

# THE TAXABLE CAPACITY OF A COUNTRY

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This topic is an ancient one in public finance literature.<sup>1</sup> After being dormant for a number of years it has recently come to the fore again in a variety of different contexts.<sup>2</sup> In this paper I should like to set out the different strands of thought embedded in the idea and see how they relate to one another.

Section I will be concerned with *the estimation of actual tax yields as proportions of natural aggregates*. Although no one would claim that such data in their unvarnished form tell one anything about taxable capacity it is nevertheless necessary to know something about the snags in such calculations before proceeding further. Section II examines one historical strand in the literature about taxable capacity : *the notion that it is connected with justice or fairness in tax assessment*. Section III turns to what seems at first sight to be another theme, and one which has received a lot of attention in recent years, i.e., the notion of reasonableness as judged by the standards of tax raising in other countries with similar characteristics. In Section IV we come to the proposition that taxable capacity relates to an upper limit beyond which tax ratios cannot be raised. Finally, we shall draw a few conclusions.

It can quickly be seen from this very brief description of the content of this paper that it is much more concerned with pulling together a number of threads from the literature and examining their implications than in developing brand new ideas. It is only right that this point should be made explicit at the beginning.

## Section I.

Obviously no calculations or estimates of ratios of tax yield to a national aggregate are going to tell us anything directly about the notion of taxable capacity. The latter conveys some idea of potential yield as distinct from actual yield and therefore mention of the former is not likely to enlighten us to more than a minimal extent. As we shall see, the concept of taxable capacity is extremely elusive but our concern at the moment is simply to clear the ground by sorting out what is commonly measured by these calculations so as to produce a foundation for later discussion.

I propose to refer to two sets of recent calculations. The earlier one <sup>3</sup> covers a large number of countries but inevitably relates to data which are now older than one would like. The latter one <sup>4</sup> refers to a smaller number of countries but has a more recent coverage.

The conventional kind of conclusion is that the calculations of tax ratios to GNP in developing countries are quite substantially lower than in the developed countries. If one takes the Chelliah data one finds that for 47 developing countries the ratio of taxation to GNP in 1966-68 was 13.6 %; and in 1969-71 the average was 15.1 %. On the other hand, the corresponding figure for 16 developed countries in Europe and N. America in 1969-71 was 26.2 %. If one wishes to amplify the data for developed countries one can see from the paper by Messere that the ratio for 15 OECD countries in the year 1974 was 36 % (including social security taxes).

Two obvious conclusions follow. One is that there is a wide gap between developed and developing countries; and indeed this is greater still if social security revenues are included in that these tend to be proportionately greater in developed countries. A second conclusion is that the Chelliah figures show that the ratio in developing countries is tending to increase over time.

The conclusions drawn from these data differ sharply between developing and developed countries. The usual proposition in the former is to regard the ratio of taxation to GNP as some sort of national virility symbol and to maintain that they should try to emulate developed countries, or at any rate that those developing countries occupying low positions in their own league table should try to mend their ways and increase their ratios, so that they are closer to those of the leaders. On the other hand, in developed countries it has in recent years become much more a matter of national despondency or national complaint if the tax/GNP ratio is seen to be higher than in comparable countries. The fact that such opposing conclusions are drawn obviously should put one on one's guard against the use and misuse of such data.

In interpreting data of this sort there are three major points to make. As I have dealt with the subject elsewhere at some length <sup>5</sup> I do not propose to go into extensive or detailed discussion now but simply to list the major problem areas. The first is what one is *not* concerned with in measures of this sort. The second is the consideration of the right principles for these sorts of measures. The third is the way in which the conventional calculations depart from these principles. Let us now look at each of these subjects in turn.

If we are trying to establish what we are *not* concerned with in this area it is easy enough to compile a very long list. Putting it into a nutshell one is clearly not going to establish from measurements of the ratio of tax to GNP either the proportion of real resources which is absorbed by the public sector or the proportion of value added in the economy as a whole which comes from the public sector. Still less, shall we obtain any indication of the degree of government intervention or any such complicated concept.

In principle, one could start by saying that one is trying to measure the cost of the payments which the community has decided to make on a collective or non-market basis. In other words we are concerned with what Shoup<sup>6</sup> has called the proportion of expenditure about which individuals and corporations are not allowed to please themselves. At least this is an approach to the correct principle but it is clearly not sufficient in that it is essentially concerned with the proportion of public *expenditure* to the national aggregate rather than public *revenue*. If, as here, we want to concentrate on the latter then the appropriate concept is to think in terms of the flow of income which is compulsorily diverted from individuals, corporations, and the like and so is not at their direct disposal.

We now come to the ways in which the standard calculations depart from this sort of concept. Let us look first of all at the measurement of tax revenue and then, secondly, the national aggregate.

As far as tax revenue goes there are a number of major issues. One is how the profits of public corporations should be treated; another is social security contributions; another is capital taxes; and another is the inflation tax, a concept which has been made familiar in recent years by the writings of Professor Friedman<sup>7</sup> and others.

One can only hope to set up an appropriate measure if one can establish a set of general principles. Those which seem to be relevant are, first of all, to know whether any particular payment to the government is compulsory or not; and, secondly, to have some method of deciding whether the profits of state corporations should be treated as part of total revenue. For reasons which I have set out in detail elsewhere<sup>8</sup> it seems to me that the appropriate measure in the latter case is some sort of concept relating to the excess profits of public corporations, i.e., those profits in excess of some sort of concept of normal return. Obviously, there are plenty of difficulties in the normal return concept but if we do not follow this sort of rule we are likely to find that comparisons of ratios of tax to the national aggregate are completely distorted between countries in so far as one country happens to have profits from, say, a nationalised steel industry or a nationalised coal industry whereas another does not. This argument also ties up with the notion of that part of spending power which is *compulsorily* diverted to collective provision in that people are not normally compelled to buy specific amounts of those goods or services which are sold by State organisations.

If we follow these concepts through we find that the standard data are affected in various ways. I do not propose to refer to these in detail but obvious examples are the treatment of social security contributions, capital taxes and, in an age of inflation, the inflation tax. All these various contributions to the State fit in with the principles set out above just as much as income tax and there are really no reasons for excluding them. To the extent that international calculations do exclude them, they are obviously only including a portion of the total tax revenue in each country.

If we turn to the concept of the appropriate national aggregate there are plenty of issues to be considered here too. We can divide them into two groups :

1. The first arises if one wants to take a conventional national accounts aggregate such as GNP or GDP. This raises all the usual problems about whether one wants a national or domestic concept, a market price or factor cost concept and so on. I do not propose to say any more about this here.

2. The other major issue is whether one wishes to have a concept which differs from the usual national aggregate, and if so, whether one wants something larger or smaller. There are numerous choices here but my own preference would be to say that the most appropriate notion would be something like personal income (including personal capital gains) plus undistributed profits of companies (together with corporation taxes paid) and, in addition, the trading surpluses or net property income of public corporations. This would correspond much more closely to the stream of income from which tax payments are made than, say, a national aggregate concept which excludes transfer payments. No doubt, there are plenty of statistical problems in producing comparable data for this sort of concept in different countries but that is really no excuse for churning out year after year tax ratios based on measures of national aggregates which are quite obviously inappropriate.

To summarise this section, we can say that the standard international calculations lead to well-known conclusions about differences between developing and developed countries, conclusions about positions in the international league table and so on. But these conclusions are really based on concepts which are more than a little suspect quite apart from any deficiencies in the national accounts data themselves. Nor is it sufficient to argue that one gets the same results whichever set of data one takes. This is simply not true as one can quickly see from comparisons of different tax/national aggregate ratios for individual countries over periods of time or in respect of comparisons between countries. For example in the U.K. we can conclude that the ratio for 1974 was 44 % or 54 %, depending solely on whether one takes a factor cost or market price concept of GNP and on how one treats public corporations.

## Section II.

The interpretation of taxable capacity as being connected with the amount of tax which could be justly or fairly imposed on an individual is an ancient one among economic theorists. The sacrifice principle as enunciated by Edgeworth and Pigou essentially led to the conclusion that a rich man's capacity to pay tax was disproportionately greater than that of a poor man. The Haig/Simons principle in effect maintained that relative capacity to pay was best measured by a concept of income embracing all net accretions of assets as well as consumption. The modern school of optimal taxation theorists is concerned, at least on the income tax side, with the optimal degree of progressivity.<sup>9</sup>

The same idea has also long been applied to relative tax burdens on the different sections of a country or on different countries joining together for some co-operative purpose. In case anyone thinks that the division of tax contributions agreed between, say, member countries of the E.E.C. or NATO allies has raised brand new concepts of taxable capacity he would do well to study the 1896 Report of the Royal Commission on Financial Relations between Great Britain and Ireland.<sup>10</sup> Thus the first two headings in the terms of reference read as follows :

1. Upon what principles of comparison and by the application of what specific standards the relative capacity of Great Britain and Ireland to bear taxation may be most equitably determined.

2. What, so far as can be ascertained, is the true proportion under the principles and specific standards so determined between the taxable capacity of Great Britain and Ireland.»

And going even further back one might quote from the speech of the Younger Pitt in the House of Commons during the debates in 1795 on the commercial treaty between Great Britain and Ireland :<sup>11</sup>

«The smallest burthen on a poor country was to be considered, when compared with those of a rich one, by no means in proportion with their several abilities; for, if one country exceeded another in wealth, population and established commerce in a proportion of two to one, he was nearly convinced that that country would be able to bear near ten times the burthen that the other would be equal to.»

So there can be no question about the distinguished ancestry of the proposition that the notion of taxable capacity is inherently bound up with the idea of a just and fair distribution of a given tax burden among a group of individuals or countries.

Nevertheless, one is bound to feel less than satisfied with this interpretation. The first reason is that a large number of disparate strands of thought are covered by this umbrella; and some of them suffer from well-known limitations—the cardinal utility concept behind the sacrifice principle and the very severely limiting assumptions of the new optimal taxation school, for instance. The second reason is that the notion of what is fair or just as between individuals or countries (whichever of the many possible interpretations one places on fairness or justice) is not going to tell us everything about the maximum feasible amount of taxation which can be imposed in any given country at any given time. Elusive as this idea may itself be we certainly cannot claim to have drained the concept of taxable capacity of intellectual content until it has been examined in some detail.

### Section III.

Since the pioneering work of A. Lewis and A. Martin some 20 years ago<sup>12</sup>

there have been a very large number of econometric studies in this field, many of them appearing in *IMF Staff Papers*.<sup>13</sup>

Basically, these econometric studies are defining taxable capacity on the basis of what one might expect a country with given characteristics to do in the taxation field. In other words, if country A has similar characteristics to country B (leaving aside for the moment what we mean by characteristics) but raises a much smaller fraction than Country B or, for that matter, other countries like A and B then one can at the very least say that A is out of line with its peers.

Some 10 years ago the procedure, as developed by Lotz and Morss, was to regress the tax/GNP ratio on income per head and a measure of overseas trade or openness of the economy. This set up a norm or standard for what one could expect the tax ratio to be for any given country; and then one could in turn measure the intensity of tax effort in that country on the basis of the relationship between the predicted and the actual ratio.

More latterly this approach was refined, essentially by Bahl, in the following way: Bahl's regressions consisted in relating the tax ratio to two variables. First, the share of minerals and oil in GNP and, secondly, the share of agriculture in GNP. The former is really a proxy for the openness of the economy (with the implication that one would expect the coefficient to be positive); the latter is a proxy for income per head, or at least a negative proxy for income per head, with the implication of a negative coefficient. The regression equation as originally formulated by Bahl and subsequently utilised by Chelliah<sup>14</sup> is as follows:

$$\frac{T}{Y} = 15.66 + 0.35 N_y - 0.08 A_y \quad \bar{R}^2 = 0.442$$

(1.07)            (4.44)            (2.37)

where  $\frac{T}{Y}$  = tax ratio,  $N_y$  = share of mining in GNP &  $A_y$  = share of agriculture in GNP.

As an alternative which, it was argued, would make for clearer distinctions, the following equation was also used:

$$\frac{T}{Y} = 11.47 + 0.001 (Y_p - X_p) + 0.44 N_y + 0.05 X_1^y \quad \bar{R} = 0.376$$

(7.84)            (0.38)            (5.45)            (1.17)

where  $(Y_p - X_p)$  = per capita non-export income in U.S. and  $X_1^y$  = export ratio excluding mineral exports.

These two alternatives explored by Chelliah *et al* gave similar results (at least in terms of country ranking for tax effort) and so we shall not spend time here analysing the differences between them.

On the basis of either of these regression equations a distinction can be drawn between taxable capacity and tax effort. Taxable capacity is measured by the ratio of tax to GNP as predicted by the regression equation, i.e., this would represent normal

use of the taxable capacity of a country if that amount of revenue was raised. Tax effort, on the other hand, is an index obtained by dividing the actual ratio of taxation to GNP by the predicted ratio.

As a result one therefore has the two concepts of capacity and effort and hence four possible categories in which countries may be placed. As examples we can quote the following :

- High capacity and high effort - Brazil
- Low capacity and high effort - Sudan
- High capacity and low effort - Trinidad
- Low capacity and low effort - Pakistan

Although on the Chelliah (1975) version there is a small tendency for high taxable capacity to be associated with high tax effort this was not very marked.

Before considering the contribution of these mainstream econometric studies it is just worth noting that an alternative approach to measures of taxable capacity and tax effort was made by Bahl<sup>15</sup> on the basis of work done on yields of representative tax systems. There have been a number of examples of this sort of work in the past<sup>16</sup> but essentially the basic idea is to take a standard tax system, look at the yield one can predict in a given country on the basis of certain characteristics such as income per head and so on and then compare predicted with actual yield. Bahl showed that one could by this means develop a measure of tax effort defined as actual tax yield divided by yield of representative tax system and a measure of taxable capacity (defined by yield of representative tax system divided by GNP). The yield of the representative tax system was in turn given by the average of effective tax rates for the sample as a whole multiplied by the relevant base for an individual country. For example, one would take the average of income tax rates for the sample and multiply by the income total for any given country. I do not wish to go further into this approach now but it is worth noting that the ordering of countries in terms of taxable capacity and tax effort came out much the same as with the earlier approach.

What contribution do studies of this sort make to illuminating the concept of taxable capacity? Obviously there is a host of statistical problems ranging from the (in) accuracy of the data to the acceptability of the econometric techniques, but I leave these entirely on one side.

The logic of the approach is that the explanatory variables chosen reflect in some sense or other a capacity to pay tax rather than a demand for public expenditure.<sup>17</sup> The proposition that the estimated tax ratio for any given country is a measure of the tax capacity it might reasonably be expected to have, in the light of what happens in other countries, is clearly dependent on this assumption. Equally clearly, the justification for this assumption is not self-evident : as Bird<sup>18</sup> points out the income variable is likely to incorporate demand-for-government as well as supply-to-government ingredients.

Secondly, one must ask whether this notion of taxable capacity differs fundamentally from that outlined in the preceding section. A little reflection will show that it does not do so. Suppose, for instance, one were to include as an explanatory variable a measure of income incorporating an element of progressivity ( $Y^2$ , for instance).<sup>19</sup> We then have something which is on all fours with the notions of sacrifice or justice which we were discussing in the preceding section. But the omission of any such progressivity element does not mean that the equations as usually formulated belong to a different *genre*; they simply embody a proportionality rather than a progressivity norm.

Finally, if this particular approach is fundamentally the same as that in the preceding section the same comments hold as before; we are only being given a glimpse of what tax yield might be 'fair' or 'reasonable' (or whatever other anodyne word one can think of). In no sense are we grappling with the notion of a maximum exaction.

#### Section IV.

The concept of an upper limit to the tax burden which can be imposed on a country has a long history. Basically, it is a Marxist-style notion of a surplus which can be drained off for governmental purposes. As Kaldor once put it:<sup>20</sup>

«The taxation potential of a country depends on the excess of its actual consumption over the minimum essential consumption of the population.»

The idea of creaming off the surplus above subsistence level and equating this with the notion of taxable capacity has its origins in, or at least finds support from, the notion of what happens in a major war. Thus it can be argued that in the UK in World War II the needs of the population at large were cut down to a minimum level by various types of rationing devices, queues, shortages, taxation, monetary measures and so on. Hence it is often argued that developing countries, for instance, should emulate this kind of example; if they were to do so, we should then have a measure of the maximum feasible tax ratio they can hope to reach.

Alternative applications of the concept can be found in discussions in 1918 or 1945 about post-war reparations,<sup>21</sup> or the history of Soviet Russia in the days of industrialisation under Stalin.

The first point to emphasize about any such notion is that it is impossible to pin down with any finality. The concept of a subsistence level is highly elusive and is dependent not just on known physiological needs but also on people's willingness to have their consumption standards squeezed; and this in turn depends on the acceptability of the cause for which their standards are being squeezed.

Nevertheless, even though there is this very considerable element of vagueness about what might constitute an upper limit to the tax ratio, it is worth explorin



In some detail why tax ratios in practice will tend to be below any such levels. We shall spend a very short time on the more political reasons; and a much longer time on the more economic reasons.

The sorts of situations in which something approaching a maximum limit is reached—wartime, post-war reparations, dictatorship—all have common elements: Political opposition to such taxation levels is likely to be less the more autocratic the dictatorship or the more popular the cause for which taxes are being raised (e.g., a truly national war; or taxes earmarked for particular purposes of which people may approve, such as the relief of the neediest elements of the population). But even the most absolute of dictators has to face the long run threat of revolution; and even the most popularly acclaimed war is likely to pall after a time, carrying with it the threat that a government may lose office at the next election. If we can designate these arguments as political—and obviously, there is a shadowy borderline here—we can say that there are very clear political constraints on the freedom of governments to approach or maintain tax ratios which are anywhere within sight of the maximum conceivable levels.

With that, I propose to leave the political arguments to those better qualified to discuss them. But I do want to spend some time on the more purely economic reasons why very high tax ratios cannot be made to stick or at least cannot be made to stick for long periods. There are in fact three topics which I should like to range over: the relationship between economic incentives, taxation and the composition of expenditure; inflationary consequences of raising tax rates; and problems arising from the composition of any given revenue total. We shall find that all three topics point to reasons why taxable capacity in a country may be constrained well below any such level as might be thought possible on the draining-off-the-surplus idea.

On the first topic, I shall draw heavily on the unpublished paper by Shoup.<sup>22</sup> Essentially, this is a matter of asking how far the effects on incentives to work or to take risks of a particular increase in tax revenue depend on the particular purpose for which it is used. Shoup distinguishes four cases<sup>23</sup> which I shall now discuss briefly.

#### Case A.

The first case is where the government spends its extra revenue on the acquisition of and subsequent free provision of goods and services to the population at large. Suppose that this additional largesse is financed by income tax. Then we can say that the income tax would have income and substitution effects in the usual way but that the additional expenditure would only have an income effect. Hence there would almost certainly be a disincentive to work (I shall concentrate on work incentives only from now onwards), and the overall result may well be to act as a break on government expenditure of this kind. In Shoup's terminology, when work effort and reward for work effort become disassociated we must expect a reduction in work effort and this would have inevitable consequences in imposing

limits on government spending. There is one qualification to this argument : when the free distribution by government is complementary to private purchases. For instance, if better roads can only be enjoyed if a man buys a car then the disassociation effect will be that much less strong. In effect, we can think of government expenditure as being an indirect way of subsidising the purchase of automobiles or, alternatively, of the demand for automobiles as being complementary with the demand for roads. We have here an effect on all fours with the well-known complementarity effect analysed some years ago by Corlett and Hague.<sup>24</sup>

#### Case B.

Supposing that the income tax is now used to pay people transfers which are in no way connected with their work effort. Once again, we have two sets of income effects and a substitution effect, of the tax, with the probability of adverse reactions on work effort.<sup>25</sup> Once again there is a qualification. If the transfers are paid to an inactive section (e.g., the retired element of the population) and income tax falls on an active section, then the two sets of income effects do not impinge on the same people. But even here we must acknowledge that today's worker knows that he will be tomorrow's pensioner and therefore we cannot separate the income effects in a straightforward fashion.<sup>26</sup> So *net* income effects will be small; and we are still left with the substitution effect of the tax.<sup>27</sup>

#### Case C.

As a third alternative assume that the government uses the income tax to finance individuals' purchases of goods and services in the market by large-scale non-selective subsidies. The effects can be seen clearly enough if we take the extreme case with say, a 95 % average rate income tax and assume the whole of the sum raised in this way to be distributed in subsidies. The net result in this case is less adverse to work effort in so far as the reduction in the price at which goods and services can be bought (or, on alternative monetary assumptions, the increase in factor incomes which can be obtained from producing those subsidised goods and services) will be such as to offset the substitution effects of the income tax. In other words, we now have the tax being responsible for both income and substitution effects and the subsidy being similarly responsible for both income and substitution effects. Therefore there is no reason why one should now have strong disassociation between effort and reward. The story is much the same if one has selective rather than non-selective subsidies.

#### Case D.

If the government spends its revenue on defence or something similar from which the recipient does not consider he derives an income, we no longer have income effects on both the revenue and expenditure sides. In the limiting case where

there is judged to be no accession to income from government spending, we are left with the income and substitution effects of the taxation side alone. Disincentives to work will now clearly be less than in cases A and B, at least on the assumption that the income elasticity of demand for leisure is positive. Hence the 'tax capacity' limits to expenditure of this sort are not as low as when expenditure is useful. Nevertheless, one cannot push the argument too far; people cannot live on the guns which are possible if they sacrifice their butter.

Obviously there are many qualifications which can be made to this kind of argument. One is that the choice is usually not as simple as that between working and not working. In so far as there are opportunities for untaxed work the disincentive argument is a much more complicated one than text books are liable to allow, as indeed is shown by the inability of the large number of investigations which have been made in this field to come to any firm conclusions.<sup>28</sup>

Another qualification relates to the fact that governments may finance expenditure by borrowing rather than by raising taxes. Insofar as additional borrowing enables more capital expenditure to be made this would be likely to have an effect similar to that of defence spending (Case D); but insofar as borrowing enables the government to expand its consumption expenditure we must then revert to Case A. The other complication in the borrowing case is whether people take any account of the fact that taxation may have to increase in later years in order to finance the interest on and repayment of the debt.<sup>29</sup>

In addition to considering non-tax forms of revenue one should also consider other expenditures. For instance, interest payments are likely to have incentive effects similar to defence expenditure if they are paid abroad; but if they are paid at home they are likely to resemble transfers.

Despite these qualifications and further complexities, the analysis of incentive effects of expenditure composition must clearly be a major ingredient in one's thinking about the economic limitations on the tax ratio in a country.

Another line of thought about the economic limitations on tax ratios goes back to a well-known article by Colin Clark.<sup>30</sup> The author attempted to show that there was a maximum feasible tax/GNP ratio of around 25% under peace-time conditions. We need not spend any time on the statistical part of the argument but we do need to note that the conclusion was arrived at by an entirely different process of reasoning to the incentive kind of argument developed by Shoup. Essentially, Clark's proposition was that at any given time there were forces favouring price rises and forces hostile to price rises in an economy. His argument was that if taxes rose beyond a critical level this would weaken anti-inflation feelings at all levels whether government, employers or employees. Hence prices would tend to rise and so the attempt to raise the tax ratio would be frustrated.

This article has often been criticised,<sup>31</sup> not without some justification. Nevertheless, it contains a proposition the general nature of which has found favour in a number of different quarters in recent years, i.e., that attempts to raise taxes generate unacceptable inflationary developments or reductions in consumption

standards (leading to strikes) or reduction in business profitability (leading to low investment).<sup>32</sup> I do not propose to discuss the detailed merits or acceptability of these various propositions but simply note that we do have here a different class of reasoning about the reasons why tax rises may have unacceptable effects on the economy beyond a certain point.

One further point is worth making. On the Clark argument, the limitation on tax ratios was deemed to be automatic in that the initial increase was hypothesised as leading to price rises and an increase in nominal GNP, thus tending to restore the original ratio. This argument was never convincing in that it neglected the additional tax yield generated by the increase in nominal incomes. But in so far as the consequences of rising tax ratios would be strikes or unemployment real output would fall and so no one would argue that tax ratios would fall back to their original level entirely automatically. In other words, the constraint on tax ratios in such contexts arises from purposive steps to reduce tax rates once these consequences become unacceptable.

To turn to the composition of revenue, we now have to ask whether disincentive effects of some taxes are much greater than those of others. There is a voluminous literature on the incentive effects of, say, regressive v. progressive income taxes but I do not propose to discuss this at all. What I would rather take up is the concept of what I shall call «tax blindness», i.e., how far can the authorities raise revenue at minimum cost in terms of disincentives by adopting a tax in one form rather than another? Thus withholding of income tax rather than explicit taxpayer payments is an obvious device; a closely allied point is that if withholding can be extremely accurate and obviate the need for an annual return by a taxpayer (as is often the case in the U.K.), tax blindness may be greater still compared with, say, a system of approximate withholding and self-assessment, as in the U.S.A. Similarly, it may be easier to raise revenue if goods and services are shown inclusive of sales tax rather than the latter being an additional separate element. In so far as people think that VAT is a tax to be passed on rather than to be paid by them, this tax scores high marks from this standpoint. Similarly, in so far as government can obtain more revenue surreptitiously through the inflation process, this again may be an easier form of tax-raising. We are primarily concerned here with people's psychological processes-what tax burdens are perceived or thought to be perceived by taxpayers and so on. But there is some empirical evidence in the U.K. to show that this subject is an important one.<sup>33 34</sup>

In short, there is a lot of scope for the crafty art of disguising the true import of taxes by such means as the above.

We can now see that there is a whole variety of economic effects which may prevent a government, however strongly entrenched politically, from pressing up to the limit of taxable capacity. Prof. Shoup has analysed the circumstances under which disincentives to work (or to take risks or to save) are most likely to arise for any given tax structure: essentially, the answer is that expenditure on freely provided goods and services or transfer payments is more disincentive than ex-

penditure on subsidies or 'non-obvious' goods and services. Another line of thought is that rising tax rates may, given appropriate monetary conditions, trigger off, inflationary or other unwelcome developments. Still another is that the composition of revenue—the degree of «tax blindness» or «tax opaqueness»—will be another constraint on the power to raise tax ratios.

## Section V.

If we are content with a notion of taxable capacity which has a connotation of reasonableness in the light of what similar countries do, the econometric type of analysis outlined in Section III. is a sensible and helpful approach. But once we try to complicate matters by incorporating elements of progressivity explicitly into the analysis, subjectivity may take over.<sup>35</sup>

If one thinks the concept of taxable capacity ought to contain some notion of maximum possible tax levels, it is very hard to envisage any satisfactory empirical tests of whether countries are operating up to capacity or not. Comparisons of actual tax ratios will tell us very little, if anything, by themselves.<sup>36</sup> One thing we can do is to look for indirect guidance on the lines suggested by Prof. Shoup.<sup>37</sup> The socialist economies of Eastern Europe are careful not to distribute large amounts of consumer goods free; defence expenditure is substantial; turnover taxes score high marks for opaqueness. Such observed patterns of behaviour strongly suggest that the potential disincentive effects of high tax ratios to finance free provision of consumer goods are strong enough to keep these ratios within bounds even under totalitarian regimes not subjected to the political constraints found in democratic countries.

Obviously enough we have not produced any definitive conclusions about the notion of taxable capacity. It would be quite foolish to expect to do so. The most one can hope to do with such an essentially elusive and intangible subject is to try to approach it from a number of different angles and think of what considerations are possibly relevant, and which claims are patently false.

## NOTES

1. See, for instance, J.C. Stamp, *Wealth and Taxable Capacity* (P.S. King, London, 1922); and especially, Royal Commission on Financial Relations between Great Britain and Ireland *Final Report*, C 8262, HMSO, London, 1896.
2. There have in recent years been a large number of studies of tax effort and tax performance, many of them emanating from the IMF Fiscal Affairs Division. See R.M. Bird «Assessing Tax Performance in Developing Countries» *Finanzarchiv*, Vol. 34, No. 2, 1976, for a recent assessment. See also Carl S. Shoup *The Limits on the Taxation Capacity of a Country* (International Tax Conference, Nairobi 1976) for another approach on which we shall draw extensively.
3. R.J. Chelliah, H.J. Baas and M.R. Kelly «Tax Ratios and Tax Effort in Developing Countries 1969-71», *IMF Staff Papers*, March 1975.
4. K. Messere «Tax Levels, Structures and Systems. Some Intertemporal and International Comparisons» (to be published).
5. «Government revenue the National income and all that» in R.M. Bird and J. Head (editors) *Modern Fiscal Systems* (University of Toronto Press, Toronto, 1972). See also «Public Activities in Perspective, a Critical Survey», to be published.
6. C.S. Shoup *Public Finance* (Aldine, Chicago, 1960), p. 499.
7. See e.g., M. Friedman *Monetary Correction* (Occasional Paper 41, Institute of Economic Affairs, London, 1974.)
8. «Government revenue, the national income and all that», *op. cit.*
9. For a recent summary see D.F. Bradford & H.S. Rosen «The Optimal Taxation of Commodities & Income», *American Economic Review*, May 1976.
10. *Op. cit.*
11. *Ibid*
12. A.M. Martin and W.A. Lewis «Patterns of Public Revenue and Expenditure», *The Manchester School*, September 1956.
13. E.g., J.R. Lotz & E.R. Morss «Measuring 'Tax Effort' in Developing Countries» November 1967. R.W. Bahl «A Regression Approach to Tax Effort and Tax Ratio Analysis», November 1971; R.W. Bahl «A Representative Tax System Approach to Measuring Tax Effort in Developing Countries», March 1972; R.J. Chelliah *et al.*, *op. cit.*
14. *Op. cit.*
15. 1972, *op. cit.*
16. E.g., Advisory Commission on Intergovernmental Relations, *Measuring the Fiscal Capacity and Effort of State and Local Areas* (Washington. D.C., 1971); V. Tanzi «Comparing International Tax Burdens : a suggested Method», *Journal of Political Economy*, October 1968.
17. Cf. R.M. Bird : «The successful measurement of taxable capacity used in these studies depends critically on the *a priori* justification of the explanatory variables as effecting only taxable capacity and not at all either demands for higher public expenditure or willingness to tax.» *Op. cit.*, p. 253.
18. *Ibid.*
19. *Ibid* p. 262; see also Lotz & Morss, *op. cit.* p. 494.
20. N. Kaldor «The choice of Taxes in Developing Countries» in E.F. Jackson (editor) *Economic Development in Africa*, Blackwell, Oxford, 1965, p. 156.

21. Cf. the often quoted speech of Sir Eric Geddes at Cambridge Drill Hall in the course of the December 1918 election campaign. «We will get everything out of her (Germany) that you can squeeze out of a lemon and a bit more . . . . I will squeeze her until you can hear the pips squeak.»

22. *Op. cit.*

23. *Op. cit.*

24. W.J. Corlett and D.C. Hague «Complementarity and the Excess Burden of Taxation». *Review of Economic Studies*, 1953-4 (I).

25. See also R.A. & P.B. Musgrave *Fiscal Policy in Theory and Practice*, McGraw-Hill 1973, p.470.

26. This is, in fact, a more general point, e.g., an income tax on the 'rich' may be used to make a transfer to the 'poor'; but the 'rich' of to-day may become the 'poor' of to-morrow.

27. If the transfer payment itself declines with earnings the substitution effects become even more adverse to work effort. Cf. R.A. Musgrave *The Theory of Public Finance*, McGraw-Hill, 1959, pp. 251-4.

28. See M.J. Boskin «On some Recent Econometric Research in Public Finance» *American Economic Review*, May 1976, p. 105 «No clear consensus on elasticities of labour supply has emerged.»

29. For an analysis of such problems Cf. A.R. Prest «Compulsory Lending Schemes», *IMF Staff Papers*, March 1969.

30. Colin Clark «Public Finance and Changes in the Value of Money», *Economic Journal*, December 1945.

31. Cf. J. Pechman and T. Mayer «Colin Clark on the Limits of Taxation», *Review of Economics & Statistics*, August 1952.

32. Cf. D. Jackson, H.A. Turner and F. Wilkinson *Do Trade Unions Cause Inflation?* (Cambridge University Press, Cambridge 1972); and R. Bacon and W. Eltis *Britain's Economic Problem*. Macmillan, London 1976.

33. Cf. C.V. Brown «Misconceptions about Income Tax Incentives», *Scottish Journal of Political Economy*, February 1968.

34. Also C.V. Brown & E. Levin «The Effects of Income Taxation on Overtime: The Results of a National Survey» *Economic Journal*, December 1974.

35. To quote R.M. Bird again:

«The only feasible approach in fact is probably to try various standards and see which one results in a ranking which looks 'about right', that is, accords with one's judgement as to the right weight to be given to divergences in income levels» (*Finanzarchiv, op. cit.*, p. 263). This seems to be a classic example of the tail wagging the dog.

36. However, it may be possible to make some progress by comparing countries which are broadly similar in general characteristics such as income per head, but which differ radically in public expenditure composition. Thus if the tax ratio is the same in a country where defence expenditure is a large proportion of public spending as in one where free public provision of consumer goods is the main component, there is a presumption that the latter is operating nearer to taxable capacity than the former.

37. *Op. cit.*

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