital, which is the fruit of their savings. Hence they belong to the second class of society as capitalists, and to the fifth as servants. Thus their income is in part direct, in the interest which they receive, and in part indirect, in the wages which they are paid. [Sismondi refers here to the translation of *The Wealth of Nations* published under the title of *Recherches sur la nature et les causes de la richesse des nations. Traduction nouvelle avec des notes et observations par Germain Garnier*, 5 volumes. (Paris: H. Agasse 1802). Trs.]

[[m] In interpreting references to 'consumption' in this 1803 text, the reader should note that 'consumption', during this period in the development of economics, referred to aggregate demand - both investment ('productive' consumption) and consumption ('unproductive' consumption) (Sowell 1972a, p. 70). When Sismondi wishes to distinguish consumption in the modern sense from aggregate demand, he normally uses the term 'expenditure'.]

[[n] What Sismondi meant by the last clause of this sentence, which has been translated literally, is not clear.]

[[o] In an early version of his manuscript Sismondi followed this paragraph immediately with the second paragraph of what eventually became footnote 7. The manuscript of *Richesse commerciale* held in the Sismondi archives at the Biblioteca Magnani, Pescia, has 'paste-ons' which include both the canton examples, and the algebraic footnote, which Sismondi expanded to about three times the length of the version originally incorporated in the text. Unfortunately the 'paste-ons' are pasted over the original text, precluding a *variorum* version of the algebraic analysis.]

[[p] One referee questioned Sismondi's use of Swiss cantons to illustrate economic relationships between nations. It is possible that Sismondi resorted to cantons so as to keep the numbers plausibly small.]

[q In accordance with the language of his time, Sismondi was here referring to the Physiocrats.]
[r The last two sentences of this paragraph are not to be found in the manuscript of *Richesse commerciale* held in the Sismondi archives at the Biblioteca Magnani, Pescia. This material was presumably added when Sismondi read the proofs.]
6 To simplify we assume a constant proportion between the necessary wage and the gross product which it yields, of 2 to 5. We settled on this in the light of some calculations for a country where industry is not very highly developed. It is certainly much more robust in Geneva, and in all towns which are skilful and wealthy, where a smaller necessary wage yields a larger gross product.
[s This figure should clearly have read 6,100,000.]
[t This figure should clearly have read 6,500,000.]
7 Those who are not familiar with the language of algebra pay no attention to calculations which are presented to them in that form, while those who are accustomed to consider ideas and numbers in abstract terms are reluctant to use numerical examples, which always appear to them improbable or inexact. To satisfy both, I shall in this note generalise the argument in the text, using on this one occasion the language of the exact sciences. But, I repeat, I shall only do it once, for to apply this language to a science which is not exact is to expose oneself to continual errors. Political economy is not based solely on calculation, since the facts are constantly affected by a mass of moral observations which cannot be subjected to calculation; the continual attempt to disregard them would be, for a mathematician, the arbitrary suppression of some essential terms of every one of his equations. [What Sismondi meant by the last sentence is not entirely clear. The original reads: 'L'économie politique n'est point fondée uniquement sur le calcul, une foule d'observations morales qui ne peuvent être soumises au dernier, altèrent sans cesse les faits; vouloir en faire constamment abstraction, c'est pour le mathématicien supprimer au hasard des figures essentielles de chacune de ses équations.' (p. 105). Henderson (1957, p. 11) translates it as: 'Economics does not rest solely on calculation, the facts are constantly altered by a host of observations of a moral order which are not subject to calculation. If abstraction is to be made of these permanently, it is as if a mathematician were to suppress, as chance would have it, some essential terms in each of his equations.' Trs.]

Let us call P the product of the nation's labour in a year, and N the previous necessary wage from which this labour results; thus $P - N$ is revenue. Let D be expenditure, and X the difference between the previous necessary wage and that advanced in the current year, a difference which can be zero, positive, or negative. Thus $N + X$ is the necessary wage in the current year. Finally, C represents foreign debts or credits.

When a nation has no foreign trade, its consumption is equal to its production. Now this consumption is $D + (N + X)$. But $D + (N + X) = P$, or $D = P - (N + X)$. When a nation does engage in foreign trade, if it borrows from foreigners, its consumption is not just equal to its production but also includes its borrowing from foreigners, so that $D + (N + X) = P + C$; thus $D = P + C - (N + X)$. Finally, when the nation each year lends to foreigners, its consumption must fall short of its production by the total value of this lending, so that $D + (N + X) = P - C$, or $D = P - C - (N + X)$. It follows from this that the progress or retrogression of the nation always depends on the magnitude of X, or the difference between the necessary wage in one year and that in the following year. [As Barucci (1966) notes, a more complete account would state that progress or retrogression also depends on the magnitude of C. Trs.]

Let us suppose at first that C is equal to X, and that both are one-tenth of N. Setting out the balance-sheet of the first nation, we have $D = P - 11N/10$, so that without foreign trade it will be enriched each year by the quantity $N/10$, the difference between $P - N$ (its revenue) and $P - 11N/10$ (its expenditure). To set out the balance-sheet of the second nation, we have $D = P - N + N/10 - N/10$, or $D = P - N$. Although each year it imports goods from foreigners in excess of the value of its exports, and is becoming more and more indebted to them, it will however be in a stationary state, neither impoverished nor enriched. To set out the balance-sheet of the third nation, the lender, we have $D = P - N - 2N/10$, so that $D = P - 12N/10$, and this nation will enrich itself by $N/5$ each year, lending $N/10$ to foreigners and employing an equal amount to increase its own production. [In the manuscript of *Richesse commerciale* held in the Sismondi archives at the Biblioteca Magnani, Pescia, this equation is incorrectly represented as '$D = P - N + 2N/10$, so that $D = P - 8N/10$'. Trs.]

Now, assuming instead that $C = N/20$ and $X = N/10$, we can set out the balance-sheets of the three nations as follows:

1. $D = P - 11N/10$
2. $D = P + N/20 - N - N/10$, so that $D = P - 21N/20$
3. $D = P - N - N/10 - N/20$, so that $D = P - 23N/20$

Comparing D with $P - N$, which is the revenue of each nation, we see that all three enrich themselves, but to an unequal extent.

Assuming next that C remains equal to $N/20$, but that $X = 0$, we have, for the balance-sheets of the three nations:

1. $D = P - N$
2. $D = P - 19N/20$
3. $D = P - 21N/20$

That is, the first will be stationary, the second is ruining itself, and the third will enrich itself.

Finally, suppose that C remains equal to $N/20$ but X is a negative quantity equal to $N/10$. In other words, the three nations reduce by one-tenth the sum intended for the necessary wage. We can set out their balance-sheets as follows:

1. $D = P - 9N/10$
2. $D = P - N - N/10 - N/20$, so that $D = P - 17N/20$
3. $D = P - N - N/10 + N/20$, so that $D = P - 19N/20$

Thus all three are ruining themselves, though not at the same rate. [Equations 2 and 3 immediately above are clearly incorrect. Equation 2 should read '$D = P - N + N/10 + N/20$, so that $D = P - 17N/20$', as Sismondi originally had it in the Pescia manuscript before changing it, a change which presumably led to the errors in equation 3. Equation 3 should read '$D = P - N + N/10 - N/20$, so that $D = P - 19N/20$'. Trs.]

8 Labour is almost as highly-paid in St. Petersburg as in America. The lowest wage of a workman is not less than 1 franc 50 c.; a good worker can easily earn three francs a day, while carpenters, masons, etc. are paid even more. However, a man can feed himself adequately with 30 or 35 centimes, which is the full necessary wage (Henri Storch, *Picture of Petersburg*). This high price of labour, in the middle of a country where the peasant is enslaved, and where manual labour is almost without value, is an effect of the rapid increase of wealth in Russia, an effect which becomes in turn a cause. [Sismondi refers here to H.F. von Storch, *Historisch-statistisches Gemälde des Russischen Reichs am Ende des Achtzehnten Jahrhunderts*, 9 volumes (Riga, and Leipzig, where volumes 3 to 8 were published, as was a supplementary ninth volume: Johann Friedrich Hartknoch 1797-1803). Trs.]

9 This must not be taken absolutely strictly. In nations which are enriching themselves we can see a slackening in consumption; they trade at the same time in the product of four or five consecutive years, without production being discouraged, whereas a poor nation trades only in the product of the previous year. The rich nation will at the same time have

sheep still bearing this year's wool; storehouses owned by farmers and merchants filled with the previous year's wool; factories where two-year-old wool is being worked; wholesale drapers' shops, where the cloth was made with the wool of three years ago; and retail drapers, tailors and consigners whose cloth is at least a year older still. In the poor nation, on the other hand, none of the intermediaries between the raw material producer and the consumer has enough funds to wait patiently for the best moment to sell, and each pushes ahead with his operations, so that the wool which, during the summer, covered the ewe, sometimes clothes the consumer in the following winter. It is the same with other raw materials; their existence is prolonged, and more time passes between their production and their consumption, in the case of rich nations.

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