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Tax Administration in Developing Countries

Strategies and Tools of Implementation

Tax Administration Division
IMF Fiscal Affairs Department

Developing nations should adopt less sophisticated taxes (such as taxes on goods and services) to broaden the tax base, and use more efficient administrative technique (such as withholdings and computerization). At present, potential tax bases are often not exploited because the application of existing law (particularly for income taxes) is not possible.

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World Development Report

In many developing nations, tax administrators often make their own policy because they are unable to enforce the laws.

Administrators face major problems: A large portion of the economy is at a subsistence level and does not keep records. Where records are kept, accounting is not reliable. Taxpayer cooperation is also low for a variety of reasons: shortage of trained officials, a tradition of corruption, and because taxes are not often seen to produce better government services.

These problems induce governments to rely heavily on trade taxes. But this is costly. Export taxes tie revenue to unpredictable export commodity prices which aggravates fiscal stabilization problems. Import duties lead to excessive protection of inefficient domestic industry.

Administrative problems also lead to the selective collection of income tax. This dis-

criminates against the most accessible target: the modern sector of the economy, which is crucial to growth and development.

Governments should shift away from trade taxes to consumption taxes, such as sales tax, particularly of the value added variety. They should also move toward more broadly based income taxes (including interest and dividends — not just wages), with *realistic* rates. Assessment based on “presumptive” rather than actual calculation methods can also help extend the tax base to the self-employed, to subsistence farmers, to traders, and to smaller firms.

The single most effective way to improve tax administration is to use a system of income withholdings (for all components of income). Another important tool is computerization. This can simplify withholding and collection by giving each taxpayer a number in a master file. Computers also facilitate information gathering, cross checking, and audits.

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**Tax Administration in Developing Countries:
Strategies and Tools of Implementation**

Prepared by Tax Administration Division

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I. Introduction

Discussion of tax administration in developing countries should begin with one central idea--the inseparability of tax administration and tax policy. In industrial countries tax administration is concerned with assessment, collection and enforcement of legislation that forms the content of tax policy. In these countries tax administration by and large "carries out the orders" of tax policy, and tax administrators need only be concerned with how well existing legislation is being implemented. In developing countries we find a completely different story, although we must bear in mind that developing countries themselves run the gamut from sophisticated to rudimentary tax administrations. In the typical low income LDC the income tax and other legislation of a typical developing country may be quite similar

to European or North American models, but the administrative apparatus to implement the complicated legislation is lacking. Faced with this task, tax administrators in developing countries generally adopt simple and selective methods to raise revenue. The "effective" tax system then bears little resemblance to the system embodied in the legislation. In more advanced developing countries the gap between the legislative and real systems becomes much narrower; in East Asia, Chile, Uruguay, Kenya, and Senegal tax administrators more nearly resemble their counterparts in industrial countries. Despite these exceptions, in the bulk of developing countries it is still true that tax administrators paid themselves making tax policy as they decide how to interpret over-complicated legislation. Given this fact, our paper goes beyond the traditional confines of tax administration and asks first how tax administration has shaped tax structure in developing countries, and what have been the consequences of its predominant role. The second part of the paper deals with questions more traditionally associated with tax administration. In that part we ask what are the special problems of tax administration in the LDC environment, and what tools can be used to overcome them.

II. The Problem: Administrative Constraints Lead to Faulty Tax Structure

A number of writers have explored the connection between tax administration and tax structure--by tax structure we mean the set of taxes making up total tax revenue. In summary, they argue that low and middle income countries are constrained in their choice of taxes by the difficulties of administration. In particular, developing countries are forced to rely on foreign trade and excise taxes because these "tax handles" offer a base on which taxes can easily be collected. The insight that administrative constraints in part determine the tax structure of developing countries appears accurate, if we examine the actual tax structure of developing countries among themselves and in contrast to industrial countries. For developing countries a detailed examination of tax structure has been undertaken by Tanzi, using a pool of 82 countries divided by strata of per capita income. ^{1/} For these countries, import duties--based on a very convenient tax handle--account for 32 percent of total tax revenue. The personal income tax--a much more difficult tax to collect--accounts for only 9 percent of tax revenue. In contrast, for the most wealthy developing countries the share of import duties drops to only 18 percent of tax revenue.

^{1/} See Tanzi, Vito, "Quantitative Characteristics of the Tax Systems of Developing Countries," in Modern Tax Theory for Developing Countries, edited by D. Newbery and N. Stein (Oxford, Oxford University Press, 1987).

For the same group of higher income countries the share of the personal income tax rises to 13 percent, indicating a greater use of this difficult-to-collect tax. When developing countries as a whole are compared with industrial countries, the importance of administrative constraints in determining the tax structure is again demonstrated. For the average developing country foreign trade taxes are the leading tax sources, representing at least one-third of total tax revenue, while the yield of foreign trade taxes in industrialized countries is virtually negligible.

Why should developing countries be concerned that their tax structures have been shaped by administrative constraints rather than economic principles? 1/ Reliance on easy to administer taxes is costly for developing countries for several reasons. From a stabilization point of view, a tax system should be composed of one or at most several predominant taxes with a rate schedule that can be adjusted quickly and with a high degree of certainty to alter the amount of purchasing power available to the private sector. From an efficiency point of view, a good tax system is one that leads to the least distortion of relative prices, both the prices facing the consumer and those facing the producer. In some developing countries many different import and excise tax rates on narrow bases are combined with a variety of exemptions to produce almost random effects on consumer choice and producer incentives; in a number of others, especially the East Asian group, more

1/ See Mansfield, Charles, "Tax Administration in Developing Countries: an Economic Perspective," IMF Staff Papers, March 1987.

rational tariff systems have been implemented. For the former group heavy reliance on foreign trade taxes can be singled out as the most undesirable aspect of developing country tax systems from the point of view of both stabilization and resource allocation. From a stabilization point of view foreign trade taxes tend to tie government revenue to unpredictable fluctuations of export commodity prices and so aggravate fiscal stabilization problems. A vicious circle can also begin if a reduction in import duties imposed for demand management purposes leads to a fall in import duties, thereby enlarging the fiscal deficit.

From a resource allocation (efficiency) point of view, trade taxes have no place in a "first-best" tax structure. The discriminatory nature of trade taxes ensures that their use imposes both a production distortion cost and a consumption distortion cost. Import duties, often relied upon for revenue, may lead to excessive effective protection and encourage inefficient domestic industry. Equity goals are also heavily compromised by the tax structure of developing countries. To an outsider this tax structure may appear to be highly progressive because the rate structure of the personal income tax is often highly progressive. On closer examination, however, the vertical equity of the system is compromised by the fact that the personal income tax collects a relatively small share of total revenue and applies mainly to wage earners, whose incomes may be lower than the self-employed. Thus an apparent vertical equity in rate structure of personal income tax and

import duties is negated by a combination of selective administration and legal exemptions. With regard to horizontal equity--the principle that those with equal incomes pay equal taxes--the tax structure of the typical developing country is perhaps more clearly inadequate. On a broader basis one can say that selective administration of the statutory tax system discriminates against the modern sector of the economy. The modern sector tends to fall into the income tax net because it keeps better accounts, is more centralized, and thus more revenue productive from the point of view of the tax collector. Although a heavier burden of taxation on the modern sector may be appealing on equity grounds, one should bear in mind that the present tax system tends to impede the growth of the dynamic sector that may be the key to more rapid long-term growth.

III. Obstacles to Effective Tax Administration

Given the fact that tax structure is flawed in developing countries we may ask what tax administrators can do about it. One should recognize at the outset that tax administration is "endogenous" to LDC economies. One cannot change tax administration in the same manner that one can change the exchange rate--tax administration reflects basic social and economic conditions such as literacy, income distribution and attitudes toward government authority, and therefore cannot be changed overnight. To make this point, one might ask what would be the necessary conditions to provide a setting for effective tax administration. One tax authority has listed the requirements for implementation of the personal income tax as follows, and the list could apply to the implementation of any modern, sophisticated tax: 1/

- a. The existence of a predominantly money economy;
- b. A high standard of literacy;
- c. Prevalence of honest and reliable accounting;
- d. A large degree of voluntary compliance on the part of taxpayers;
- e. A political system not dominated by wealthy groups acting arbitrarily in their own self-interest.

1/ See Goode, Richard, Government Finance in Developing Countries, the Brookings Institution, Washington, D.C., 1984.

Developing countries: e degree or another lack the above requirements. A large po: the economy (e.g., agriculture and small traders) is either a s nce (barter) economy or does not keep accessible records. Although literacy is not a necessary condition for taxation, the lack of a literate population reduces the options for policy-makers. For example, simple poll or excise taxes may have to be employed instead of income taxes. Lack of reliable accounting also constrains the type of taxes that can be effectively employed. The personal and company income tax depend on good accounting. Lack of voluntary compliance by taxpayers undercuts effective administration of almost every tax and, as noted above, forces the administration to rely on easily collected taxes. The general requirements for effective administration can be specified in more detail as follows:

1. Taxpayer attitudes 1/

Modern taxation depends heavily on voluntary cooperation by taxpayers. Self-assessed income taxes are a case in point, but not the only one. Governments in LDCs meet with special problems in fostering a spirit of taxpayer cooperation, inasmuch as taxes are not generally linked to a rising level of government services. Taxpayer education should include information for the taxpayer on his obligations under the

1/ Sections 1-4 rely heavily on Mutén, Leif, "Leading Issues of Tax Policy in Developing Countries: the Administrative Problems," in the Political Economy of Taxation, edited by Peacock and Forte, (Oxford, 1981).

tax law. Behind education, however, must lie the threat of sanctions if taxes are not paid. In most LDC's sanctions on negligent or fraudulent taxpayers are not effectively applied.

A taxpayer will be more receptive to information on his obligations if, in his efforts to comply, he receives a reasonable degree of service from the revenue administration. Poorly drafted tax forms, long waiting lines and even charges for acquiring tax forms, bureaucratic hassle in processing the cases, rudeness from officials, cumbersome appeals procedures, and the like, can repel even the most loyal taxpayer.

Tax authorities inform taxpayers by deeds as well as words. A taxpayer will care little about even the most inviting call for voluntary cooperation if he finds the authorities reluctant to respect his rights. Also, while it is easy to understand why precarious government finances and understaffed tax offices make for slow refunds, delays in refunds foster reluctant taxpayers. If refunds are slow or inefficiently administered, great caution should be exercised in adopting tax schemes that include refunds, such as investment grants, employment subsidies, rebates of VAT on inputs to export industries, and year-end PAYE adjustments. The malfunctioning of such rules not only makes them ineffective but may well lead to a lower level of taxpayer compliance than would prevail without them.

Similarly counterproductive are excessive tax rates never applied in practice. It can be argued that announcing such rates in the statute should satisfy claims for redistribution raised among those in lower

income brackets. However, those who ask for redistribution are often unaware of the high rates, whereas those affected may be all too aware of the inefficient use made of them. Taxpayers faced with excessive rates may feel forced to evade or avoid the tax. The educational value of realism in tax law can be considerable.

Information provided by press, radio, and television, has to be intelligible to taxpayers. Whatever the form of that language, the information to the taxpayers will normally have to be given in a simpler form. Conceivably, the administration's efforts in educating taxpayers should bring some feedback in the form of more realistic tax legislation. Statutory provisions imposing obligations on the taxpayer that he cannot understand, or giving him rights that he cannot effectively use, are of little value and should be remodeled into rules adapted to social realities.

2. Staff resources

So far we have discussed obstacles to better administration in terms of taxpayer compliance. The other side of the coin is the ability of the administration itself to apply tax laws. In this respect tax administration resources vary widely, from a very low level in the poorest developing countries to much more sophisticated staffs in higher income developing countries. One basic problem is the shortage of trained officials, particularly those able to handle such tasks as auditing company and personal accounts or designing and operating

computer applications for tax administration. Another is the lack of data that would enable administrators to identify assessment and collection problems more easily.

3. Legal problems of tax administration

The drafting of tax laws in LDCs sometimes meets with a peculiar problem; namely, the lack of harmony that often exists between the actual performance standards of the tax administration on the one hand, and the standards required by the judiciary on the other.

The tax law may be sketchy, the tax administration weak, and the practical difficulties in imposing the tax law on an uncooperative public overwhelming. If in these circumstances the courts apply unrealistically high standards, there is a real risk that their activity will be seen as intolerable sabotage. Just to take one example as illustration: where spelling habits or transcriptions of names are arbitrary, a court throwing out an assessment on the ground that the taxpayer's name is being misspelled may open the door for easy evasion. Here, there is often a need for the courts to modify their standards to a realistic level. If they do not, their power to deal with tax appeals may be taken away from them, and the rule of law will register a more serious violation than that which might have obtained had standards been adjusted.

Another situation might be one in which judicial review of tax cases is not provided for under the law, or if provided for is nevertheless not effectively available. The latter may be the case, for

instance, when court backlogs exist. Without legal appeal, one might expect taxpayers to be in an unfavorable position vis-à-vis the authorities. In actual fact, however, the tax authority might hesitate to apply what it conceives to be an extreme interpretation of the law, if there is no effective legal appeal. In such situations there will also be a tendency to make a deal with the taxpayer to avoid the embarrassment of an appeals procedure that gets nowhere. Thus, introducing an effective appeals procedure might not only serve the rights of taxpayers; it might reduce the timidity of the tax authority as well.

4. Corruption

In too many countries the main problem is less the shortcomings of the statute than the means taxpayers find to evade it. Probably no tax system is totally free from corrupt practices. It is only fair to say, however, that conditions in many developing countries tend to make such practices more prevalent. Corrupt practices can be seen as leakages, or inefficiencies in the tax systems. In this light, there are obviously great differences between small sums paid to speed up a procedure or to keep goodwill, and substantial amounts extorted from taxpayers or offered by them in lieu of the tax they are liable to pay.

What can be done to counteract corruption? Nobody has come up with a panacea. Anti-corruption task forces often only skim the surface.

Experiments aimed at establishing a new spirit in the tax administration by substantial salary increases have not been uniformly successful. A more subtle anti-corruption effect may be achieved by improved staff training. The objective is the same as that of higher salaries; namely, to establish a better esprit de corps, thus reducing the inclination of officials to resort to bargaining for their own profit.

Tax legislation can be revised so as to reduce as much as possible the number of discretionary measures, since these particularly lend themselves to corrupt practices. Applying automatic rules, rather than leaving room for estimates by tax officials, may render the system less flexible and to an extent less fair than it would ideally be. However, automatic or standard estimates may well be preferable to discretionary measures which can lend themselves to bargaining between tax officials and taxpayers.

IV. Some Solutions to Tax Administration Problems in LDC's

1. Withholding

Despite the formidable problems of tax environment and the specific problems mentioned above, administrators in developing countries do have weapons at their disposal, some of them enhanced by modern technology. Probably the single most effective method of tax collection in industrial as well as developing countries is withholding, i.e., the idea that tax is withheld and turned over to the Government before it reaches the hands of the taxpayer.

Withholding is most commonly applied to wage income, but it is also applied in some countries, such as Argentina, Senegal and Taiwan, to interest and dividends. An effective withholding scheme, however, requires a relatively small number of easily identifiable payers of income. Withholding may thus be applied to wages, dividends and interest, but it is difficult to apply to rental income, income of professionals and income from small businesses. In these latter cases there are as many payers as receivers of such income.

Three systems of withholding may be distinguished. The U.S. system is not intended to withhold the precise amount of income tax liability due, although some effort is being made in that direction following the

Tax Reform Act of 1986. Withholding tables are originally based on a flat rate of tax and basic personal exemptions and allowances. A few days after each pay period the employer pays to the government the amount withheld. At the end of the year, the employer gives the employee a statement of the total amount of wages or salary earned during the year and the amount of tax withheld. The employee is required to file a tax return, which indicates whether the amount withheld is more, less, or equal to the amount actually due. In most cases, tax is over-withheld and a refund is made after the return is filed. In contrast to the U.S. system of returns filed by the individual, the U.K. system places the burden of payment on the employer. The U.K. system is intended to withhold the exact amount of tax liability in most cases. Each employee is required to file information about his dependents, anticipated deductions and other income with the tax administration at the beginning of the year. The administration assigns him a code number which is used by his employer to determine for each pay period the proper amount of tax to be withheld, taking into account accumulated payments already made during the year. However, delays in adjudicating the employee statements often cause inaccurate withholding. A third type of withholding is that employed by some LDCs, e.g., Chile and Indonesia, in which the amount withheld is simply declared to be final. This method sacrifices equity goals, but works well when most income is in the form of wages.

The ideal system is one which withholds an amount precisely equal to the taxpayer's ultimate tax liability. The tax authority would then be spared the cost of processing final returns. Under such a system, the cost of collecting small amounts from many taxpayers, the necessity for refunds, and the losses from uncollectible accounts would be eliminated. Also, the taxpayer would have the convenience of not filing a final tax return. But such a "fine tuning" for all taxpayers can be achieved only by provisions which are difficult to administer, and may place a considerable burden of compliance on employers. On the other hand, a withholding system with a flat rate is much easier to apply. The system may function satisfactorily if most wage earners have a steady income which is not above the lowest bracket to which the standard rate is applied.

2. Emphasis on indirect taxes

Many developing countries have realized that direct taxes--especially the personal income tax--are relatively difficult and expensive to administer. Rather than attempt to enforce a global income tax, for example, developing countries have turned to taxes based on sales. Of these taxes the value-added tax is considered economically desirable because it can be broad-based and neutral with respect to the allocation of resources. The standard consumption type VAT has the further advantage that it taxes consumption rather than savings. The VAT uses the

principle of withholding, and in fact has been characterized as a "form of withholding" intended to implement a retail (or other) sales tax more efficiently. Under the commonly used invoice system of administering the value-added tax, a taxpayer at any stage in the production process credits his tax paid on the prior stage against his own collections of VAT. The difference is paid to Government. In theory each taxpayer should have a strong interest in proving that VAT has been paid at the prior stage--hence the self-checking nature of the tax. Although economists have been intrigued with this self-checking mechanism, the tax in practice is far from self-enforcing; evasion occurs because at the retail stage the tax is not self-checking. In addition, taxpayers have a common interest in avoiding the tax altogether, and legal exemptions open up channels of evasion.

How can a VAT be administered successfully in developing countries? 1/ An important requirement for successful VAT administration is to structure the tax to minimize problems of implementation. From the administrative point of view a single rate is highly desirable; if necessary, the VAT can be supplemented with selective consumption taxes to reduce regressivity. Despite initial skepticism about high VAT rates, experience (e.g., in Brazil and Chile) has shown that rates in the neighborhood of 18 to 20 percent can be enforced. Exemptions complicate VAT administration because the distinction between what is exempt and what is taxed is often tenuous or

1/ See Casanegra de Jantscher, Milka, "Problems of Administering a Value-Added Tax in Developing Countries," International Monetary Fund, WP/86/15.

arbitrary. Nevertheless, distributional objectives have led many countries to exempt basic and nonbasic commodities. Zero-rating, a more complex form of exemption that requires the granting of refunds and therefore burdens the administration, has wisely been limited to exports by most countries. The need to provide special treatment for small business under VAT is much more pressing in developing than in industrial countries. Various methods for dealing with small taxpayers are in use, but all methods present technical and practical problems.

Successful introduction of a VAT depends in large measure on whether the country has had previous experience with general sales taxes, the nature of the taxes that the VAT will replace, the lead-in time, and how the VAT is structured in terms of rates, exemptions, and treatment of small taxpayers. The main issues of VAT administration concern identifying taxpayers, processing returns, controlling collections, making refunds, auditing taxpayers, and levying penalties. Once a VAT is in place, administrative constraints tend to distort some of its features. Administrations with insufficient resources frequently over-emphasize enforcement efforts among large taxpayers, and restrictive refund practices tend to distort the character of consumption-type VATs. Thus the broad-based and neutral tax discussed in public finance treatises is very different from the VAT prevailing in most developing countries. Administrative constraints are responsible for the difference.

3. Self-enforcing administrative methods and cross-checking devices

One suggested method of reducing tax administration difficulties is self-enforcing methods that will encourage taxpayers to report incomes and expenditures. 1/ Kaldor, in his well-known report on India, was perhaps the first economist to suggest linking taxes together to force greater compliance. Kaldor suggested that five taxes--the income tax, the capital gains tax, the wealth tax, the personal expenditure tax, and the gift tax--be filed in a single comprehensive return and assessed simultaneously. The taxes are self-checking--that is, concealment or understatement of items in order to reduce liability in a particular tax would increase liability in other taxes; and information furnished by a taxpayer in order to prevent over-assessment of his own liabilities automatically reveals the receipts and gains made by other taxpayers. Higgins has carried Kaldor's idea further by introducing a self-enforcing tax system for developing countries. Higgins' system includes a personal income tax (including capital gains), a corporation income tax, a general sales or turnover tax, a wealth tax, a tax on excess inventory, and a personal expenditure tax. Theoretically, the Kaldor-Higgins system is self-checking because personal expenditure is defined as the excess of income over savings, and savings are equal to the increase in net wealth. Thus, taxpayers who under-report their expenditure by overstating their savings increase their wealth tax

1/ See Mansfield, op cit.

liability. A seller of a property who understates his capital gains hurts the buyer, because the buyer cannot claim the full amount of the investment, thereby forcing him to declare higher expenditures and increasing his expenditure tax liability. The excess inventory tax is designed to discourage under-reporting of sales, thus helping enforce sales and income tax.

The more grandiose self-enforcing schemes suggested by economists have generally received short shrift from tax administrators. Goode, in writing on economic aspects of tax administration, comments: "these proposals appear so unrealistic that a detailed critique is not worthwhile. In my opinion their authors exaggerated the proclivity of taxpayers to refined calculations, the capacity of tax departments for using the great mass of data that would be generated, and the receptivity of governments to fiscal innovations. I suspect that most tax administrators will regard the idea of a self-enforcing tax system as fantastical. Even if put into operation the proposed systems would not prevent evasion in cases in which both parties to a transaction omit it from their records or understate its amount. Both parties could evade the related taxes, and as no conflict of interest would arise between them, neither would have an economic incentive to report correctly." 1/

Despite the justified criticism of elaborate self-enforcing schemes, tax administrators may come to see a grain of truth in the logic of such schemes, and one suspects they should not be dismissed

1/ See Goode, Richard, Government Finance in Developing Countries, Brookings Institution (Washington, D.C., 1984).

entirely. In many developing as well as industrial countries, import duties and taxes on domestic transactions are typically administered by separate departments, with little or no contact or exchange of information among them. In some countries sales and income taxes are also administered by separate departments, and outside experts usually recommend the exchange of information between these revenue departments. Such an exchange is highly advisable because gross sales are an element of income tax determination, and the exchange of information forces consistency in tax reporting. As computer systems allow great quantities of data to be stored and used, the idea of self-enforcing taxes based on matching of information from different sources becomes more possible. In developing countries the scope for self-checking taxes will be limited, however, by the fact that so much economic activity stems from the self-employed.

4. Computerization ^{1/}

Over the past decade computer technology has become an integral part of tax administration operations in many developing countries. This technology has an obvious capacity to perform more rapidly such routine tasks as processing forms, compiling statistics and using available data more effectively to improve forecasting of fiscal revenues. Furthermore, revenue administrators in developing countries face expanding workloads: the number of taxpayers has grown rapidly,

^{1/} See Corfmatt, François, "Computerizing Revenue Administrations in LDCs," Finance and Development, (September 1983).

procedures and regulations have become more complex, international trade has increased and greater quantities of data for economic and fiscal policy making are necessary. In theory, computer technology could play a large part in solving these challenges. However, a careful distinction should be made between the ability of computer technology to perform routine tasks more rapidly and its ability to actually increase revenue collections. After an initial period of over-optimism in the 1960s-70s it has become clear that computer technology is not a panacea for revenue administrations. In the first place the improved technology must be effectively used for routine tasks. More importantly, computer technology must be combined with political will and effective organization if it is to yield its potential for greater revenue. Technology without accompanying enforcement procedures, for example, will not help in increasing revenues.

a. Master files

Given these caveats, how can computer technology help improve tax administration? A central idea is the development of a master file system. The system assigns a unique number to each taxpayer. This unique number directly aids in identifying, assessing and collecting direct taxes, such as the personal income tax, the corporate income tax and the property tax. In addition, information relating to the taxpayer, such as value of imports or gross sales, can be stored together with his unique number. In this way the master file can

become an important instrument for audit. If the taxpayer identification number is tied to other means of identification, such as a social security card, a driver's license or a passport, it also can be a potentially powerful means of tax enforcement. As noted above, the master file number is a potentially powerful aid to tax administration, but it must be combined with political will and human organization to be effective.

b. Application to customs

Computer technology can aid in customs administration to identify importers, clear goods, manage tariff files, control inventories and compile external trade statistics. These functions are usually divided into two categories: central processing and customs office functions. At the central processing site, maintenance and compilation of the "integrated tariff," and data centralization and information services are the main functions. Automated clearance requires the creation of a set of files (the integrated tariff) that would contain, for each customs tariff heading, all the data needed to verify that goods meet requirements (quotas, licenses, health regulations, etc.) and to calculate duties and taxes payable. The data centralization and information services of computer systems are designed to produce external trade statistics, analyses of import and export prices, and insurance and freight studies. Useful information, such as general

accounting estimation of cost of duty-free and privileged clearances, fraud analyses and changes in workloads can also be generated for customs management.

In customs offices, automated clearance of imported and exported goods is the main application of computer systems. Principal operations include entering, checking and storing data; printing out of declarations; applications of regulations on external trade (e.g., licenses, quotas, prohibitions, and health controls); calculation of duties and other levies; and identifying where document checks and physical examination of goods might be needed. These are normally processed instantaneously. Less time-sensitive management tasks are often handled through batch processing. This method allows a computer to collect data and process it at a later date and can be used to maintain official records, produce daily periodic accounting statements and compile official activity reports and tables.

c. Application to internal tax administration

Tax collection procedures vary from country to country, but computer systems have commonly been used to process returns and payments, assist in enforcement operations and compile statistics. In processing tax returns and payments, computers can pre-address forms and payment vouchers, check the accuracy and consistency of data reported, calculate taxes, identify computation errors, maintain taxpayers' records and prepare refund, assessment, and penalty notices.

Mathematical formulas and statistical programs can be developed to select returns for audit, and verify data and identify tax evaders through cross-checking with external sources or other computer files. At minimal cost, computer programs can also produce operating and statistical reports designed to assist tax managers and policy makers in management and planning, formulation of tax policy and economic analysis and research.

An important function in tax administration is the selection of returns for audit so that limited resources are focused on particular areas to maximize gains in revenue and elicit compliance. In identifying likely candidates for auditing, computer programs use selection criteria and classification techniques to assign weights to various characteristics involving the high probability of error, change and evasion. The formulas used in this process are kept secret not only to avoid manipulation of returns by taxpayers but also to ensure impartiality in the selection of returns.

d. Introduction of computers in developing countries

Developing countries introducing computer systems for revenue administration face a number of important decisions regarding design and implementation. One concerns the structure of the computer system; satisfactory results have been produced both by those systems servicing solely the Tax Department from within, and those systems located outside the Department and perhaps servicing several other entities as well.

In an external system the design, development and operation are provided by an organization that is independent of the tax collecting departments and that may be responsible for providing all public entities with the information needed for their operations and decisions. Such are the systems used in Brazil, El Salvador, and most of the nations of francophone Africa. In an approach using internal systems the Finance Ministry may require operating departments each to be responsible for the supervision and control of their own computer systems. The U.S. Internal Revenue Service, for example, organizes its operations in this manner, as do most of the tax departments of the member countries of the Inter-American Center of Tax Administrators.

While the initial choice may depend upon several factors, including the scale of operations to be performed, capital expenditures, and efficient utilization of computer hardware, one major consideration is the availability of adequate numbers of skilled computer technicians. Because computer costs are falling and the number of available technicians is increasing, and because services provided by the central computer organization might prove unresponsive in terms of either seasonal fluctuations of work or unplanned events (tax legislation changes, for example), a mixed approach may be preferable and is often applied. Under such a scheme the central computer of the Ministry of Finance usually provides services for policy activities and for the ministry's own statistical and national reporting needs and may, when

necessary, provide services on a time-sharing basis for some collection work of the revenue departments. On the other hand, the data processing units of the revenue departments operate their own computer systems and perform time-sensitive activities, such as issuing customs clearances, tax refund checks, assessment notices, tax receipts, and answering inquiries.

e. Conclusion

In conclusion, there clearly are potential advantages to properly applied systems of data processing. In customs work the growing volume of international trade, new methods of transport, increasingly complex regulations, and expanded information requirements may make automation a necessity if developing countries wish to prevent undue delays at their borders and to increase, or even just maintain, their share of world trade. In administration of internal taxes, increased compliance with tax obligations and more efficient collection are becoming priorities for developing countries. Automation may eventually offer the most effective means of meeting these needs.

Our initial note of caution should remain, however. For many reasons, both administrative and political, the introduction of computer systems may not achieve the intended result. Many of the difficulties associated with automation, however, can be avoided or minimized with appropriate planning and a careful assessment of current needs and specific goals. The experience of many industrial and a growing number

of developing countries, as well as the availability of technical assistance, can help a country make the transition from manual to computerized systems a successful one.

5. Presumptive Taxation ^{1/}

Presumptive taxation refers to the use of simple methods of assessing complicated taxes, or in some cases the replacement of more sophisticated tax legislation with simpler rules. Presumptive taxes may be used in the field of personal and corporate income taxes, as well as property and land taxes. In the case of income taxes, public finance experts tend to think of individual and company income tax as being imposed on a well-defined and accurate measure of recorded income over a given period, normally a year. In fact, income tax assessment for large numbers of taxpayers in both industrial and developing countries is "presumptive"--that is, it is legally defined on the basis of appropriate indicators. In most cases presumptive methods are used as a simple administrative expedient, but they can also be used for efficiency and equity goals.

Presumptions are used to assess taxpayers in both developed and developing countries, but especially in the latter, where "hard-to-tax" taxpayers comprise a large fraction of the taxpaying population and administrative resources are generally scarce. One developed country that has a well-established system of income presumption is France,

^{1/} This section relies heavily on Casanegra de Jantscher, Milka, and Tanzi, Vito, "The Use of Presumptive Income in Modern Tax Systems," publication forthcoming.

where the forfait system is used widely. The forfait system establishes alternative legal bases of assessment, using indicators to determine estimated income rather than assessments that are supposed to be based on conventional records. Forfaits are used to assess the income tax of farmers, unincorporated business enterprises and professional persons whose gross receipts fall below stipulated levels. The process of establishing a presumptive income may involve negotiation between the taxpayer and tax officials. Apart from the special use of the forfait, where the presumptive basis is established in the legislation itself, standard assessments based on gross receipts, assets or visible wealth are employed as administrative devices.

The degree of economic development of a country tends to influence the choice of methods for estimating incomes and the way they are applied. Countries in the earlier stages of development tend to apply rough and ready methods because they have few personnel qualified to study the profitability of different economic activities and establish the indices required for calculating presumptive incomes. In those countries in which sectoral studies have been made and appropriate indices have been established, it is possible to estimate incomes with a much higher degree of accuracy. A perusal of the legal provisions that establish presumptions of income does not, in general, disclose to what extent a particular country is applying the presumptions established in the law nor how they are applied. The answers will depend on the

country's circumstances and particularly on the availability of the administrative resources needed to cope with the complexities of certain presumptive methods.

One of the criteria for classifying presumptions of income is whether or not they are applied generally for assessing taxpayers' income. Some methods for estimating income are regularly applied to entire sectors of taxpayers as a substitute for actual incomes based on accounts. Other presumptions of income apply only when taxpayers omit to file an income tax return, or their return is audited. The forfait method and the standard assessment methods used in a number of countries are examples of presumptive methods that are applied in a wide variety of circumstances. Presumptions of income that apply only when taxpayers do not submit a return or when they are audited include methods ranging from the use of specific factors and indices of profitability determined for different activities to crude presumptions based on a single factor, such as the total assets of the taxpayer.

A variety of economic bases and methods of calculation are used to provide presumptions of income. For example, certain presumptions are based exclusively on the taxpayer's net wealth or on the value of the enterprise. Still others are based on visible signs of wealth. The forfait and the standard assessment methods use several key factors and indices of profitability, which vary by activity, to determine the taxpayer's income.

A presumptive tax that is used in lieu of the corporate tax on net profits is a tax on gross receipts. Such a tax avoids the difficulties of measuring such sophisticated concepts as depreciation in calculating net profit. This tax has been found to be effective in terms of revenue yield and ease of administration. Francophone African countries have been pioneers in the establishment of minimum corporate income taxes. This tax can be credited against the regular corporate tax, but no refunds are allowed if the minimum tax exceeds the corporate tax. The minimum tax based on gross receipts is equivalent to a simple presumption of income. For example, if the corporate tax rate in a country that applies this system is equal to 40 percent of net profits and the minimum tax is equal to 1 percent of gross receipts, authorities are acting as if all corporations earn a minimum net taxable income equal to 2.5 percent of their gross receipts. As an example outside Africa, in 1983 Colombia established a general presumption of net income based on gross receipts, applicable to all taxpayers, individual and corporate, except those whose main sources of income are wages and salaries. The law presumes that net income amounts to at least 2 percent of gross receipts.

Like presumptions based on net wealth or on ownership of particular assets, presumptions based on gross receipts are not a panacea for tax administrations attempting to improve taxpayer compliance. In most developing countries concealment of gross receipts is a favored method

of tax evasion. Presumptions of income based on gross receipts thus mainly affect taxpayers who cannot easily conceal gross receipts (e.g., large corporations). As a result of such presumptions, corporations with genuine losses are treated in the same manner as corporations that artificially reduce their profits by such methods as manipulating transfer prices. All corporations with the same turnover pay the same tax. For smaller enterprises that have previously concealed a portion of their gross receipts and continue to do so, the introduction of a presumption of net income based on turnover is of little consequence and has no material effect on their tax liability.

The income tax legislation of several countries includes presumptions of income based on visible signs of wealth. These presumptions apply only to individuals. In some countries, such as Brazil and Peru, the tax department is empowered, in somewhat general terms, to presume incomes higher than those reported by taxpayers on the basis of visible signs of wealth. It is left to the administration to decide which signs of wealth to use and what level of income to attach to them. In other countries, including France, Italy and several francophone African countries, presumptions based on visible signs of wealth are carefully specified in the income tax act. The signs of wealth that must be considered are described and each is assigned an income equivalent. Such signs of wealth usually include the taxpayer's main and secondary residences, number of domestic servants, automobiles, yachts, private planes and race horses.

In practice, presumptions based on visible signs of wealth have proved difficult to apply. When they are established in general terms, tax administrators are hard pressed to decide which signs of wealth to use as a basis for the presumption and how to establish the income equivalent of each. In those countries in which both the signs of wealth and their income equivalent have been specified in the statute, the inflexibility of the provisions may lead to considerable unfairness. Recognizing these problems, tax departments tend to apply these presumptions cautiously and only when additional assessments cannot be supported by other means. One of the areas in which such presumptions have proved useful is in supporting assessments on illegal incomes, such as those derived from racketeering and drug trafficking.

Many developing countries use estimated assessment methods for the incomes of "hard-to-tax" taxpayers. These taxpayers are mainly individual proprietorships, farmers, and professionals. The forfait method mentioned above has inspired a number of other countries to adopt similar systems. But to successfully implement a forfait system several requirements must be met. First, the tax department must have the technical resources to make detailed studies of profitability by type of activity. Second, an adequate number of tax officials must be available to verify information provided by taxpayers about the characteristics of their business. Third, because the forfait involves discussions between officials and taxpayers regarding the level of the assessment, officials must be strictly supervised and adequately paid. Otherwise, the system creates strong incentives for corruption.

Not many tax administrations can fulfill these requirements.

Those countries that have tried to implement systems similar to the forfait without adequate resources have ended up with highly flawed systems. One of the principal obstacles has been the lack of resources to draw up detailed sectoral profitability studies. Some countries have managed to study a half dozen sectors, and no more. In such circumstances, discussions between officials and taxpayers about assessments are based mainly on subjective impressions. This has led to unrealistic assessments and to corruption among tax officials.

In their search for more objective systems for estimating incomes, a number of countries have tried to adapt the system developed originally in Israel under the name of tachshiv. This system emphasizes the use of objective factors and indices to estimate the income of taxpayers who do not keep adequate books and records. Physical inputs and factors such as the number of employees are highly important for the determination of each enterprise's income. If, for example, the enterprise to be assessed is a barbershop, the assessment guidelines (tachshiv) for this activity will contain instructions for estimating the enterprise's income according to the different kinds of services provided, the equipment of the establishment, its location, work schedules, and the visits to a representative sample of businesses. The average profitability of the sector and its relationship to specific factor and indices is discussed with representatives of the sector before the tachshiv is issued. More than 80 tachshiv have been developed.

Some aspects of the Israeli experience with standard assessments have been criticized. Taxpayers whose incomes are above the averages on which the tachshiv are based may pretend that they do not have adequate books and records to establish their actual income. The heavy reliance of the tachshiv on precise factors tends to transform the tax on income into a tax on the factors set out in each tachshiv. Taxpayers are, therefore, motivated to alter these factors in their business establishments in order to obtain a lower assessment.

In spite of these defects, the Israeli system has been imitated by other countries. Korea, for example, has introduced a standard assessment along the lines of the tachshiv. Other developing countries have made efforts in this direction, but few have made much headway.

Faced with the task of estimating the income of "hard-to-tax" taxpayers, some developing countries have devised simple solutions that in practice depart radically from the precepts of income taxation. For example, Ghana developed a standard assessment system in the early 1960s that resulted in fixed lump-sum payments for different activities. These payments were established by determining the average taxable income of a few taxpayers selected at random from each class of self-employed taxpayers. Although the lump-sum payments were established as a minimum income tax, in practice most taxpayers subject to standard assessments paid only the prescribed lump-sum amounts.

As regards farmers, a number of countries have attempted to assess their income on the basis of the potential output of their land. Professionals, on the other hand, are sometimes assessed a minimum income tax based on some estimate of average potential earnings.

Most developing countries have not solved satisfactorily the problem of how to estimate the income of "hard-to-tax" taxpayers. Their objective is to devise estimation methods that will not divert an excessive proportion of administrative resources from more productive work. In Portugal, for example, 35,000 enterprises paid profits tax on actual incomes in 1983, while approximately 340,000 businesses paid tax on a presumptive base. Yet the 35,000 enterprises that paid on actual incomes accounted for three-quarters of total profits tax collections. In these circumstances, tax administration officials must strive to minimize administrative involvement with low-yield taxpayers, without abandoning efforts to collect some tax from all enterprises.

Despite the difficulties mentioned it is clear that a need exists in developing countries for simple methods to tax the "hard-to-tax" groups that now escape income taxation. Presumptive methods by nature cannot be exact, but may well be preferable to ad hoc judgmental assessments using unspecified criteria.

V. Summary and Conclusions

This paper has examined the strategy and tools of tax administration in developing countries. The traditional aim of tax administration is to assess, collect and enforce a given set of legislation. We have seen that the task of tax administrators in developing countries is not so clear-cut. Burdened with legislation that may not be enforceable, they must select how a body of legislation will actually be applied. We have also noted that emphasis on easy-to-administer taxes results in a flawed tax structure, based in large part on foreign trade taxes. Although tax administrators cannot change legislation, they can help implement and/or make possible changes in legislation that would improve the effective tax structure. These efforts should be aimed at implementing more broadly based income and consumption taxes in order to reduce dependence on foreign trade taxes. For the personal income tax this strategy should mean directing additional administrative efforts toward income other than wages and salaries, and especially earnings of the self-employed. For the company tax, efforts should be made to reach smaller firms so that such firms are not subsidized relative to larger, more modern establishments. With regard to consumption taxes, administrative efforts should support legislative changes to broaden the scope of sales taxes, making possible

their application to services and to retail establishments. This type of administrative effort would help create a broad-based consumption tax that would not discriminate between domestic and foreign goods and that would be useful for stabilization purposes. In following a policy of using administrative measures to promote a better tax structure, consideration should be given to using less sophisticated taxes that would still broaden the tax base.

Given this overall strategy, what are some more specific tools and solutions that can be used to improve tax administration in developing countries? Two important tools that overlap are the concept of withholding and the use of computer technology. Withholding is applied most successfully to wages, interest and dividends, where the number of payers of income is small relative to the number of receivers. Computer technology makes it possible to assign each taxpayer a unique number in a master file, and thus to simplify the process of withholding and enforcement. Computer technology also makes it possible to gather related information on a given taxpayer and to use cross-checking methods to ensure accuracy. Many developing countries have turned to indirect taxes such as the value-added tax, instead of relying heavily on the difficult-to-administer personal income tax. Finally, presumptive methods of assessment have been used to gain added revenue while simplifying administration.

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