COMMUNICATIONS

The Public Debt: A Burden on Future Generations?

"Personally, I do not feel that any amount can be properly called a surplus as long as the nation is in debt. I prefer to think of such an item as a reduction on our children's inherited mortgage."

—President Eisenhower, *State of the Union Message,* January 7, 1960.

Two things are certain. The first is that, whatever else this quotation from President Eisenhower's State of the Union Message may imply, the President appears convinced that the costs of debt-financed public projects can be passed on to future generations. The second is that the popular economics textbooks of our day are nearly unanimous in their rejection of this "naive" view of the public debt. The purpose of this brief note is to suggest that in this instance it is the President who is—in at least one highly important sense—right.[1]

The basic question at issue seems simple indeed: Can the "real burden" of a public project financed by a privately held internal debt be shifted from one generation to another? The usual economics textbook answer to this question is that the burden can *not* be shifted to future generations because government spending must drain real resources from the community at the time the government project is undertaken (assuming full employment of resources) regardless of whether the project is financed by borrowing, taxes, or money creation. As Samuelson puts it: "To fight a war now, we must hurl present-day munitions at the enemy; not dollar bills, and not future goods and services."[2]

What is wrong with this by-now-standard argument? Absolutely nothing, if the real burden of the debt is defined as the total amount of private consump-

[1] J. M. Buchanan [1] is one of the few contemporary economists to argue in favor of the proposition that the real burden of a public debt *can* be shifted to future generations. It was Buchanan's stimulating book that started the train of thought that has resulted in the argument contained in this paper. The reason for the present paper is that while Buchanan has arrived at essentially the same conclusion, he has apparently not succeeded in convincing very many people that he is right—at any rate, he has not convinced several reviewers of his book (see, for example, the reviews by Rolph [5], Lerner [4], and Hansen [2]). Perhaps the reason these reviewers have not accepted Buchanan's conclusion on this point is that Buchanan: (1) does not always define "real burden" in a sufficiently clear manner; (2) defines "generation" in such a manner that the same person can be considered a member of many different generations [1, pp. 33-34]; and (3) relies on what Rolph [5, p. 184] has called a "proof by indirection." We have tried to avoid these pitfalls.

[2] [6, p. 351]. Among the widely used elementary texts, C. L. Harriss' book [3, pp. 689-97] seems to come the closest to accepting the line of argument presented here. However, Harriss' exposition is badly impaired by an unclear distinction between "real costs" and "money costs." All writers seem to agree that the so-called "transfer payments" necessitated by a public debt involve real burdens in the sense that taxes used to meet interest payments may impair incentives to work and save. Neither this aspect of the debt problem nor the relationship between the public debt and economic stabilization are discussed in this paper.

tion goods given up by the community *at the moment of time the borrowed funds are spent*. Under this definition of real burden, the cost of the public project simply must be borne by the generations alive at the time the borrowing occurs.

There is, however, another definition of real burden which permits, under certain circumstances, present generations to shift the burden to future generations. And this definition, we submit, is a more accurate representation of the everyday notion of burden and is a more sensible concept for deciding if the real cost of a certain project can or can not be postponed to future generations. Let us define the real burden of a public debt to a generation as the total consumption of private goods foregone *during the lifetime* of that generation as a consequence of government borrowing and attendant public spending. (For the moment, we are not taking into account the benefit that may result from the public expenditure, and so we are talking about a "gross burden.") Our preference for the lifetime of a generation as the unit of account is based on the proposition that people can and do forego consumption at a moment of time in order to be able to consume more later, and that to use the amount of consumption foregone at any one moment of time as some sort of index of the over-all sacrifices made by a generation is misleading.

Let us now consider the following situation. Assume a full-employment economy. Assume further that there is within the society an identifiable "generation" of people, all of whom are, let us say, 21 years old. Suppose that at a given moment of time the government sells bonds to the private sector of the economy in order to finance public project X[3] and that all of these bonds are voluntarily purchased by the group of 21-year-olds, whom we shall refer to as Generation I.

To determine the allocation of the burden of public project X between generations, consider a point of time 44 years later when all members of Generation I are 65 years old and the rest of the community is made up of a Generation II, whose members are all 21 years old. Suppose that at this moment of time all the members of Generation I who own the still outstanding government bonds sell these securities to members of Generation II and use the proceeds for the purchase of consumer goods during retirement.

In this case it is clear that the lifetime consumption of the members of Generation I has not been reduced even though the total subtraction from the production of private goods due to the carrying out of public project X took place during their lifetime. The reason is simply that the saving represented by Generation I's original purchase of the bonds has been matched by the dissaving resulting from the later sale of the bonds to Generation II and the subsequent spending of the proceeds. Conclusion: Generation I has not assumed any of the burden entailed in financing public project X by the issuance of government bonds. (For the time being, we ignore the interest charges on the debt.)

Let us now examine the situation of Generation II. If the government makes

[3] At this juncture, the precise characteristics of the government project are best left unspecified. The relevance of the particular type of government project undertaken will be considered shortly.

no effort to retire the debt during the lifetime of Generation II, and if Generation II sells its bonds to Generation III, then Generation II also escapes the burden of paying for the public project, and so on. To make a potentially long story short, suppose, however, that during the lifetime of Generation II the government decides to retire the debt by levying a general tax in excess of current government spending and using the surplus to buy up the bonds that are now held by members of Generation II. The inevitable outcome of this decision is a reduction in the lifetime consumption of Generation II. The taxpayers of Generation II forego consumption in order to retire the debt and yet the bondholders of Generation II do not experience any net lifetime increase in their claims on consumption goods since they are simply reimbursed for the consumption foregone at the time when they (Generation II) bought the bonds from Generation I. Conclusion: the burden of public project X rests squarely on Generation II, and not on Generation I.

The skeleton of our argument is now complete: While the resources consumed by a debt-financed public project must entail a contemporaneous reduction in private consumption, the issuance of government bonds permits the generations alive at the time the public project is undertaken to be compensated in the future for their initial sacrifice. Generation I merely makes a loan of its reduced consumption, and the real reduction of consumption is borne by the generation(s) alive at the time this loan is extinguished. Consequently, even though the real private consumption of the community as a whole need not be altered by the growth of the public debt, it is still possible for the distribution of the community's private consumption *between generations* to depend on whether or not public projects are debt-financed.

One other form in which the general argument that no burden can be passed on to future generations often appears is the "we owe it to ourselves" or "assets equal liabilities" version:[4] No burden can be passed on because corresponding to every asset in the form of a government bond outstanding there is an equal liability in the form of liability for taxes to meet the interest charges and to repay the principal of the debt. Since there are always these two offsetting sides to the debt instrument, the argument proceeds, future generations can not be handed any burden since when our taxpayer-children inherit the tax liability our bond-holder children will acquire an equal asset.

The difficulty with this argument is simply that the asset and liability sides of the public debt are "passed on" in significantly different ways. In so far as the government bonds are acquired by Generation II by purchase rather than bequest, the recipients of the bonds have only received a *quid pro quo*. On the other hand, the members of Generation II who are handed the tax liability are not reimbursed for accepting this liability. From the vantage point of Generation I, the bondholders in this generation received claims on consumption in exchange for the asset (bonds) which they sold to Generation II; at the same time, the members of Generation I as liability-holders passed on their tax liability to Generation II by the simple expedient of dying, and thus did not have to give up consumption goods to get rid of the liability.

[4] For a fuller exposition of this line of argument, with references to the literature, see [1, pp. 4-14, and *passim*].

Consequently, unless Generation II can in turn pass its assets on to Generation III by sale while at the same time passing on its liability without making a compensating payment, the burden of the debt will be borne by Generation II.

We come now to the question: How about interest payments? We shall argue that the interest payments on the debt represent some burden on each and every generation that must pay taxes to make such payments.

To show why this is so it is necessary to reconsider the meaning of our definition of real burden—namely, "the total consumption of private goods foregone during the lifetime of a generation." Thus far we have implicitly assigned all amounts of consumption enjoyed during the generation's lifetime equal weights in arriving at total lifetime consumption, and have disregarded entirely the stage in a generation's lifetime at which various amounts of consumption were enjoyed. Consequently, we were able to argue that a generation which gave up a certain amount of consumption early in life to buy bonds and then was able, by selling the bonds later in life, to enjoy the same amount of consumption during retirement years had avoided all of the burden involved in the debt financing of project X. The difficulty with this treatment is obvious. So long as people have a positive rate of time preference (that is, prefer present consumption to future consumption), they will feel that they have made a sacrifice if they give up a certain amount of consumption in their youth and then receive back exactly the same amount of consumption in their old age.

If we assume that the interest rate on the government bonds approximates the generation's rate of time preference, then the interest payments on the national debt serve to compensate the owners of the debt for their willingness to forego consumption early in life, and thus (along with the recapture of the principal late in life) serve to make the discounted value of the lifetime consumption of the bondholders the same as it would have been if project X had never been contemplated.

Turning now to the tax side of the interest transaction, it is clear that the tax payments needed to make interest payments represent a real reduction in the lifetime consumption of the people paying the taxes. Furthermore, since any given year's debt service is paid out of approximately contemporaneous tax payments, the same generation that receives the interest payments will be making a large part of the tax payments. The inescapable conclusion is that while the interest payments (along with the repayment of the principal) do not increase the discounted lifetime consumption of a generation, the tax payments do decrease lifetime consumption. Consequently, the discounted lifetime consumption of the generation is, on balance, reduced by the existence of debt service. This burden represents the real loss of welfare incurred by the generation as a consequence of the fact that it postponed its consumption but did not—because it received in interest payments only what it paid in taxes—receive any compensation for this distortion of its preferred consumption pattern.

The reason that in our discussion of interest payments we have spoken of "a" generation or "the" generation is that this burden (measured now in

terms of the reduction in the discounted value of the generation's lifetime consumption) is borne, of course, by each generation that pays a service charge on the debt. Consequently, even if the principal value of the debt is continually passed on, each generation bears a burden in the form of an uncompensated distortion of its preferred pattern of consumption.

So far we have avoided consideration of the type of government project financed by the initial borrowing. Actually, whether the government funds are spent wisely or foolishly is largely irrelevant to the question at issue here; for we are concerned solely with the allocation of the real *cost* of debt-financed government spending between generations and not with the allocation of the benefits of the government spending over time. Consequently, our conclusion that it is possible to shift at least a part of the cost to future generations does not imply that the absolute well-being of the future generations has been worsened by the combined borrowing and spending operation. If the borrowed funds were spent on a project whose benefit stream extends far into the future (for example, on fighting a "war-to-end-wars"), then the generation that assumes the main burden of the debt may still be much better off than if the debt had never been incurred. Our point is simply that the use of borrowing—as opposed to taxation or money creation—has improved the lot (measured in terms of lifetime consumption) of the first generation relative to the lot of succeeding generations.[5]

There is one final qualification to our argument. We have constructed a somewhat simplified case by assuming that all the bonds held by Generation I are sold to Generation II and that the proceeds are used entirely to increase consumption during the remaining years of Generation I's life. If, for example, all the members of Generation I were to will their bonds to Generation II, all real sacrifice of consumption would be borne by Generation I. Nevertheless, in spite of this simplification, the argument undoubtedly contains a large measure of relevance for the real situation. Purchasers of bonds, during a war for example, lose current consumption and receive marketable securities which surely are at least in part intended for conversion into spending on consumables in later years. The resulting claims upon consumer goods are realized at a time when they draw against the productivity of new members of the community who would otherwise enjoy a higher level of consumption. The existence of the marketable bonds undoubtedly makes possible at least some transfer of real income between generations.

Our conclusion that the real cost of debt-financed government spending can (at least in part) be transferred to future generations does not, of course, establish any prima facie case against deficit financing or in favor of the

[5] There is a second, closely related reason for not tying the argument of this paper to a particular government expenditure, whether it be the construction of public schools or the giving of an enormous fireworks display. If, at the time public debt is issued, the government is spending money for many activities and financing these activities by taxes (and perhaps by money creation) as well as by borrowing, then it is hard to see how one can impute any specific project to any specific method of finance. The fact that we cannot solve this version of the imputation problem is irrelevant to the basic proposition that the cost of debt-financed government projects can be passed on to future generations, and thus cannot be used to disprove this proposition.

prompt retirement of the national debt. For one thing, to the extent that public projects undertaken today aid future generations, it may be fairer to let these future generations help pay the cost of these projects than to put the entire burden on present generations. Furthermore it is obvious that many considerations other than the location of the debt burden—such as the employment situation, the needs of the country for collective consumption, and the effect of taxes on incentives—are relevant in determining budget policy. However, at the present moment, there seems to be less danger that economists will forget the importance of these other considerations than that they will deny the possibility that the public debt can be used to shift a part of the real cost of public projects on to later generations.

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Capital Formation in Underdeveloped Countries

In the rapidly growing volume of literature on the problems and prospects for economic development, considerable attention is being devoted to the determinants of net capital formation or, more particularly, to the obstacles to and limitations upon capital formation in underdeveloped countries. This preoccupation is, without question, well deserved. One need not subscribe to a monocausal theory of development to argue that an increase in the percentage of annual output devoted to investment is an urgent and indispensable prerequisite to a long-term rise in real per capita incomes. Indeed, current attempts at what is now being called, rather pretentiously, "development programming," often consist exclusively of measures designed to raise the over-all rate of capital formation and to exert some centralized guidance over the allocation of investment resources.[1]

A central question in a theory of development, then, is: Why are rates of

[1] "A programme of economic development is the expression of a simple idea, namely, the desirability of increasing and judiciously regulating capital investment, so that a stronger impetus and greater order may be given to the growth of the country" [11, p. 3].