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revisited**

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The double taxation of savings: the Italian debate revisited

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Abstract

In the first half of the 20th century, Italian scholars of public finance debated J. S. Mill's theorem on the double taxation of savings. Building on I. Fisher's contribution, L. Einaudi started the discussion, which lasted for some 30 years, involving a significant number of scholars. This paper critically discusses the crucial aspects of this debate, with the aim, firstly, to highlight its peculiarity and specificity with respect to the previous Anglo-Saxon literature. A second aim is to discuss critically, from a historiographical perspective, the main reasoning put forward in the debate.

Keywords: *double taxation of savings; Italian tradition in public finance*

Jel Classification: *B0, B30, H20*

"Alii plus, alii minus bonorum acquirunt. Et rursus alii plus, aliis minus consumunt. Quaeri igitur potest, an debeant cives in publicum contribuere, pro ratione eorum quae lucentur, an eorum quae consumunt. ... dubium amplius non est quin prior ille modus pecunias imperandi contra aequitatem, et proinde contra officium imperantium est, posterior autem rationi et officio eorum consentaneus": Thomas Hobbes, Elementa Philosophica de Cive, chap. XIII, X.

1. Introduction

On equity grounds, the idea that saved income should not be taxed dates back at least to Hobbes (see the Latin quotation above); however, the specific statement that taxing earned income implies that saved income is taxed more than consumed income (the theorem of the double taxation of savings) is usually credited to J. S. Mill. The theorem was particularly fostered by I. Fisher at the beginning of the 20th century, even if the mainstream international doctrine never accepted it, except A. Marshall and A.C. Pigou.

In Italy, the theorem of the double taxation of savings was endorsed by L. Einaudi in 1912 and, following his contribution in the first half of the century, it was the object of heated debate among Italian public finance scholars. Einaudi was particularly interested in the search for the optimal principles of taxation and considered the choice between earned and consumed income crucial. Moreover, some Italian scholars maintained that the exemption of savings had implications on the qualitative discrimination of taxation. As a corollary of the theorem of the double taxation, the expenditure tax should have followed. Indeed, it was proposed by Einaudi and, in a different context, revived by Nicholas Kaldor at the beginning of the second half of the century (Kaldor, 1955).

This paper is dedicated to the crucial aspects of the Italian debate on the double taxation of savings, which lasted from 1912 to 1942, with the aim, firstly, to highlight its peculiarity and specificity with respect to the previous Anglo-Saxon literature. A second aim is to discuss critically, from a historiographical perspective, the main reasoning put forward in the debate. In conclusion, it is pointed out that the real systems of taxation might still benefit from the discussion in so far as their common basic feature is the general principle of the equal treatment of equals applied to the wealth of taxpayers, and not to their utility as in the present economic theory.

Section 2 is devoted to the original terms of the problem, i.e. to J.S. Mill and I.Fisher; in sections 3 and 4 the Italian debate is discussed starting with Einaudi and then moving to Fasiani and Ricci. Section 5 is devoted to a critical reflection about the role of the cost of public services in the debate; in section 6 the Fasiani–Einaudi controversy regarding the state being a factor of production is discussed. Section 7 is devoted to a critical comment about equity and the role played by the indeterminacy of the nature of savings; the final section contains some concluding remarks.

2. The original terms of the problem: Mill and Fisher

In discussing the general principles of taxation, J. S. Mill considered the controversy, originating from the introduction of the English income tax, over whether temporary incomes had to pay lower taxes than permanent incomes (Mill, 1848, V, II, 4). The actuaries, James Mill and Mac Culloch, had stated that a temporary income should pay less tax than an equal permanent income. Each followed his own reasoning, but their common idea was that a different tax rate was necessary because temporary income has a lower value. On the contrary, J. S. Mill observed that an equal tax rate for both incomes is appropriate in order that a temporary income pays a lower tax than an equal permanent income. In point

of fact, when considering the actual value of different incomes, one has to consider the actual value of the corresponding taxes as well. Thus, it is true that a temporary income has a lower actual value than an equal permanent one, but the value of its flow of tax is lower than that of the corresponding flow of the permanent income. His conclusion was that an equal tax rate on both incomes “does not arithmetically violate the rule that taxation ought to be in proportion to means” (Mill, 1848, p.488, II).

Nonetheless, to apply the same tax rate to both incomes represents “a visible injustice” (Mill, 1848, p. 488, II). The fact is that for J. S. Mill “it is not because the temporary annuitant has smaller means, but because he has greater necessities, that he ought to be assessed at a lower rate” (Mill, 1848, p. 489, II). For him, the principle of the equality of taxation “interpreted in its only just sense, equality of sacrifice, requires that a person who has no means of providing for old age, or for those in whom he is interested, except by saving from income, should have the tax remitted on all that part of his income which is really and *bona fide* applied to that purpose” (Mill, 1848, pp. 489–90). The exemption might be extended even to the income devoted to legacies for the children always within the limits that the equality of sacrifice is viable (Mill, 1848, p. 491, note). Thus, he concluded that permanent incomes should bear a higher tax burden than temporary ones.

However, such reasoning does not seem decisive because it justifies only the exemption of savings for providing for children and old age, whereas J. S. Mill’s real idea was that *all* savings should be exempted. In fact, he stated: “No income tax is really just, from which savings are not exempted” (Mill, 1848, p. 490, II). To that end, since “no plan can be devised for the exemption of actual savings...it would probably be necessary to be content with one uniform rate for all incomes of inheritance, and another uniform rate for all those which necessarily terminate with the life of the individual” (Mill, 1848, p. 491, I). The point is that for J. S.

Mill the correct tax base is consumed income and that actually he derived such a statement from the proposition of the double taxation of savings, intended as a tautological postulate: “To tax the sum invested, and afterwards tax also the proceeds of the investment, is to tax the same portion of the contributor’s means twice over. The principal and the interest cannot both together form parts of his resources; they are the same portion twice counted” (Mill, 1848, V, II, 4. p. 490, I). This is tantamount to saying that for him, from the equal sacrifice principle, it follows that consumed income is the correct tax base. In modern terms, formally, such a proposition depends on the following assumptions: i) A. Smith’s principle of equality of taxation is intended as equality of sacrifice (Mill, 1848, V, II, 2. p. 484, II); ii) all consumers have the same utility function; and iii) utility depends on consumed income only, and not on savings or wealth.

In conclusion, the real core of J. S. Mill’s thoughts is that equality of taxation requires no double taxation, which implies that savings should be exempted. The correct base of taxation is consumed income and not earned income.

Then, in 1906, I. Fisher, in discussing the nature of capital and income, considered *realised income* as “the value of the actual services secured from the capital”, whereas “*earned income* is found by adding to realized income the increase of capital value, or deducting from it the decrease” (Fisher, 1906, p. 234, italics added). Then, “capital-value is the discounted value of expected income” (Fisher, 1906, p. 235) and, by definition, savings are the increase of capital value. Thus, “to regard ‘savings’ as income, is essentially to regard an increase of capital as income” (Fisher, 1906, pp. 254–255). It follows that taxing savings is to tax income twice over: “Such a system of taxation is clearly unjust and discourages the saver, while it encourages the spendthrift” (Fisher, 1906, p. 253). Thus, I. Fisher’s conclusion is that on equity grounds the correct base of taxation is *realised* income and not earned income; such a conclusion, however, is identical to Mill’s. In fact,

Fisher's *realised* income exactly matches what above was called "consumed income" because neither includes savings.

Even if A.C. Pigou (1912) and Alfred Marshall (1917) shared with Fisher the opinion that consumed income should be the correct base of taxation, it was Fisher that succeeded in providing the most convincing reason for the exemption of savings from taxation, at least in his framework in which capital is defined as a quantity of wealth. In fact, for him capital is composed of both durable goods and rapid consumption goods (Fisher, 1906, p. 66), whereas income is the flow of the services rendered by those goods (Fisher, 1906, p. 101). As regards Fisher, no utility or sacrifice is involved in the problem of double taxation: savings should not be taxed simply because of the mere fact that all savings *are* an increase of capital. It is not a strict problem of equity but coherence in taxation: if one wants to tax income, capital must not be taxed. Moreover, Fisher also considered some efficiency aspects because he observed that the tax on savings has a discouraging effect on capital growth.

3. The Italian debate: Einaudi, Ricci and Borgatta

Einaudi devoted 17 years of his scientific activity (from 1912 to 1929) to the problem of the exclusion of savings from taxation, according to the preface to the second edition of his *Saggi sul risparmio e l'imposta* (Einaudi, 1958, p. xi). His four major works on the topic were reprinted in Einaudi (1941). In the first one (Einaudi, 1912), he built on Fisher (1906) by developing the idea that savings are taxed twice if the base of taxation is earned income instead of consumed income. Still, his reasoning showed that, in the practice of modern states, taxation on earned income tends to shift to consumed income, in so far as savings tend to remain untaxed, through the open or hidden processes of the lawmakers. Thus, in the second part of the paper, he listed 14 different reasons why real taxes on earned income tend to leave savings untaxed.

In the second (Einaudi, 1919) and third (Einaudi, 1928) papers, Einaudi was concerned with a crucial point regarding the discussion of double taxation, i.e. the changes in the interest rate and the related methodology. In fact, a standard assumption was to regard the interest rate as fixed; Einaudi, however, pointed out that both the taxation and expenditure of the corresponding income necessarily trigger changes in the interest rate.¹

In the fourth paper (Einaudi, 1929), he returned to the core of the problem, according to which the definition of taxable income “is not the departure point...but the point of arrival, the final result of the choice between the different methods of income taxation and, thus, among the possible definitions, the choice of the method and definition that satisfy the accepted conditions of universality and equality” (Einaudi, 1941, p. 273). His search for the optimal taxation followed a path to highlight the reasons why, in the modern states, the taxation of earned income is unsteady, in so far as the burden tends to shift to consumed income.

Italian scholars, to a large extent, were critical of that position and did not share Einaudi’s line of reasoning. It was Ricci, however, who raised the sharpest and most comprehensive critiques, which were rebutted by Borgatta and especially Fasiani, both pupils of Einaudi.

The debate lasted for about two decades, and the controversy ended only because the disputants realised that their ever subtler reasoning was not able to convince detractors. Nonetheless, all parties ultimately agreed at least on three points. The first seemed trivial: tax income is higher if the tax base is earned income instead of consumed income; in that case, in fact, not only consumed income, but also saved income is taxed. The second point of agreement was Ricci’s remark that double taxation is significant only in a dynamic context, because in a static framework no

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¹This is one of the main findings of the Italian public finance tradition, derived from Paretian influence: see Fossati (2010).

savings can exist since consumed income is identical to earned income. As a third point, it seems fair to remind that, for the partisans of the theorem, the taxation of savings implied a double amount of taxation only at the limit. Explicitly or implicitly, they intended that taxing earned income implies a *higher* level of taxation on saved income.

The core of Ricci's original reasoning can be labelled under the "new income" argument. In short, income is generated by corresponding capital; after paying income tax, the part of net income not spent on consumer goods is saved. Savings become a *new* capital, which in turn generates a *new income* in the form of interest, which is a different entity to the original income. Since interest is a new income, it follows that it must pay the income tax anew (Ricci, 1913a, 1913b).

Borgatta's basic argument was that income has the nature of a flow, whereas capital is the corresponding stock. It follows that income and capital are the same entity: thus, savings are the same as the corresponding capital. Like J.S. Mill, Fisher and Einaudi, Borgatta stated that taxing *new* income originating from *new* capital is to tax savings twice over. In fact, individuals save to postpone consumption, and the (present) value of saving is given by the flow of future interest discounted through the rate of interest. Interest is only the compensation for deferring consumption, and not a new income, so it must go untaxed (Borgatta, 1915).

Disputants' reasons were presented as dialectical reasoning, or numerical examples, or even illustrated by graphs. For reasons of space they cannot be discussed here; their common feature, however, was that they were neither wrong nor right because the very object of the dispute was blurred in a dialectical uncertainty (see Section 7).

4. The discussion between Fasiani and Ricci

Fasiani participated in the debate with three main works (Fasiani, 1926, 1928a, 1928b), and then revisited the problem by proposing an original reading of the double taxation problem in Fasiani (1936).² In Fasiani (1926), he reviewed the main studies on the double taxation and criticised both the “new income” and “utility” reasons in favour of the no-double taxation thesis.³ However, Fasiani’s main interest was to criticise Ricci (1913a, 1913b), borrowing from Borgatta (1915). At the same time, he highlighted the role played by the state. In fact, he argued that the state, like the taxpayer, had the possibility to use its (tax) income either to buy a certain quantity of present goods or to have a larger quantity of future goods by buying the property rights of capital. Yet, the state has current needs, and then buys current goods, giving up the possibility of growing capital: it follows that it cannot have any claim on future interest because it saves no part of its income. In other words, if *the state* does not save any part of its (tax) income, then it has no rights to the virtual interest on the capital to which it has given up. Likewise, it is obvious that the state cannot have any right to the interest of the capital that *taxpayers* have acquired with *their* savings; to tax those interests would bring about a higher sacrifice for taxpayers that have saved parts of their incomes.

Nonetheless, Fasiani’s most original treatment of the problem regarded the alleged natural tendency of the state to eliminate double taxation. Firstly, he drew on the marginal approach to public finance theory, according to which the modern state tends to

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²Finally, in Fasiani (1941), he acknowledged that no double taxation occurs under the assumption that the state is a factor of production, and this opened a dispute with Einaudi (see Fasiani, 1942 and Fasiani, 1951). On this question, see section 6.

³With the “new income” reason it is argued that new income coming from new capital is a different entity from savings, whereas with the “utility” reason it is asserted that savings and future consumption are different entities as far as they have distinct utilities.

match the marginal cost and benefit of public goods for each individual. He remarked that, in that case, the forces that move towards the public equilibrium necessarily tend to remove any double taxation of savings. Secondly, he considered that political forces can hinder such equilibria because the most powerful group let other groups contribute more heavily to the cost of public services, up to the point in which its marginal benefit equals its marginal cost of forcing the other groups to do so. Such political equilibria are less efficient, but nonetheless there is no reason to believe that savings are taxed, because political groups have a maximising behaviour, and in dynamic settings taxing savings leads to lower rates of economic growth. Such reasoning supports Einaudi's statement that modern states tend to leave savings untaxed.

Ricci (1927) considered the release of the assumption that the rate of interest is fixed. He pointed out that a general income tax is unlikely to leave the rate of interest unchanged because the net rate is lowered by the tax. According to Ricci, the most likely result is that savings fall, and thereby the rate of interest starts rising, even if it is unlikely that, net of the tax, the rate of interest can reach the old level. The new savings are invested at the higher rate of interest, whereas the old capital falls in present value. It follows that the old capital is discriminated in respect of the new: "l'épargne nouvelle finit par posséder un privilège par rapport aux anciens capitaux" (Ricci, 1927, p. 879). This fact necessarily confirms that to tax savings is no cause of double taxation, because the income tax on the fruits of the new capital (savings) is matched by the rise in the rate of interest, whereas the same does not occur for old capital.

Fasiani (1928a) discussed Ricci (1927), taking for granted that the rise in the interest rate follows from the shifting of the tax burden onto those who sell the capital. Thus, to follow Ricci's line of reasoning, he considered three cases in which the tax: i) is entirely shifted; ii) is only partially shifted; or iii) not shifted. The

second case is intermediate between the first and third, and so I will only consider the first and third cases.

In the first case, the interest rate net of tax rises to match the new tax because the tax has shifted entirely. It follows that the value of old capital is reduced by the discounted value of the flow of tax, whereas the value of new capital is *not* reduced by the future tax flow. This is so because new savings are transformed into capital according to the new rate of interest, which has risen owing to the tax shifting. The fact is that the tax burden is entirely shifted to those who have sold the new capital. Thus, Fasiani concluded that there is still double taxation, even if the burden on new capital has been shifted to different taxpayers.

In the third case, no shifting occurs, and the tax does not lower the value of the old capital or the new one, because their respective annuities – net of tax – are discounted using the rate of interest net of tax. Fasiani was then forced to admit that it might seem that in the third case there is no double taxation and that in the second case (when the tax is partially shifted) double taxation might not be ^{total}.⁴ However, he concluded that it was not so, because whatever the interest rate, the annual tax flow corresponds to the present value of the tax. He claimed that it is not relevant whether the rate of interest rises or falls because “always, at any time, the tax that reduces the permanent annuity, also proportionally reduces its corresponding capital value in that same moment” (Fasiani, 1928a, p. 136). According to him, the problem of double taxation is not (as argued by Ricci) to determine the present value of the annuity net of tax as considered by savers. In Fasiani’s words: “The point is not to look at the present value of the annuity *net* of tax, but on the contrary, to find out the rate between the values that are taken away by the tax and the value –

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⁴Fubini criticised this point: see below, this section.

gross of tax – that is the wealth of the [taxpayer]” (Fasiani, 1928a, p. 137).⁵

Fubini participated in the discussion, strenuously defending Einaudi’s position. In Fubini (1928) and Fubini (1932), his main contribution was to distinguish between the two angles from which the double taxation problem could be considered. The first one was to consider the point of view of the single taxpayer independent of any exchange relationship he might have with other economic agents. Conversely, the second angle was to consider the appraisal of different economic agents among which exchange relationships can take place. According to him, double taxation is verified in both cases; however, it can be articulated with rigour for the first case only (Fubini, 1931–32, p. 21 ff.). This criticises the scholars whose reasons are based on the consideration of the exchange relationships among the different economic agents, such as Ricci and Fasiani. The general point raised by Fubini is interesting, because in considering market equilibrium and especially general equilibria it is true that the problems become more and more difficult and blurred. However, he is wrong in asserting that Fasiani admitted that no double taxation occurs when the tax is entirely shifted by the rise in the interest rate, as shown above. Moreover, it is untrue that Fasiani duplicated Murray’s reasoning, as alleged in Fubini (1932, p. 376). The fact is that Fubini was a younger pupil of Einaudi and perhaps considered it useful, for his academic career, to start a personal dispute with Fasiani, considered a rival. Certainly, although Fubini’s criticisms are harsh, Fasiani’s reaction is extremely soft (Fasiani, 1936, p. 95).

Fasiani (1928b) is a three-page review article of I. Fisher’s *The income concept in the light of experience* (1927), in which

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⁵In other words, one has to look at the rate M/D , where M is the sum of: a) the value of the tax that falls on the savings for the first time; and b) the present value of the tax on future annuities, as perceived by those who sell the capital, and D is given by the sum of M and the present value of the annuity, net of tax, as perceived by savers.

Fasiani discussed specifically a numerical example of double taxation, but which is really a pretext for lamenting that Fisher ignored all the Italian literature on the double taxation problem. In fact, half of the article is devoted to reporting that literature, which is impressive.⁶

Finally, in studying the consumer's economic horizon over time,⁷ Fasiani realised that the consumer might wish to allocate their flows of consumption over a period of time different from the one in which they are looking forward to receiving their flow of income. He recalled that both in reality and in public finance theory often it is alleged that "normal" individuals consider an unlimited economic horizon; however, he observed that some "atypical" individuals might consider a limited period of time (Fasiani, 1936, p. 89). Under that assumption, in letting their flow of income match their desired flow of consumption, the atypical individual has an advantage over normal individuals, similar to the Marshallian consumer's rent, which one can label "atypical rent".⁸ Such an advantage "is represented in reality by the difference between their estimate of a permanent income and the current market evaluation" (Fasiani, 1936, p. 86).

The mentioned advantage, or "atypical rent", depends on the process by which the individual modifies the time horizon of their consumption, i.e. the process by which the individual changes their original income flow into a flow with a different timing. Of course, this is the basic process concerning the double taxation topic, because in the double taxation discussion, savings are used as the means to change the timing of the flow of an individual's income. Thus, Fasiani was able to suggest that the tax systems that favour temporary incomes are really taxing the "atypical rent" by

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⁶ A supplement to the literature on the double taxation of savings is given in Einaudi (1941, pp. 482–486).

⁷ Fasiani (1936).

⁸ Fasiani labelled it "rendita del celibe", i.e. "bachelor's rent".

reinterpreting the different reasoning of James Mill, the Actuaries, Mac Culloch, and John Stuart Mill, in terms of the different time horizons they considered.⁹ In fact, the statement of the actuaries that a temporary annuity has a lower value than a permanent one can be logically explained if they are assumed to consider implicitly persons with unlimited economic horizons. The same assumption can explain Mac Culloch's suggestion to determine the tax base by deducting savings from the temporary annuity to change the flow of incomes into identical permanent annuities.

On the contrary, according to Fasiani, J. S. Mill had a dual approach. He was implicitly considering individuals with limited horizons when he stated that the same tax rate is appropriate both for temporary and for permanent annuities, since the discounted value of the tax flows is proportionate to the discounted value of the annuities. By contrast, he considered normal individuals with unlimited horizons when arguing that all the tax on savings should be remitted, i.e. in stating the theorem of double taxation. In that way, Fasiani offered a logical reason to justify the statements that J. S. Mill had based on moral judgements.

However, J. S. Mill considered both normal individuals and individuals with limited horizons when he argued that tax should be remitted only on the savings used to provide for old age or for those in whom a person is interested. There, in fact, he suggested favouring temporary incomes, but less than Mac Culloch. In pure logic, that depends whether the individual values present goods more than future goods, in a large part independent of the length of their own economic horizon (Fasiani, 1936, p. 98). Thus, the individual acts as if they consider both a limited and an unlimited

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⁹Fasiani noted that, in the double taxation debate, sometimes incomes are considered according to an individual's evaluation and other times incomes are considered independent of the individuals to whom they belong. In his opinion, the latter approach is tantamount to considering such incomes as related to individuals with unlimited economic horizons (Fasiani, 1936, p. 96).

horizon by allocating part of their wealth to an unlimited horizon and part to a limited period of time.

Fasiani considered it obvious that J. S. Mill's suggestion was hiding an attempt to tax the “atypical rent”. Assume that an individual with a £15,000 annuity for 10 years allocates £10,000 to consumption and saves the remaining £5,000 to secure a permanent annuity of £2.500 after 10 years.¹⁰ In this case, for Fasiani the individual’s “atypical rent” is £5,000. According to J. S. Mill's proposal, the £5,000 savings would be exempted and the tax base would be £10,000. Fasiani pointed out that this is tantamount to assuming that the tax base is the sum of: i) £5,000, which is the annual value of the permanent annuity that corresponds to the £15,000 temporary rent; and ii) £5,000, corresponding to the “atypical rent” (Fasiani, 1936, p. 100).

5. The role of the cost of public services in the debate: a critical reflection

It seems fair to point out that the reasoning of the partisans of the theorem did not take into account the cost of the public services that the tax income has to finance, and this fact had some influence on their results. Let's take the evidence of the Fisher–Fasiani numerical example in Fasiani (1928b), as shown in *Table 1*.

Table 1: A static numerical example: double taxation with the saver and the spendthrift

Time	The saver		The spendthrift	
	t	$t+1$	t	$t+1$
Capital	4,000.00	4,150.00	4,000.00	3,850.00
Annuity (gross of taxes)	200.00	207.50	200.00	192.50
Savings	150.00	–150.00	–150.00	150.00
Consumption (gross of taxes)	50.00	357.50	350.00	42.50

¹⁰ Fasiani assumed that the interest rate is 5%, but that the sums saved provide interest only at the end of the 10 years considered.

Tax on consumption (10%)	5.00	35.75	35.00	4.25
Income tax (10%)	20.00	20.75	20.00	19.25
Consumption (net of tax on consumption)	45.00	321.75	315.00	38.25
Consumption (net of income tax)	30.00	336.75	330.00	23.25
Final value of tax on consumption at time $(t+1)$		41.00		41.00
Final value of income tax at time $(t+1)$		41.75		40.25
Excess of income tax at time $(t+1)$		0.75		-0.75
Value of incomes (gross of tax) at time $(t+1)$		417.50		402.50
Value of consumption (net of tax on consumption) at time $(t+1)$		369.00		369.00
Value of consumption (net of income tax) at time $(t+1)$		368.25		369.75
Shortage of consumption with income tax at time $(t+1)$		0.75		-0.75

At a rate of interest of 5%, a permanent annuity of £200 corresponds to a capital of £4,000. At time (t) , an annuitant (the saver) wants to defer £150 of his consumption to time $(t+1)$. With a 10% tax rate, he pays £20 at time (t) as income tax and £20.75 at time $(t+1)$; alternatively, with a 10% tax on consumption he will have paid £5 at time (t) and £35.75 at time $(t+1)$. To defer his consumption, the saver must buy the property rights of an existing capital of £150 from another identical annuitant (the spendthrift) who wants to anticipate at time (t) £150 of his consumption due at time $(t+1)$. Then, with the income tax, the spendthrift pays £20 at time (t) and £19.25 at time $(t+1)$; alternatively, with tax on consumption he will have paid £35 at time (t) and £4.25 at time $(t+1)$. Since the final value of his income tax at time $(t+1)$ amounts to £40.25, whereas the corresponding value of his tax on consumption is only £41, with the income tax the spendthrift enjoys a shortage of taxation of £0.75, which corresponds to his income decrease of £7.5 at time $(t+1)$.

The conclusion that follows from the Fasiani–Fisher example is that income tax causes a £0.75 excess burden on the saver, but what emerges is that the excess burden is exactly matched by the shortage of taxation on the spendthrift.¹¹ The rationale is that at time $(t+1)$ income has risen for the saver but has lowered for the spendthrift.

This numerical example highlights the critical points raised above. Firstly, since the savings are matched by the disinvestments, the example is clearly couched in a static setting, where double taxation was not questioned. In fact, in Fasiani’s original example no spendthrift was considered; however, the spendthrift was introduced in Table 1 to highlight the role of the state. In *Table 1*, the total tax income on the two individuals, both at time (t) and at time $(t+1)$, was always £40, with tax on consumption and with the income tax as well, because of the contemporaneous existence of the saver and of the spendthrift. The cost of public services is covered in both periods.

On the contrary, in a dynamic framework, no spendthrift is necessary if savings are immediately converted into new capital. However, tax on consumption must provide a tax income of £20 like the income tax otherwise a deficit in the state budget occurs. In other words, as shown in the left column of Table 2, at time t , although the income tax still has a rate of 10%, tax on consumption must rise to a 40% rate, since the tax base shrinks. In point of fact, in the two left columns of Table 2, the rate of tax on consumption has been fixed at 40% to cover the cost of public services.

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¹¹In real terms, the advantage of the spendthrift over the saver amounts to £1.50 in terms of the final value of consumption because with, income tax, the final value of the consumption at time $(t+1)$ is £369.75 for the spendthrift and only £368.25 for the saver. That means that, in terms of consumption, the excess burden of the saver is of £0.75, exactly matched by the –£0.75 of the spendthrift.

Table 2: A dynamic numerical example: the saver–capitalist case

Rate of tax on consumption at time t	40%		10%	
Time	t	$t+1$	t	$t+1$
Capital	4,000.00	4,150.00	4,000.00	4,150.00
Annuity (gross of taxes)	200.00	207.50	200.00	207.50
Savings	150.00		150.00	
Consumption (gross of taxes)	50.00	207.50	50.00	207.50
Tax on consumption	20.00	20.75	5.00	20.75
Income tax (10%)	20.00	20.75	20.00	20.75
Consumption (net of tax on consumption)	30.00	186.75	45.00	186.75
Consumption (net of the income tax)	30.00	186.75	30.00	186.75
Value of tax on consumption at time $(t+1)$		41.75		26.00
Value of income tax at time $(t+1)$		41.75		41.75
Excess of income tax at time $(t+1)$		0.00		15.75
Value of incomes (gross of taxes) at time $(t+1)$		407.50		417.50
Value of consumption (net of tax on consumption) at time $(t+1)$		218.25		234.00
Value of consumption (net of the income tax) at time $(t+1)$		218.25		218.25
Shortage of consumption with the income tax at time $(t+1)$		0.00		15.75
Cost of public services	20.00	20.75	20.00	20.75
Deficit in the state budget (with tax on consumption)	0.00	0.00	15.00	0.00

There is no excess of income tax over tax on consumption, i.e. no double taxation, but there is no state budget deficit. On the contrary, in the two right columns of Table 2, the rate of tax on consumption has been left at 10%, because no care is taken about the cost of the public services; thus, at time t a budget deficit of £15 arises. Here, like in the Fisher–Fasiani example, there is an excess of income tax over tax on consumption, i.e. there is double taxation over again. The £15.75 is the final value at time $(t+1)$ of the £15.00

shortage of consumption at time t with the income taxation, which corresponds to the excess of the income taxation over tax on consumption. The double taxation result, however, depends on the assumption that a deficit in the state budget has occurred.

6. The end of the discussion: the debate between Fasiani and Einaudi

In Fasiani (1941), the double taxation problem was revisited in a specific appendix,¹² in which a synthesis of the discussion was offered; on that occasion, however, De Viti's thoughts are presented in a new light. In fact, Fasiani revises his previous opinion and acknowledges that there is no double taxation of savings, albeit only under the strict De Vitian assumption that the state is a factor of production.

In fact, De Viti assumed that public services are goods that necessarily enter all the productive processes regarding the final goods that compose real income, i.e. public services are true productive factors. Thus, every unit of produced income cannot but contain its share of the cost of public services jointly with the cost of the other factors of production such as labour or land. Taxation is the counterpart of the cost of public services in the same way as the salary is the counterpart of labour: "every unit of the produced income has its corresponding burden of tax debt" (De Viti, 1939, p. 222).

Fasiani fully endorsed De Viti's point by using Böhm-Bawerk's framework, in which savings are merely the income used to buy new capital goods. Productive processes use capital goods to produce new goods jointly with other factors. Yet, among the other factors, new public services are also necessary, which have a cost that must be offset by a new taxation. No double taxation occurs

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¹²Appendix VII, *Sul problema della doppia tassazione del risparmio*, (Fasiani, 1941, pp. 275–304).

because the new tax is the counterpart of new public services (Fasiani, 1941, p. 294–296); in fact, income is employed to pay something that is used to produce new income. In that case, one has to care no more about the original income and a new tax is expected on the new income.

On the contrary, when public services are not a factor of production, the assumption is that part of the produced income is spent on gaining something (present or future consumption), and then the allocation between consumption and savings becomes of crucial importance. In this case, taxing savings is to tax income twice over (Fasiani, 1941, p. 299). Thus, the conclusion on the double taxation problem depends strictly on the assumption of whether public services are factors of production or not.

Fasiani refuted the assumption that the state is an effective factor of production despite admitting that public services are useful to the community. For this reason, he remained of his original opinion that the theorem of the double taxation of savings is generally true (Fasiani, 1941, p. 301–302).

Even if Fasiani still endorsed the double taxation theorem, Einaudi (1942) raised a passionate critique to Fasiani's treatment of the question. Clearly, what disturbed him was the acknowledgement that no double taxation occurs from the assumption of the state being a factor of production. In fact, Einaudi's general framework is based on an ethical notion of the state as the producer of useful goods and services for the community. More than that, his idea of useful public services for the community is largely taken to mean that the state is a factor of production, in a sort of softened version of Stein's reproductivity theory. Thus, for Einaudi the state–factor of production is the general link between taxation and state activity, i.e. the core of Einaudi's thoughts. It is no wonder, then, that he was prepared to dispute the topic so passionately.

Einaudi's reasoning is built on interpreting the reproductivity theory as a link between public services and taxation, and then on

the definition of public services as a factor of production *sui generis*, i.e. public services merely cooperate in the productive processes in order that private production can be as high as possible (Einaudi, 1942, p. 313). Then, he is able to assert that Fasiani's rejection of the notion that the state is a factor of production is directed to reject De Viti's theorem of the double taxation (Einaudi, 1942, p. 322; Fasiani, 1942, p. 493).¹³

Fasiani (1942) firstly rebutted Einaudi's (1942) statement that the reproductivity theory can be reduced only to a link between taxation and state activity.¹⁴ Finally, Fasiani discussed the notion of factors of production and specifically the notion of the state as a factor of production¹⁵, and pointed out that Einaudi failed to consider the state as a true factor of production.

Einaudi had the last word in his *Postilla critica* (Einaudi, 1942a), which ended the gentlemen's debate between the master and his pupil. The crucial point that came to light is that Einaudi is only mildly a marginalist, which, however, was implicit in previous Einaudi contributions. The point is that for him the state is a factor of production *sui generis* because he considers *all* factors of production *sui generis*, whose prices are not really determined by their marginal productivity. Einaudi's economic framework endeavours to be as near as possible to the real world. On the

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¹³In fact, according to Einaudi, Fasiani believed erroneously that the assumption of the state being a factor of production is incompatible with the theorem (Einaudi, 1942, p. 323). Indeed, the very notion of the state as a factor of production excludes any "link between the action of the state and the quantity of economic production for each producer" (Einaudi, 1942, p. 326).

¹⁴Reproductivity theory is directed to ascertain "the nature of that link based on the law of value, which states that what is taken away by taxation, comes back into the national income, owing to the productive effect of public services" (Fasiani, 1942, p. 496).

¹⁵In short, he pointed out that Einaudi considered the state a factor of production only because public services raise general welfare, causing a growth in human capability to work. On the contrary, Fasiani considered the factors of production as in the usual economic theory.

contrary, Fasiani deals with neoclassical economics as a conceptual framework, which can help understanding the real world, but is fairly far away from it.

7. Equity and the problem of indeterminacy

Like in any sound fiscal investigation, the value of the dispute about double taxation is limited to examining in pure logic the possible sides of the topic to discover inaccuracies and errors in the existing fiscal systems or in the processes of lawmaking in the view of a certain possible end. For Einaudi and his followers, the double taxation debate aimed to highlight the asserted statistical uniformity that lawmakers tend to exempt consumptions from taxation. In general, however, since its origin the practical interest of the debate has regarded the problem of defining the income tax base on equity grounds.¹⁶ On that side, however, both in Italy and in the international setting, a large majority remained of the idea that the tax base should have been earned income, whereas others were persuaded that only consumed income had to be taxed.

Towards the end of the discussion, D'Albergo (1941) alleged that the trivial solution of the conundrum was to take the definition of the tax base as an assumption. In other words, the choice between taxing earned or consumed income depends on a previous political assumption and should not be based on a definition of equity. In that way, any remaining discussion cannot but shift towards a different end, in particular towards the trade-off between equity and efficiency.

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¹⁶Sometimes even efficiency was considered, but only as cursory remarks about the effects on incentives. However, it is fair to recall that the general idea was that, ideally, taxation had to mimic individual prices in so far as its marginal cost should match the marginal benefits of public services. In this sense, it is true that taxation was based on efficiency grounds formally, but, from any concrete slants, equity was the real cornerstone.

Still, it is fair to remark that D'Albergo's solution boils down to an *a priori* political choice of the tax base, and that such a political choice provides no link between the tax base and the definition of equity. Thus, the practical problem is solved as far as the tax base is determined, but one can still question what definition of equity supports the political choice of a certain tax base. From that angle, D'Albergo's statement is not helpful, and it is still worth considering the lines of reasoning of the debate.

Firstly, the idea of justice on which J. S. Mill based his theorem of the double taxation of savings implied to consider "just" taxing income or capital alternatively, but only because of the identity between income and capital, in the sense that capital *is* the present value of its flow of incomes. If it is considered just to tax income, one cannot tax the corresponding capital: in that case, income would be taxed twice over. As regards I. Fisher, for him income is the value of the actual services secured from the capital, and then the identity between income and capital is secured by the correspondence between capital and its services. In fact, I. Fisher's proof of the double taxation theorem was based on his definitions of income and capital, where savings are capital by definition. The discussants of the Italian tradition, on both sides of the fence, also shared this idea of justice; for the partisans of the theorem, however, income *is* capital like for J. S. Mill, whereas for the adversaries, income and capital have different natures. In fact, Ricci's reasoning was based on the idea that savings are income that becomes a new capital, which is a new entity that generates a new income that is a new entity and is different from the original saved income. Thus, the opposite opinion about double taxation is based on the same idea of justice, but on different opinions about the relationship between savings and new capital.

However, the relationship between savings and capital presents some elements of indeterminacy that, as stated in Section 3, caused the debate to be blurred in a dialectical uncertainty. In a static framework, by definition, the stock of capital is fixed and the

corresponding flow of income can be taxed. After tax, the resulting net income can be either consumed or saved. Savings are determined only by an individual's want to postpone consumption, which is matched by the opposed desire of other individuals to anticipate their consumption. Thus, in a static setting, savings have the nature of deferred income but not of capital, even if it is true that, to defer consumption, it is necessary to buy the right to some existing capital. In other words, savings are income used to buy the property rights of the existing stock of capital and are used as a means to defer consumption. At the same time, individuals that sell capital's property rights are able to consume *virtually* their capital, i.e. transform part of the fixed stock of capital to anticipate their consumption. The rate of interest (which can be positive or negative) is the price at which the quantity of the present consumption that people want to postpone equals the quantity of the future consumption that other people want to anticipate. In this static framework, if income is the tax base, it is difficult to find reasons to tax again postponed consumption. To tax the future manifestation of present savings really is a double tax.

Individuals might want to postpone/anticipate consumption through savings even in a dynamic setting: from that angle, nothing has changed. Some savings are still deferred consumption and the double taxation remains, because it is still true that some *individual savings* are matched by corresponding *individual disinvestments* of capital. By contrast, in dynamics the stock of capital keeps growing and so part of the savings must become *new* capital. Such new capital is expected to produce a flow of new income in the future, which joins the flows of old income (corresponding to old capital). Thus, the flow of income also keeps growing, and it is reasonable to expect that new income should be taxed together with old income, because their nature is identical. From that angle, there is no double taxation, because the tax base is still income.

Thus, the dialectical uncertainty is because savings have a dual nature: from one side they are deferred consumption and as

such should not be taxed again. From the other side they are new capital that will generate new income and that should be taxed. The crucial point regarding this contradiction is the relationship among savings, capital and income. In fact, if present savings turn into capital to postpone consumption, capital is intended as the property rights regarding future consumption and its value is given by the sum of consumption, discounted at the current rate of interest. By contrast, capital is a real factor of production that generates a flow of future services, which, used in productive processes, will engender future incomes. Here, the value of the flow of capital services depends on its productivity, whereas the present value of capital is given by the sum of the values of the capital services, discounted at the current rate of interest.

After all, D'Albergo was right, even if he did not point out the real reason: it is true that the choice of the tax base between earned and consumed income is a political matter, but the point is that no equity problem can be involved in that choice. In fact, in dynamic settings the link between equity and consumed/earned income is missing owing to the ambiguous relationship between total savings and new capital.

Lawmakers have developed real systems of taxation independent of such a conclusion, but their decisions surely conform to it: no links between equity and the tax base are considered. In fact, income, capital and consumption are all used as a tax base in real fiscal systems because they are all considered different features of the individual capacity to be taxed. Income, capital and consumption are all considered tax bases consistent with the requirement of horizontal equity that equals must be treated equally. However, links between equity and political choices return as soon as vertical equity is concerned because the characteristics of each single tax must be compared with the definitions of vertical equity assumed *a priori* as a political choice. However, such problems no longer involve the double taxation of savings.

Finally, it should be mentioned that both the real systems of taxation and the Italian discussants applied the basic equity principle of the equal treatment of equals to the individual's money metric resources (income or consumption). On the contrary, in the Anglo-Saxon tradition, starting from J. S. Mill and through to the modern normative theory of efficient taxation, the principle was applied to the individual's utility or to the sacrifice caused by the tax to the individual.

8. Concluding remarks

I have shown that the debate around the double taxation of savings missed the point that the economic theory was unable to grasp the indeterminacy of the nature of savings and income/capital. Thus, in the debate, attention was given to ingenuous but peripheral aspects and not focused on the real reasons behind the political choice between taxing income or consumption. This is probably the reason why the debate remained peripheral and did not involve the real systems of taxation.

By contrast, mainstream economic theory is addressed to investigating the efficiency angle only. In fact, taxing savings implicates negative effects on the incentives, so that such effects have to be compared with the alternative possible equity attainments. Thus, only the trade-off between equity and efficiency is considered relevant; on that matter, no further comment will be given here owing to space considerations. The only remark is that the general setting of such investigations is normative-oriented and based on the idea that the equal treatment of equals regards individual utility and not individual income or wealth, as in the Italian debate about the double taxation of savings or in the concrete framework of the fiscal systems of the real world.

There is another aspect that seems worthwhile to consider here. This is the role played by the general question of to whom public services are considered useful, which includes as a specific

case the assumption of the state being a factor of production. In the debate, it was often taken for granted that public services are useful to individuals only and, in that case, at least ideally, taxation should match individual marginal cost with the corresponding marginal benefits of public services. Then, formally, efficiency was the taxation principle assumed; nevertheless, equity was the real cornerstone in discussing any relevant concrete aspects of the debate. In fact, both in the static contest and in dynamics, it is virtually irrelevant whether the principle of taxation is efficiency or equity, since in both cases the crucial point is the assumption that public services are only useful to individuals.

By contrast, a large part of tax income is directed to fund public redistributive activity. As regards redistributive policies, on equity grounds it might seem indifferent whether the tax base is income or consumption. Such policies depend directly on the accepted definition of equity, and – as it was shown above – there is no general link between single definitions of equity and earned or consumed income as a tax base. Then, one could find a reason to suggest earned income is a tax base only in the case that savings are typical of the contributing individuals and not of the receiving ones.

On the contrary, in modern states it is no longer necessary to make assumptions about the relationship between public policies and taxation, even if the principle of the equal treatment of equals is applied to money wealth and not to utilities. In fact, ability to pay of taxpayers seems the only concern of modern states. Individual income, corporate and business income are taxed owing to their respective ability to pay, and not because public services are considered useful. In the globalized world, where income is taxed according to the principle of origin, the link between tax income and public services has become quite loose. The conclusion is that the arguments of the Italian debate are no longer binding, in particular the Fasiani–Einaudi discussion regarding public services as factors of production.

The fact is that fiscal systems have evolved to match the change in the corresponding economic systems. The hindrance is that in loosening the links between taxation and public services it becomes more and more difficult to manage the growth of public expenditure. From that angle, revisiting of the Italian debate might still be of some use.

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