EFFECT OF PUBLIC EXPENDITURES ON INCOME DISTRIBUTION WITH SPECIAL REFERENCE TO VENEZUELA

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Taxes as well as government expenditures tend to transform income distribution; the higher they are in relation to GDP, the higher their potential influence appears. It is easier to trace the incidence of taxes than that of expenditures and studies of effects of expenditures on income distribution are not frequent. Changes of fiscal legislation and deficiencies in reporting systems and statistics frequently found in developing countries complicate the task still further.

An investigation of this type in a developing country has to face a poorly developed data base and take advantage of different and dispersed sources of information.

This paper presents the methodology used for estimating the influence of government expenditures on income distribution in the case of Venezuela. Although the incidence of fiscal activities on income distribution in Venezuela might not necessarily be the same as in other countries, Venezuelan sources of information are not very different from those existing in other countries of similar level of economic and statistical development and procedures used could appropriately be adapted to other countries.

1. PURPOSE

This work forms part of a wider investigation of the effect of taxes and public expenditures on income distribution in Venezuela. It must be borne in mind that in such a study it is impossible to create a laboratory-type situation from which you exclude the policy and action of the state, and then reintroduce it in order to analyse its effects; the study is therefore an estimation of some of the influences generated by Government action, such as the measurement of the effects of public services, considering them as an imputed income for the people who receive benefits directly from such services.

In Venezuela the relative importance of public expenditure is considerable and it shows at present an upward trend; up to 1970 public expenditure was a mere 20 percent of GDP, it rose to 33 percent between 1974 and 1976 and reached 37 percent in 1977. In OECD countries the corresponding figure was, on the average 28.5 percent during the 1955–57 period, 34.5 percent in 1967–69 and 41.4 percent in 1974–76.[1]

This relative increase in public expenditures creates a situation in which the state is increasingly responsible for increased or decreased inequality among its citizens, as it holds a powerful tool for redistribution. By means of taxes the state carries out a certain degree of redistribution, which can be maintained, increased or reduced depending on how the receipts are used for public expenditures.

The various types of expenditures have of course a varying incidence on the income distribution and we estimate that a quarter of the total expenditure had a redistributive effect which can be estimated by instruments at our disposal.

[1] "Public Expenditure Trends", OECD Studies in Resource Allocation. June 1978.

Studies on effects of public expenditures on income distribution are not very frequent. This is partly due to the fact that there is no consensus as to how benefits received should be quantified. In addition, information on recipients of such benefits classified by income levels is scarce: most of the information on recipients is provided by the institution providing the service in question and the aforementioned characteristic of recipients is usually omitted, or provided in an excessively summary form, and sometimes is not trustworthy.

In countries where fiscal systems are in a state of development and expenditure patterns tend to vary substantially, the question of their incidence on redistribution acquires an additional dimension. Such characteristics in turn are related to special circumstances in the field of information and statistics. Economic development usually carries with it statistical development which in turn provides data more accurately and more frequently than is the case in underdeveloped statistical systems. The methodology that can be used in one or the other situation will therefore be different.

This paper presents a methodology used for Venezuela, based on a survey whose purpose was to collect information for a new general consumer price index.

The use of data from such a survey enables us to obtain physical indicators of the distribution of public expenditures by families of certain income levels, but does not solve the problem of an appropriate valuation of benefits received. Besides it shows only those expenditures which have a direct beneficiary. This involves an over-estimation of the redistributive effects, as it includes only those expenditures which have a clear redistributional effect. This method, although useful for determining the effects of these types of expenditure, does not reflect the final repercussions produced by total public expenditure.

Many countries organize at present surveys of this kind on a regular basis. As in the case of Venezuela many countries strive toward development as well as adequate distribution; for that purpose it is indispensable to know if certain governmental actions reinforce or counterbalance each other and more specifically what type of government expense benefits what income ranges. For this reason, knowledge even of partial effects represents a significant contribution to proper policy formulation.

When family budget studies are undertaken it should not be too difficult to add a schedule concerning payments of taxes, receipts of transfers and physical indicators of public services received. In other types of household surveys, which encompass only some particular kind of income, it will be worthwhile to introduce complementary questions in order to obtain total income received as well as the forementioned indicators regarding taxes, transfers and benefits from public services. As always, it is the amount of income which is difficult to come by, especially in the case of non-monetary income and high bracket income.

2. Introduction to the Concepts

The particular characteristics of the Venezuelan case are related to the fact that the volume of public expenditure compared with personal income is relatively large and the resources which are being spent have not been deducted previously

from personal income; for these reasons the potential effect on income distribution can be quite considerable.

In the theory of public finance the concept of redistribution has been the object of many discussions, which centre on the question as to whether it is possible to consider public expenditures as quantities that can be assigned to distinct groups in the population. In part, the difficulty stems from the lack of information, but the greatest problem arises in the differences of concept, because the expenditure made by the government can only on a few occasions be said to provide a strictly personal benefit, that is to say, benefits received individually without the community at the same time receiving any benefits. In other words, in most cases the benefits of public services are received without any act of appropriation.

Criteria that almost all specific goods provided by the state create a subproduct of social welfare for the benefit of the entire community lead to a confused situation, if one considers that in turn this social welfare affects the relative situation of families, and hence affects the original distribution of income. This implies that the knowledge of the incidence of public expenditures (the benefits from public expenditures to be assigned to the families of the different income strata) is indispensable if distributional goals are to be achieved.

For this reason and to avoid confusion, only the specific effect of expenditure will be considered: who is the direct recipient of it or, in whose favour the expense was realized. The use of different hypotheses makes it imperative to cover the distinct suppositions and it must be noted that when no estimation of the distributive effect is carried out, this is equivalent to assuming that the income structure will not change, or, that the benefits are accruing proportionately to the existing income distribution. State expenditure implies payments of salaries and purchases of goods and factor services and, on the other hand, the provision of services; and each of these aspects causes alterations in the income structure.

Salary Distribution

The salaries paid by Public Administration represent around 10 percent of all salaries, and in this way the state is directly responsible for a part of the income structure.

Transfer Distribution

In less developed countries transfers play a minor role compared to the importance they have reached in developed countries like England, France or Germany; their policies of redistribution depend much more on the provision of public services than is the case in developed economies.

Transfers have a contrary effect to those of taxes; instead of decreasing purchasing power of the individual they increase it. It is the instrument which most directly handles redistributive policies. In general, the transfers are assigned, not only according to the initial income of the individual, but also according to certain socio-economic characteristics. Nevertheless, these characteristics are intimately connected with the income level and therefore under such circumstances the result of the transfers is to increase the final income of the lowest strata in the

income scale. While this appears to be the general rule it is not always the case, and in certain instances such transfers are alloted to individuals of medium or high incomes.

Distribution of Purchases of Goods and Services

No attempt has been made to estimate the effect of government purchases, but as was pointed out above their incidence on income distribution can be considerable in so far as they affect market supply and demand in general and/or in specific sectors, activities or areas.

Distribution of Public Services

The assignment of government services to the respective beneficiaries is difficult and often arbitrary. From a conceptual point of view one of the most serious problems is the valuation of such expenditures when considered as imputed income.

The most often used hypothesis is that the benefits received from a public service are equal to the cost of the service. This assumption implies an underestimation of the imputed income, since government services do not include the "operating surplus" of private industries and therefore the cost of a public service is registered at a lower price than that of the same service in the private sector. But this hypothesis accepts implicitly the criterion that services provided by the government possess a value equal to their cost: if an outlay on health is lower than another on highways, this means that the second is worth more than the first (that is to say that it renders more service), even when the social benefit of the first might be greater than that of the second.

Another implication of equating the value of public services to cost is that one assumes that there exist only direct beneficiaries. Thus, expenditure on vaccination will only be considered as imputed income of those who have been inoculated without taking into account the more general benefit to the community as a whole stemming from the absence of disease and sources of infection. A similar situation prevails in education: while there is a direct recipient of educational expenses, such expenses create important indirect repercussions. There can be no doubt that without free higher and technical education, in many developing countries only very few people could afford it and salaries in the corresponding professions would be abnormally high. In such circumstances public expenses on higher education do benefit the students and simultaneously lower the price of their services to their employers.

3. Allocation of Public Expenditure Among Income Strata

As was indicated above, expense can be in payment of salaries or in purchase of goods and the underlying purpose of the expense is the offering of services. Therefore the effect on the distribution duplicates itself: first, when the public sector behaves like any other purchaser of goods and factor services in the market, and second through the distribution of free services outside the mechanism of the market.

The effect of the salaries is rather clear and is measured by the distribution of salaries paid by the government.

The effect of purchases is more difficult to quantify. While government purchases undoubtedly increase total income, the incidence on the distribution of incomes varies from one type of purchase to another. Once the additional income due to government purchases has been created, the factor share and family income distribution will be quite different. One could explore the possibilities of further investigation: whether the purchases affect one sector more than another (iron or cement), whether factor shares in these sectors are similar or different from other sectors, and what are their redistributive effects. The structure of government purchases has no doubt its own particular characteristics, which distinguish it from other institutional sectors. However, no attempt to carry out this type of estimation has been made here.

Public services in their turn create different effects; some are neutral and others affect the income distribution. The services which can be considered neutral in their effect on the distribution are: expenses in the field of production, public administration, defence, investment funds, credit institutions and the debt service. One of the motives on which this hypothesis rests is that the income distribution exists in such a form because such expenses have been and will be realized. In the case of public order and defence it is considered that while benefiting people without distinction, it also helps to maintain the existing status, that is to say, the prevalent distribution of wealth and incomes.

The assignment of the different items of public expenditure to the various income groups has to be based on different hypotheses for it is not possible to take a unique decision. This situation is created by the fact (reviewed above) that the benefits of public expenditure satisfy social needs, which suggests that they are available to all, but without doubt not all receive the benefit in the same degree.

Alternative procedures can be based on the following criteria:

1. Assigning them to the person or family who directly receives the benefit.
2. Assigning them proportionately to the number of families or households in each income group.
3. Assigning them proportionately to the income received by each income group.
4. Assigning them proportionately to the accumulated wealth in each income group.
5. Assigning them proportionately to the income from determined sources for each income group or the number of recipients of certain types of income in each group.
6. Assigning them proportionately to the consumption expenditure of each income group.
7. Assigning them proportionately to certain expenses realized by the families of each income group.
8. Assigning them to different strata using more than one of the above criteria.

A very distinct redistribution effect will be obtained by each of the procedures indicated above, which means that the selection of one or the other will have decisive influence on the final results of the estimation of the net fiscal

incidence. For this reason it is necessary to analyse the concept that underlies each assumption and, as pointed out, in certain cases use more than one of the alternatives presented above.

When there exist indicators of the benefit received, the problem is simplified even though not completely, in as much as the very existence of a public expense affects in a certain manner the whole society, for example in changing the volume of demand for similar services in the private sector.

Ad. 1. Nevertheless, we shall assume here that wherever there are direct beneficiaries of public expenditures, these and all similar expenses will be assigned proportionately to the number of individuals who receive them in each group and because their distribution among different groups does not coincide necessarily with the income structure, the impact of this procedure on it cannot be determined *a priori.*

Ad. 2. The assignment proportional to the number of families in each group supposes that all beneficiaries are alike and given the shape of the original income distribution with its concentration in lower income strata, this procedure tends towards equalizing of the original distribution.

Ad. 3 & 4. Certain types of government expenditures are not intended to have a differential impact on income distribution; they maintain the existing structure of incomes.

Ad. 5. This procedure would correspond to the assumption that certain types of government expenditures are directed to individuals and families in accordance with the specific characteristics of their sources of income. These expenditures will influence total income distribution in accordance with the weight and distribution of beneficiaries.

Ad. 6. The method based on total consumption expenditure will produce a lower concentration since even though consumption is unequally distributed, the concentration is more pronounced in the case of income.

Ad. 7. When the procedure discriminates according to the type of consumption, the final result cannot be predicted, if only the previous distribution of incomes is known, since certain items are consumed mainly by families of lower incomes and other items by high income families.

4. Allocation of Public Services Among Different Income Strata

Education

Expenditures on education are typical of those which directly benefit certain families.[2] Included in this item is all expenditure which is made with the aim of providing education to whatever level of studies.

Even though it could be thought that the benefit received should be calculated at its market price, nevertheless, there are also many reasons in favour of basing the estimate on the cost incurred by the state. Nor can the effect which education has on the individual be considered, an effect which will be reflected in his future capacity in the generation of incomes.

[2]We omit here again the incidence of the greater supply of qualified labour for industries.

The necessary indicator for assigning the expenditures on free education to the different income groups is the number of individuals who directly receive this benefit in each family according to type of education.

Health

Expenditures on health are probably the most typical example of public service whose benefit is as much private as public, as even when the benefit is directly received by the individual it automatically produces indisputable benefit for the community. There are innumerable individuals who have not received vaccines or specific treatments and who are actually free of a particular disease as there is no spread of infection, because there are no bearers of the illness.

Nevertheless, the measurement of this dimension of social benefit is beyond our reach, and consequently in this paper only the direct benefit is considered and measured at the cost of production.

The number of times a certain service had been used by a family could be considered as an indicator. Thus a physical indicator is obtained, but it is only approximate and it would be desirable to specify the type of service received: ambulatory, hospitalization, intensive treatment, surgery, maternity, etc.

There are other types of sanitary expenditures intended not for a particular individual, but for a group of special characteristics, or for the entire population, such as investigation and sanitary campaigns. These expenses could be assigned to each group according to the number of persons included in it. But in the case of sanitary expenses like drainage and water supply and purification, the benefit is received by enterprises and by residents who use such services (owner or tenants). In the first case it signifies a free service for the producer and the ultimate beneficiary is the consumer; therefore, these expenditures are distributed according to the value of consumption in each income group.

Households receive these services without distinction and probably the only discriminatory element would be the degree of population density, the benefit then being inversely proportional to the concentration of housing in each area.

Highways and Roads

These expenditures represent the creation of a physical structure which benefits each individual: consumers and producers, even though not to the same degree for every one. The benefits accrue to the users of highways and roads, the consumer of transport goods and the owner of land near them. Because of lack of information the effects of revaluation will not be taken into account. For the distribution of benefits among the different income groups we use as an indicator the number of cars owned by each family and the number of people in each group who use public transport, and in reference to transported goods the value of consumption.

Social Welfare

Expenditures on social wellbeing generally originate in the government's desire to improve the situation of the least favoured in purchasing power.

TABLE 1

PUBLIC EXPENDITURE BY PURPOSE
(PERCENTAGES)

	1976	1975	1974	Annual average 1974–76
Health	7.4	5.4	3.4	5.3
Education	16.6	12.2	8.7	12.2
Primary Education	4.4	1.4	2.7	2.7
Secondary and Special Education	4.5	1.3	2.7	2.7
Higher Education	7.7	9.5	3.3	6.8
Nutrition	0.5	0.3	0.3	0.3
Training	0.1	0.05	0.04	0.1
Recreation	0.2	0.1	0.2	0.16
Highways and Roads	4.0	3.7	3.0	3.5
Transfers	2.1	1.5	1.2	1.5
Housing	1.5	0.3	2.7	1.5
Water Supply	0.7	0.4	0.8	0.6
Redistribution Expenditures	*33.1*	*24.0*	*20.3*	*25.1*
Productive Activities	17.9	17.7	19.5	18.4
Public Administration and Defence	13.0	14.6	20.9	16.5
Financial Institutions	12.5	5.7	1.3	6.0
Investment Funds	5.0	21.7	31.7	20.6
Public Debt	3.0	1.1	1.1	1.6
Neutral Expenditures	*51.4*	*60.8*	*74.4*	*63.2*
Transfers to Regional Levels	*15.5*	*15.2*	*5.3*	*11.7*

Methods of realizing this action vary and may take the form of transfers: scholarships, pensions, temporary assistance, old age benefits.

In the above mentioned cases specific beneficiaries exist and are not difficult to determine. But there are also less direct instruments, social goods such as recreation facilities: in parks, museums, concerts, shows, public beaches. This last type of expenditure is distributed on a *per capita* basis. But it can be argued that those favoured are the users of these services and not those who renounced them; in that case this particular expenditure will be even more progressive. However, it can be argued that even though some do not use these services, nevertheless, all benefit in the improvement of social conditions and in the lowering of tension between groups.

Technical Training

In the case of expenditures on technical training the above considerations on education are still more valid; its benefits are of doubtful destination, the reason being the difficulty in specifying the real beneficiary of this government action: it may be the individual who acquires the specific knowledge, but it may be also his employer. Here, the decision in one sense or the other depends on whether the training takes place during working hours or the individual's free time. In the first situation it has been considered that the training is on behalf of the enterprise, in the second, on behalf of the individual.

As an indicator we take the number of individuals in each family who receive such training paid for by the government, distinguishing between training during working hours or in their free time.

Nutrition

The expenses on nutrition are frequently of significant importance in the case of developing countries, but in Venezuela they exist only at the government primary school. Until recently the main effort was in the field of food subsidies. In this research the total public expenditure on nutrition will be distributed according to the number of students who receive the benefit in each income group.