PRINCIPLES OF TAXATION APPLIED TO DEVELOPING COUNTRIES:

WHAT HAVE WE LEARNED?[1]

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When one is asked a question like "what have we learned?", one's first response is likely to be, "since when?". Each developing country has a history marked by different surrounding circumstances -- different internal and external environments. As the country passes from one set of circumstances to another, the pattern of its public finances typically changes. Today we find ourselves in what I certainly feel can be called a new era, different from any that characterized the past. Without a doubt the policies applied today by the most thoughtful and enlightened governments of the developing world are different from those of earlier periods. I believe that the principal differences are in one way or another the product of lessons that have been learned -- partly from experience, and partly from new developments in economic analysis.

In this essay I shall try to juxtapose the "old" and the "new" in a number of different areas of tax policy. Quite clearly, the time frame that is relevant in each comparison will differ -- some representing lessons learned as early as, say, the 1950s, others representing much more recent advances in our understanding.

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1. **Domestic Commodity Taxation: The Value Added Tax**

No public finance development of the last half century can rival the emergence and spread of the value added tax. It is difficult for contemporary economists to believe that, barely fifty years ago, there was no such thing as a value added tax. The French were the first to institute such a tax, in the early 1950s. What is astounding is the degree to which the idea thus planted has in subsequent decades proliferated around the world -- both in developed and developing countries.

The conquest of so much territory by the value added tax is testimony to the power of rational analysis. For 1, at least, know of no single country where value added taxation reflected the victory of one interest group over another. Typically the VAT came into being as a result of people simply becoming convinced that it was a better tax than the existing alternative that it would displace. This existing alternative, in turn, was typically either or both of two things: 1) a sales tax of the turnover or cascade type, where tax was imposed each time a sale took place, and/or 2) a melange of "little" taxes, each striking some small subset of commodities, with no coherency to be found among these levies with respect either to their tax base or to their tax rate.

The superiority of the value added tax over a turnover tax is quickly seen by following a commodity through the productive chain. Under turnover taxation, tax is paid by the farmer when he sells his wheat to the miller, by the miller when he sells his flour to the baker, by the baker when he sells his bread to the retailer, and by the retailer when he makes a final sale to the consumer. In this chain the contribution of the farmer is taxed four times, that of the miller three times, and that of the baker twice. Only the value added by the

retailer (i.e., his retail markup) is taxed just once.

Now no one, in all of economics, has ever been able to come up with a reason why in this case it makes sense to tax the farmer's contribution more heavily than the miller's, the miller's more heavily than the baker's, etc. Indeed, it is quite obvious that this cascade type of taxation gives an artificial incentive to vertical integration -- i.e., for a retail chain to raise its own wheat, and make its own flour and bread, so that the only taxable event takes place when the bread is sold to the final consumer.

Thus it was, that where the function of the value added tax was mainly to replace an existing sales tax of the cascade type, the victory was won on the basis of rational argument.

It is less easy to distill in a simple way how the VAT succeeded in replacing a whole mare's nest of "little" taxes -- mainly because the mare's nest was different in each country, being the product of the country's own historical experience.[2] But the diagnosis was basically the same in all cases: there were too many "little" taxes; most of them were far too small to be sensible sources of revenue; the bases of some of them overlapped those of others, leading to multiple taxation of the same item or activity. In a word, one simply could make no sense out of the existing melange of taxes, while on the other hand there was a clear and sensible rationale behind a value added tax.

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[2] I recall that in Chile during the 1950s and 1960s one would find usually three or four taxes separately noted on a restaurant bill - each identified by the number of legislative act that imposed it. In that particular case, the proliferation of little taxes arose mainly from the practice of instituting separate taxes, each "earmarked" for a specific spending program. As the years passed, the number of separate taxes originating from this process became totally unmanageable.

The initial rationalization of the value added tax tended to view it as a fully general tax, striking equally all types of economic activity. At this stage the discussion surrounded the definition of the tax base -- in particular how investment should be treated. Should a firm's investment expenditures be first capitalized and then depreciated, as under an income tax? This would give rise to a VAT of the income type. Or should investment expenditures, like wages and salary costs, simply not be deductible from the base of the VAT? This would result in a VAT of the product type. Or, finally, should investment outlays simply be treated in the same way as purchases of raw materials and intermediate products, being directly deducted in the computation of value added? This would yield a VAT of the consumption type.

On the choice of a base there is no serious debate. To my knowledge, every single country imposing a value added tax has opted for the consumption type. This choice has the virtue of being neutral with respect to the decision between consumption and saving -- a virtue highly appreciated by the modern generation of public finance economists. But the choice of the consumption type was mainly motivated (in most cases) by administrative considerations. For the product type of value added tax, one must determine whether an item purchased by a firm was a current input or a capital item. For a VAT of the income type, one must not only make this distinction, but also determine (and presumably enforce) regulations concerning the pattern and speed with which capital assets can be depreciated. A consumption type of VAT is free from both these burdens. Since capital goods and current inputs are both deductible in calculating the taxable base of a consumption-type VAT, we need not worry about distinguishing one from the other. In addition, since capital outlays are directly deductible, there is no need to consider issues related to depreciation.

The popularity of the consumption type of VAT is also related to the ease with which it lends itself to administration via the credit method. Under the credit method, each firm pays value added tax on the full value of its sales. Offset against this are tax credits, arising out of the taxes which were paid at earlier stages on its inputs. If the earlier stage (e.g., agriculture) failed to pay tax, say because it was not a part of the value added tax network, firms at the later stage (e.g., food processing) would in effect pay the tax on their own value added plus that of the earlier stage. This would be accomplished by the simple device of their having no "receipt" for tax paid at the earlier (agricultural) stage, on the basis of which to claim a credit against the tax which they (the food processors) paid on their entire sales.[3]

It is, in fact, quite possible that the total revenue yield of a value added tax will be higher when firms at an early stage of production are left out. If all the output of farmers were sold to food processors and distributors within the VAT system, the latter would end up paying the full tax on the farmers' value

Alternative methods of assessing a value added tax are the so-called "subtraction" method and "addition" method. The subtraction method is just like the credit method, except that it does not insist on an explicit record of tax paid at an earlier stage in order for the firm to claim a deduction. The firm pays simply on the basis of its sales minus its purchases of inputs (including investment goods) during the period in question. Deduction is given for input purchases regardless of whether or not they came from firms that are members of the valued added network. Clearly, evasion is much easier under the subtraction method while administration is much simpler (owing to the ease of leaving out small taxpying entities while still collecting tax at a later stage) under the credit method. Small wonder, then, that the credit method is overwhelmingly preferred among tax experts and administrators.

The addition method computes the base of the value added tax, not by working back from final sales, but by building up from the different components of cost. Thus, costs of inputs and of capital goods are not counted in this buildup, but the other principal cost items -- wages, salaries, interest, and profits are. I know of no real-world system that is administered via the addition method. It has, however, been seriously considered as a possible way of dealing with the special problems of including the financial sector in the VAT network.

added, just as the farmers themselves would do if they were members of the VAT network. But when the farmers are in the network, they receive credit for the tax previously paid on the inputs (e.g. tractors, fertilizer, gasoline) that they buy. When they are out of the network, no such credit is received. In practice, leaving agriculture out of the system can work either way. On the one hand, as indicated above, the credit for tax on agriculture's inputs is irrevocably lost when agriculture is out of the system. On the other hand, farmers do not typically sell all their output to entities that are in the system. Some farm products are sold directly to consumers, and in reality in many countries small retailers (peddlers, hawkers, etc.) are also out of the network. These provide a way in which some fraction of farm output ends up reaching final consumers without paying any VAT at all. The effect on revenue of leaving the farmers out thus depends on whether the VAT lost via direct sales to consumers exceeds or falls short of the VAT gained through the absence of a tax credit on farmers' inputs.

Yet another attribute of the credit method is the ease with which it can be adapted to multiple rates of tax. If it is desired to tax one final product at 30 percent and other at 10 percent, the government simply institutes these rates of tax for the sales of the respective products. Producers of these goods receive credit for taxes paid on their inputs. The rates on these earlier taxes are in effect "washed out" in the act of crediting them, leaving embodied in the product only the rate applied at the last stage. By the same token, firms using as inputs the products taxed at 30 percent are not thereby penalized, nor are firms using inputs taxed at 10 percent benefited, for in both cases the credit method eliminates as a component of cost the exact amount of the tax previously paid.

This attribute of the credit method gives countries a great deal of flexibility in the application of the value added tax. A number of countries have taken advantage of this flexibility, including preferentially low rates for some items, together with higher rates for certain luxury or sumptuary goods. In the process a sort of tax curiosum has been invented -- a value added tax at a zero rate. "Zero rating" of a product or an activity is different from simply leaving it out of the system. For example, if agriculture were zero rated, farmers would be able to receive credit for taxes paid at earlier stages on their inputs, whereas they cannot get such credit when they are left out of the system.

Multiple-rate value added tax systems are quite common in actual practice, but on the whole they are not the choice of administrators or tax experts. Indeed, some tax experts have pronounced themselves in favor of the otherwise distinctly inferior subtraction method, simply because it is much more difficult to introduce multiple rates under that system of VAT administration.

The preference for uniformity in the rate of value added taxation is based more on elements of political judgement and of administrative efficiency than on a straightforward application of economic principles. It was early in the story that the principles ruled. At that point, most expositions tended to treat the VAT as a truly general tax, striking the entire productive structure of the economy. Several decades of experience have taught us that such a level of generality is never approached in practice. For example, if one takes as the potential revenue of a fully general value added tax the total consumption of a country (obtained from its national income accounts) times the tax rate (here assumed uniform), one finds that actual revenues are rarely more than half of this potential amount. Of course, outright evasion accounts for a portion of the shortfall, but the major part stems from items that are simply left out --

imputed rent on owner-occupied dwellings is never included, and actual rent on rented dwellings only rarely. The entire medical and educational industries are typically left out, as are a great many items of individual service activities. Household servants, many kinds of repair services, etc. Financial services are typically left out of the system because of the difficulty of defining their "sales", which are clearly not total interest receipts for a bank nor total premium receipts for an insurance company. Small farmers and small retailers are also often left out, especially so in the less developed countries. While in some cases leaving an activity out of the system can actually increase revenue, the total of left out activities is great enough, and their level of sales to final consumers is important enough, so that in actual practice the shortfall (from the potential revenue of a hypothetical fully general tax) is always large.

The reasoning above implies that those who defend uniformity in a value added tax can not place great weight on arguments deriving from its supposed full generality of coverage. In my view, the best argument for uniformity is that of a sort of long-term compact between the government on the one hand and economic agents on the other. Where many rates prevail, their differences typically reflect political judgments and pressures of many different types. Such pressures can and do change over time, so that uncertainty concerning the nature of future tax treatment will likely be greater with differentiated rates than with a uniform one. A change in a uniform rate is also likely to be motivated mainly by revenue considerations, so agents can reasonably expect that future rate changes (if any) will be moderate.[4]

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[4] Rarely does one find a uniform rate of VAT outside the range of 5 to 20 percent.

A related argument justifies rate uniformity within the sector to be taxed on the grounds that the government should not be led to modify its tax policy simply because of shifts in demand or supply among the constituent pieces of the taxed sector.[5] A uniform tax can be regarded simply as a tax on the demand for the output of the taxed sector, and/or on the use of resources within that sector, with the government basically entering into a compact not to discriminatorily exploit situations of inelastic demand and/or supply of particular goods. A corollary is that the government is neutral (i.e., does not itself care) with respect to shifts of demand or supply within the taxed sector or within the untaxed sector.

Where the concept of a single rate of value added tax has been accepted, there still remains the issue of drawing a line that defines the sectors to be covered. Here a simple principle of applied welfare economics can be brought into play. On the whole, an activity should be shifted from the uncovered to the covered sector if, when the tax is placed on it (and its activity level therefore declines), the resultant expansion of other activities takes place more in the covered than in the non-covered sector.[6]

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[5] This argument correctly identifies so-called Ramsey taxation as the exercise of monopoly and a monopsony power on the part of the government. Such taxation would tend to change with every major shift in demand or supply of a commodity, and particularly would change if demand and/or supply became significantly less (or more) elastic. Supporters of the argument contend that a government should not engage in the exercise of monopoly or monopsony power vis-a-vis its own citizens.

[6] When we work with a single rate of VAT, the measurement of welfare costs and benefits becomes very easy. Consider placing a tax at the rate T on good y, with x being the output of the previously taxed sector, and z the output of the previously untaxed sector (apart from y). Measuring changes in output in dollars' worth at initial prices (i.e. choosing units so that all initial prices are $1) we have a welfare change arising out of the market for y, equal to (1/2) T dy. This is a negative welfare change (a positive cost) because the quantity of y falls (dy is negative) as a result of shifting y to the taxed category. The fall in y is compensated by rises in x and z, such that (if z is defined

This condition is more likely to be met 1) if commodity y has good substitutes in the covered sector (x) and only poor ones in the uncovered sector (z), and ii) if the covered sector (x) is already relatively large. The time when it would be inadvisable to shift y to the covered sector is when most of y's good substitutes are going to be left behind in the uncovered sector. This qualification also suggests that under such circumstances an effort might be made to shift a whole package of goods (consisting of not just y but also its principal substitutes) simultaneously from the uncovered to the covered sector.

The application of these rules (and some close corollaries of them) will typically lead to a large covered sector. Left out will be activities which it is difficult to tax either on administrative grounds (domestic services) or for political reasons (housing, education, medical services). Once these basic decisions have been made, the rules would dictate making sure that wherever possible close substitutes to already-taxed activities were shifted to the taxed category. At the same time the authorities should be alert not to shift to the taxed category items that are particularly close substitutes for others that, for one or the other of the above reasons, are predestined to remain untaxed

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comprehensively enough, so as, for example, to include the leisure time of workers as an untaxed activity), dy = -dx - dz. Offsetting the loss (1/2 T dy) in welfare due to the tax on y, there is an indirect gain equal to Tdx. There is a net gain from the whole operation (of shifting y from the untaxed to the taxed category) so long as dx is greater than or equal to -(1/2)dy. That is, so long as the x sector ends up absorbing at least half the resources ejected from y when the tax is imposed on y.

2. The Taxation of Imports: The Uniform Tariff

The taxation of imports is historically one of the first levies to have arisen. The relative ease of collection at customs offices (located at the border), plus the common (though false) impression that it was somehow forced upon who were being taxed, plus the natural support of any domestic producer interests that were lucky enough to be protected by the tariff -- these alone are perhaps sufficient reason to explain the early emergence of tariffs as important revenue sources.

In most countries, however, the stage of revenue tariffs is long, since past. In most places, this stage was followed by another in which protection rather than revenue became the main motivation for tariffs. This is evident in the pattern of protection that has characterized most countries in the period since World War II, and many countries since a much earlier date. Producer interests are notoriously more compact and easy to organize than consumer interests, so it is no surprise that their pressures should have typically turned out to be the dominant ones. Not only have domestic producers typically succeeded in obtaining heavy tariff (as well as nontariff) protection for their outputs, but they have also by and large succeeded in keeping tariffs low on the raw materials, component parts and capital goods that they use in production. Producer pressures are clearly and overwhelmingly responsible not just for the high protection of their products but also for the typical pattern of import duties that we find, especially in developing countries. This pattern exhibits higher tariffs and other barriers (indeed, often outright import prohibitions) on items directly competitive with local manufacturing production, together with low or zero tariffs on the raw materials and other inputs needed for the domestic production of these items.

In some cases producer protection came about by a back-door route. Governments would impose high tariffs on luxury items not then being produced in the country. These tariffs were not thought of as being protective, nor as particularly significant sources of revenue. They were somehow motivated by the thought that luxury items were a low-priority use of foreign exchange, and that who were being taxed, these items were imported, the user should be forced to pay a heavy price. If these items were imported, the user should be forced to pay a heavy price. But, motivation aside, once the tariffs were in place they functioned just as if they had been set up for protective reasons. Behind the high barriers of "luxury tariffs" there arose in a great many developing countries a whole set of small scale, inefficient "hothouse" industries, producing at home the very luxury items that the tariffs were meant to keep out, and often using as much (or nearly as much) foreign exchange for materials, capital goods, and parts, as would have been used, in the absence of the tariffs, for direct importation of the luxuries in question. Without doubt the scenario just described, leading from luxury tariffs to grossly inefficient hothouse industries, is extremely costly to the countries concerned. Fortunately, there is a simple remedy. If only it is applied in time. The remedy is to impose excise taxes rather than tariffs on luxury goods. Where the goods are initially not produced at home, the luxury tax functions just like a tariff, being collected on the items as they are imported into the country. But the luxury tax has the great advantage of not treating imports and home production differently. Hence there is no stimulus to inefficient domestic production, and at the same time no deterrent to efficient domestic production which would be capable of meeting competition from the world market.

The severe economic costs imposed by differential tariffs on outputs and

Inputs were not widely recognized until the decade of the 1960s, when the modern analysis of what is called "effective protection" was mainly developed. The problem is that when imported inputs enter at lower tariff rates than the corresponding final products, a magnified level of protection is accorded to the use of domestic resources to make the final products in question. If a good is totally produced at home, a thirty percent tariff invites the use of up to 13 pesos of domestic resources in order to save a dollar of foreign exchange (assuming the market exchange rate to be 10 pesos per dollar). But if the same product is produced using 50 cents of imported inputs (per dollar's worth or output), and if these inputs enter duty free, then only 50 cents of foreign exchange is being saved (per dollar of final product imports displaced), and fully 8 pesos worth of domestic resources can be used to perform the necessary domestic operations. The end result is a rate of _effective protection_ of 60, not 30 percent. [Eight pesos to save 50 cents is equivalent to sixteen pesos to save a dollar of foreign exchange. This, compared with a market exchange rate of 10 pesos per dollar, implies effective protection of sixty percent].

It is obvious from the above example that significant changes in effective protection can be brought about even by a moderate change in the usage of imported (or importable) inputs, or in the world price of those inputs relative to that of the final product. For example, if the duty-free usage of imported inputs amounted to sixty rather than fifty cents per dollar's worth of product, the rate of effective protection (provided by a 30 percent rate of tariff on the final product) would jump from sixty to seventy-five percent.

To eliminate extremes of effective protection, and to keep that rate the same regardless of changes in the relative prices of inputs and outputs, there is really only one solution, short of going all the way to free trade. That

solution is to have a single uniform rate of tariff, striking inputs, outputs, and capital goods alike. If the product enjoys protection at a 30 percent rate, and all imported inputs pay tariff at that same rate, it is a matter of simple arithmetic to see that domestic value added (which is the difference between value of output and value of imported inputs) also receives protection at a 30 percent rate.[7]

As a result of improved understanding of the phenomenon of effective protection, serious reform efforts in the 1970s and 1980s were aimed at bringing tariff structures closer to uniformity. These efforts have met with some resistance, both at the real-world political level, and at the analytical level. I will not stop to deal with the political pressures that resist uniform tariffs. For predictably, such measures come from those who were previously protected by high tariffs and who imported their inputs cheaply over zero or very low tariffs. These are exactly the groups that enjoyed the highest effective protection to begin with, and it is no surprise at all that they should resist its being

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[7] if r_j is the nominal rate of protection on final product j, r_i that on input i, and a_{ij} is the fraction of the cost of j accounted for (at international prices) by input i, domestic resources costs can extend up to the domestic currency equivalent of $(1 + r_j) - \Sigma a_{ij}(1 + r_i)$ per dollar's worth of final product displaced. The net saving of foreign currency obtained in the process is equal to $1 - \Sigma a_{ij}$. This pattern of protection therefore allows for domestic resource costs of up to $[(1 - \Sigma a_{ij})*(r_j - \Sigma a_{ij}r_i)]/(1 - \Sigma a_{ij})$ per net dollar of foreign exchange saved. This implies a rate of _effective_ protection of $[(r_j - \Sigma a_{ij}r_i)]/(1 - \Sigma a_{ij})$. It is easily seen that this rate of effective protection will be equal to r_j whenever all the relevant r_is are also equal to r_j. This says that the effective protection of a final product will be equal to its nominal protection whenever the relevant imported inputs into its production have tariffs equalling (or averaging) the rate that applies to the final product. Thus if all final products and all imported inputs carry the same rate r^*, then all domestic 'value' added receives protection at that same rate

reduced.

More interesting is the academic resistance to the idea of uniform tariffs. Perhaps the best starting point for a discussion of this resistance is to recognize that no plausible case can be made for uniform tariffs as a theoretical ideal. I believe that for many countries they are a wise and prudent norm. ... a way of bending to protectionist pressures without breaking, a way of sending signals to the productive sector that exaggerated rates of effective protection are out of the question, a sensible rule on the basis of which authorities can resist the pressures that impinge upon them daily. But none of these virtues makes uniform tariffs a model from a strictly theoretical point of view.

In the first place, a theorist would ask, why have any tariffs at all? The only truly valid argument for tariffs entails their use by a nation to exploit whatever monopoly or monopsony power it as a nation might have in world markets. But the natural device to exploit such power would never be a uniform tariff. A large country like the United States or a large amalgam like the European Economic Community might have some monopsony power over certain of their imports, but no developing country commands any monopsony position whatsoever. Some few developing countries may have market power in particular products (Brazil or Colombia in coffee, Chile or Zaire in copper, Argentina in wheat and meat, Bolivia in tin, Malaysia in natural rubber). But in these cases the exploitation of whatever monopoly power the country possesses would most appropriately be carried out via a tax (or other restriction) on exports of the commodity in question. A uniform import tariff would be a very inferior and indirect way of attempting to exploit such a monopoly position.

So in practice when a country opts for a uniform tariff, or when advisers (or international agencies) suggest such a goal, some concession to protectionist

pressures is already involved. Those who support uniform tariffs cannot say that they are best, only that they are more reasonable and more defensible ways of responding to protectionist pressures than what typically now exists. And what is particularly good about them in this view is that the uniformity of effective protection gives the authorities a rhetorical base from which to combat the pressures of special interest groups. Implicitly they tell such a group "We are willing to provide the stimuli for you to get 30 percent more for saving a dollar (by import substitution) than we are giving to those who produce dollars via the export route. But we do this for all who follow the import substitution route. Why should you, in particular, get more than the others? Why should you end up using 17 pesos of resources to save a dollar when other import substituters can save the same dollar for 13 pesos?" This sort of rhetoric provides a line of defense the authorities can use against a whole gamut of protectionist pressures. It provides a principle that heads of state and cabinet members can communicate to their subordinates, and that the latter can understand and effectively argue for and implement.

What, then, are the lines of division between those who argue for and those who argue against uniform tariffs? In the first place, the opponents of uniform tariffs sometimes assert that uniform tariffs operate as a disincentive to exports, when imported inputs are used in their production. The accepted answer to this assertion is that the rules established by the General Agreement on Tariffs and Trade (GATT) are unequivocal in permitting an exporting country to rebate to the exporter of an item any tariffs or other indirect taxes/(like the VAT) that may be embodied in its cost structure. To this, it is sometimes retorted that developing countries (particularly the smaller and more backward among them) often lack the administrative capacity to carry out such a rebate

scheme. To which the final rejoinder, on the part of advocates of uniform tariffs, is that the GATT has been notoriously lenient, particularly in the cases of small and backward countries, in accepting practices (like rebating a fixed percentage of cost on all exports of, say, textile products) which aim at roughly approximating the tariff-cum-indirect tax content of the costs of exports in a given category. These crude procedures often result in exporters being more than fully compensated for the tariff-cum-tax content of costs. Implementing these procedures, moreover, imposes only minimal administrative burdens on the authorities.

A second gambit by opponents of uniform tariffs notes, quite correctly, a potential flaw in the argument that uniform tariffs always provide uniform protection to all import-substituting activities. They ask us to consider cases in which products that are exported by a country are also used as inputs into the production of some import substitutes. In these cases, the rate of effective protection will exceed the uniform rate of tariff.[8] The formula itself provides the way out of the problem. If one really wants to guarantee a uniform rate of effective protection, one should impose a special tax (a quasi-tariff) on the use of exportable goods as inputs into the production of import substitutes. To my knowledge, no country has ever done this, nor is there much likelihood that any country ever will. My own judgment is that this problem is a blemish -- a wart on the nose, as it were -- on the real-world face of uniform tariffs. Few

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8 In the formula for effective protection (see above, footnote 7), the inputs I should in principle cover all tradeable inputs, not just those which are imported by a country. If some part of the local supply of an export product is used as an input into an import substitute, that much less of it (the export product) will be available to be actually exported. Hence the use of an exportable as an input typically entails just as much of a drain on the country's available supply of foreign exchange, as does the use of an import good.

policies provide, in their real-world implementation, the same degree of symmetry as they show on the drawing board. This is true of uniform-rate value added taxes, and also of uniform-rate tariffs. But on the whole, especially in developing countries, there is only relatively limited usage of export items as inputs into the production of import substitutes. The failure to impose special taxes in such instances is not likely to cause gross deviations from the norm of uniform effective protection. In the rare case of a country where the phenomenon is of such importance as to call into question the gain that a country might make by moving toward a moderate but uniform tariff, I think the advocates of uniformity should graciously concede the point. I personally know of no such cases, and feel totally confident that if they exist they are quite anomalous.

The Taxation of Income from Capital: Traps for the Unwary

Whenever one prepares to think seriously about the corporation income tax, it is well to spend some time at the outset contemplating the rather anomalous nature of this levy. In the first place, it is not a tax on the income from capital in general, nor even a tax on the income from the capital assets of corporations. Rather, it is a tax on the income from the corporate equity capital. This is not the place to elaborate on the merits of these three potential tax bases. Let me simply state that many economists are troubled by the distortions involved in a simple income tax, which by its nature discriminates against saving and in favor of current consumption. Additional distortions, above and beyond those of a simple income tax, would be introduced by any additional levy that struck the income from capital, as it were, a second time -- on top of what is paid out of such income under a general personal income tax. The distortion becomes worse if the base of this extra tax is reduced to cover only income from corporate capital rather than the income from all capital. And it becomes still worse if the base is further cut so that it covers only the income from corporate equity capital.

The first lesson that we should learn with respect to capital income taxation stems from the simple intellectual exercise just described. How did we find our way, not just in one but in many, many countries, into something that looks so anomalous (not to say crazy) when viewed in economic terms? The answer, it seems to me, is not hard to come by. At the time the corporation income tax was first imposed, its provisions were examined and filtered much more by lawyers than by economists. The income tax was a tax on the income of persons. Corporation income was taxable because it accrued to legal persons. [Indeed,

In the Latin world one often finds the same income tax law covering both the personal and the corporation income tax -- with one part of the law dealing with "natural persons", and another with "juridical persons" (i.e. corporations).

It is easy to see, in these terms, how the corporation income tax came into being and proliferated so widely. What is difficult to rationalize, even to understand, in economic terms makes perfect sense in legal terms. The lesson is that we should strive to design our economic legislation in such a way that it makes eminent sense both from an economic and from a legal point of view.

The second lesson stems from the experience of countries (developing and developed alike) in the period since World War II. This period is important because it encompasses a large fraction of the cases where nations have tried to keep capital from moving out. The lesson is that it is extremely difficult to prevent capital flight when conditions are such that capital wants to flee. In a word, it is extremely easy for a country to adopt a set of policies such that investors abroad have no desire to put their money in the country and those (nationals and foreigners alike) who already have capital invested in the country try very hard to get it out. But once such policies are in place it is extremely difficult to change course and get the capital back again. Capital controls and other measures have not really worked as a way of keeping capital in a country, but that does not mean that a country cannot with considerable ease (and even often without explicit intent) manage to keep capital out.

The third lesson is that in the present-day world, the taxation of income from capital in any developing country ends up by reducing the size of the capital stock in that country. And since a smaller capital stock implies a lower equilibrium level of real wages and salaries, it is in the final analysis the workers that end up bearing the brunt of any special tax on capital income. The

mechanism by which the capital stock in a country is reduced by taxation is simply the search (on the part of individual holders of wealth) for the best possible rate of return. Whatever would be the capital stock within a country in the absence of special taxes on the income from capital, that stock will surely be less, often very significantly less, in the presence of such a tax.

The fourth lesson deals with an exception -- sometimes quite important - to the above statement. It concerns the case of multinational companies, and the tax treatment which their home countries accord to the income earned on their investments around the world. Frequently this treatment simply allows a "foreign tax credit" for any taxes paid in the host country, up to the amount that would have to be paid on the same income under the tax laws of the base country (say the U.S.). In such a case, a developing country has a special incentive to tax the income of a multinational as much as, say, the U.S. would do in any event. For if the country falls to impose a tax, the company has to pay the tax anyway - but to the U.S. Treasury instead of the developing country's own.

The fifth lesson concerns how to get rid of a corporation income tax without really doing so. The key word in this lesson is _integration_. By integrating a country's corporation income tax with its personal income tax, the former tax can be virtually eliminated, as far as the country's own citizens are concerned. The process of integration works in the same way as tax withholding on wages and salaries. If the corporation income tax rate is 35 percent, then this fraction of the company's profits is remitted to the government. The amount of profits per share is calculated, as well as the amount of tax. Shareholders paying personal tax within the country are informed of the income accruing to them on the basis of the shares they own, plus the amount of tax that has been paid. Both figures are then treated in a fashion identical to the procedures

used under wage and salary withholding. The individual shareholders are required to include as part of their own income their proportionate share of the profits of the company. In turn, the tax paid by the company on these profits is then credited against the tax which the individual owes. In the end, only individual tax is paid on each resident shareholder's portion of the company's earnings. No extra tax is involved. The corporation income tax, as far as these shareholders are concerned, has ceased to exist.

The sixth lesson concerns a bit of public-finance sleight of hand ... a mechanism whereby the corporation income tax can be effectively abolished as far as resident shareholders are concerned, yet be maintained for non-resident shareholders (including multinational corporations that own local subsidiaries) The trick is to follow the line of integration just discussed, but to provide no mechanism by which nonresident shareholders can recover (from the country in question) the tax that was "withheld". The companies (which are the nonresident shareholders in this case) may recover via tax credits granted by their own governments (as is the case in the United States), but they will not get the money back from the Treasury of the host country. This piece of magic seems almost to be the best of all possible worlds for a developing country. It eliminates the corporation income tax as a reason for local residents to hold less capital in the form of local investments, and at the same time does not gratuitously transfer tax revenue to foreign Treasuries.

A variant of the preceding lesson is provided by "partial integration" of the corporation and individual income taxes. The most frequently encountered version of partial integration is based on dividends. All corporation profits are subject to corporation income taxes, and when the tax payment is made, the taxes are "assigned", pro rata, to dividends on the one hand and to corporate

retentions on the other. The part assigned to dividends is then treated as withholding. Individual resident shareholders are then required to report their dividends (grossed up so as to include taxes on the dividends but not corporate retentions nor the taxes upon them) as part of their personal income subject to tax. The tax due from the individual is then computed, and the corporate tax paid on the basis of dividends is credited against the individual's tax liability (i.e. is treated as withholding).

Quite obviously, partial integration does not have the same degree of merit in eliminating distortions as does full integration. Nonetheless it has proven to be a useful step, as compared with zero integration, and it has some administrative advantages vis-a-vis full integration. Our seventh lesson would be to consider partial integration as a good step, moving away from a system with on integration at all, but as a solution that is on technical economic grounds inferior to full integration.

Apart from the above, a very important lesson derives from an early tendency, when corporation income taxation was first implemented in a number of developing countries, to make the rates of tax progressive in a fashion similar to the progression of the individual income tax. Somehow it was apparently thought that corporations with more income were somehow "richer" than the rest, and possessed a greater "ability to pay" in relation to their income. Nothing, of course, could be farther from the truth. In many countries, the largest corporations have the most widely distributed shareholdings. In the U.S., telephone companies and other utilities have been favorite investments for small individual shareholders.

The main point is that if the idea of progression has any meaning it is at the individual, not the corporate level. The result of progressivity at the

corporate level is to induce companies to "fractionate" rather than maintain an economic size. While sometimes justified as a favor to small firms to "help them grow", a progressive rate structure in the corporation income tax is better seen as a special tax on the growth of smaller firms. While we have argued above that special taxes on the income from capital are counterproductive (because they reduce the size of the capital stock in a country), we here would add that to the extent that such taxes will anyway exist it is far better for them to be uniform than to follow a progressive rate structure.

Lessons with respect to the setting of rates carry into other aspects as well. Where integration between the corporation and the individual income taxes exists (or is planned), there is great merit in setting the corporation income tax rate equal to the top-bracket individual rate. Where consideration is given to the fact that multinational companies would anyway pay tax to their home treasuries, the argument automatically leads to a recommendation that developing countries set their corporation income tax rates at levels similar to those prevailing in the principal industrial countries that serve as bases for the multinational corporations.

It would be easy for the above two recommendations to be quite contradictory. The highest rate of personal income tax might be sixty or seventy percent, while the corporation tax rate in developed countries might average around thirty or forty percent. Fortunately, recent trends have reduced the likelihood of such a contradiction. Almost everywhere in the world, the maximum rates of personal income tax have dropped dramatically. Whereas once such rates hovered between seventy and ninety percent in a number of countries, the tendency in recent years has been for them to be reduced below fifty percent. The "center of gravity" of maximum personal tax rates is today probably between thirty and

forty percent -- in developing and developed countries alike. Perhaps fortuitously, a simultaneous tendency toward rate reduction has led to corporation income tax rates in industrial countries being concentrated in the range of thirty to forty percent. Hence today a typical developing country can integrate its corporate and personal income taxes, and at the same time deal with the problem of multinational companies, by sticking to rate structures in the indicated range.

4. **Tax Incentives: The Need for Rationalization**

In some parts of the world (Latin America comes immediately to mind) there appears to be a propensity to introduce tax incentives in response to almost any new or promising investment idea. Help for a backward region, stimulus to a new industry, assistance for a slumping industry to recover, provision of desired services like housing for the poor and not-so-poor -- all these have been and are the objectives of investment tax incentives in not just one but many different countries.

Now in a sense it is easy to understand how these incentives come into being. Legislators and administrators alike are aware that taxing the income of enterprises acts to some degree as a deterrent to their activities. They end up taxing these enterprises not as a caprice but because they need revenue. But new activities should not be deterred from starting up, especially not when the activities are thought of as desirable ones. So in the euphoria of contemplating new wellsprings of growth and prosperity, ministers and congressmen join to grant investment tax credits, tax holidays, accelerated depreciation schemes and the like.

The pity is that many, probably most of the schemes that have in fact been implemented are ill-designed. Indeed, there is a good chance that many of them end up doing substantially more harm than good. Here's the pity because several different policy devices are available which meet the design criteria that most existing incentive schemes fail. One of the important sets of lessons of the last fifteen years or so has been the "discovery" of why so many existing incentives are seriously flawed, and of exactly which incentives schemes meet what might be called rational design criteria.

The clearest case of flawed design is the investment tax credit, as it has usually been implemented in industrialized and developing countries alike. Such tax credits are typically calculated as a specified percentage of the costs of investment goods in the affected categories. It sounds so reasonable -- if the desire is to stimulate investments of a given type. Why not subsidize outlays on such investments? The problem is that the economic function of investment is to produce net income (for investors, and at bottom for the society). An appropriate incentive would be geared to the present value of the expected income stream to be produced, rather than to the cost of the investment goods involved.

The essential point is to recognize that the price we pay for an investment good is (in equilibrium) the present value of all the future flows of benefit that it will generate. These flows include the recovery of the initial capital, plus the net return. The problem with the typical investment tax credit is that it subsidizes capital recovery as well as net return.

Consider an analogy with government bonds. If a government were to give something like an investment tax credit to the purchasers of its financial obligations, it would offer, say, a seven cent credit against personal income tax for each dollar that a taxpayer spent on such obligations. Presumably, the credit would be conditioned on the individual holding the obligations to their maturity. What would individuals try to do in such circumstances? Clearly, they would flock to purchase one-year notes rather than 5-year or 10-year bonds. Even better, if the tax credit scheme allowed it they would concentrate their purchases on three-month bills. In that way, they could receive 4 credits each year for every $1000 they had available for the operation. Obviously it is much better to get 4 credits (cf. say, $70 each) per year than just one credit per year. And one credit every year is better than one credit every five years (as

it would be if the purchaser went for five-year bonds). Now the problem here is that the purchase price paid for a bond is not (except in the case of a perpetuity) the present value of its net income stream, but rather the present value of the stream of income plus amortization payments. As the term of the bond gets shorter and shorter, the fraction of its price constituted by the present value of amortization payments gets higher and higher. For an obligation that pays periodic interest, and is amortized just by one final payment, the present value of amortization is simply $P/(1+r)^N$, where P is its initial price, r the interest rate (assumed here to be both the coupon rate and the relevant market discount rate), and N the term to maturity. Thus with a 1-year bond, its issue price of 1000 would represent, at a six percent discount rate, something like 943.4 ($= 1000/1.06$) of percent value of amortization and something like 56.6 ($= 60/1.06$) of present value of net income.

Just as the price of a bond represents the present value of interest and amortization payments, so the cost of a machine or other physical asset tends to represent, in equilibrium, the present value of its expected stream of net income plus depreciation. The problem with the typical investment tax credit is that, in effect, it subsidizes depreciation, thus artificially biasing investors in the direction of choosing short-lived assets. The most exaggerated investment tax credit of which I am aware was one of 30 percent, which applied in Bolivia at the time (1976) I served there as a member of the Musgrave tax mission. My favorite example in this connection is an investment that costs 1000 and "pays out" in three equal annual installments of 300 each. Obviously this investment has an overall negative economic rate of return. Yet in the presence of a 30 percent tax credit, an investor would see its costs as 700, not 1000. On this basis the three annual flows of receipts would represent a rate of return

In excess of 10 percent. Here the investment tax credit would "artificially" turn a socially wasteful investment into a privately profitable one.[9]

To eliminate the bias described above, one must in effect calibrate the incentive to the net income generated (or expected to be generated) by the assets that are covered. This can be done in a variety of ways. The simplest, of course, is simply to reduce the rate of income tax that is to be paid by the enterprise in question. If the general income tax rate is 50 percent, it takes an expected yield of 20 percent to produce an after-tax return of 10 percent per annum. If it is desired to stimulate a special category of investments, one could simply reduce the tax rate applying to their income to, say, 40 percent or 30 percent. This would lead enterprises to be willing to invest in assets expected to yield 16⅔ percent (in order to produce a 10 percent return after a 40 percent rate), or 14.3 percent (in order to produce a 10 percent return after a 30 percent rate). There is no way under this scheme to replicate the "scandal" reported above for the investment tax credit, whereby investments with socially negative yields are made privately profitable.

Reducing the rate of applicable income tax is only one of a number of devices, all of which have the attribute of giving "rational" investment incentives.[10] A second such incentive is a tax credit on net investment in the

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[9]Most countries that introduce investment tax credits impose statutory minima on the economic lives of the assets to be covered. This eliminates the most exaggerated cases of bias, but it still imposes a great deal of distortion of investment choices.

[10]To have a special incentive implies that there are favored activities that policymakers want to stimulate. What I here call "rational" incentives all have the property that for each level of the incentives (e.g., the 40 and 30 percent tax rates in the above example) there corresponds a critical expected gross-of-tax yield (e.g. 16⅔ and 14.3 percent, respectively) on the investments covered by the incentive. Rational investors operating under the incentive will tend to accept projects promising greater than the critical yield, and will tend to reject those whose expected yield is below the critical level. In no case would

covered areas. Here the taxpaying firm receives as a credit only a specified fraction of the amount by which the cost of new investments exceeds the concurrent amount of depreciation on old investments of the covered type. This scheme can be visualized as giving a full credit on the cost of each specific investment asset, and then later imposing an "anticredit" on the depreciation allowances accruing over the life of the asset. If the purchase price of the asset is thought of as being composed of the present value of future revenue (PVY) plus present value of future depreciation allowances (PVD), then one can say that on each given asset the net investment credit subsidizes PVY and PVD at a given rate (say r), and then takes back the subsidy on depreciation allowances (D) as they accrue. The net result, in present value terms, is a subsidy to PVY, which obviously is similar in nature to a reduction of the regular tax rate applying to Y.

An extreme version of a rational incentive scheme is the full expensing of covered investments. The investing firms receive a benefit equal to the tax rate r times the price of the asset (= PVD + PVY). But once the asset has been expensed, the firm is required to pay tax at the full applicable rate on each annual flow of Y + D. The net result in this case is no tax at all. As Musgrave long ago pointed out, full expensing effectively eliminates the enterprise income tax. Instead, the government becomes a r percent partner in each investment, paying r percent of the investment cost via the expensing route, then taking r percent of the full benefit stream (Y + D) over the life of the asset.

A less extreme version of essentially the same scheme is partial expensing.

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such a "rational" incentive lead to the acceptance of, say a 12 percent investment, while it simultaneously led to the rejection of a different, similarly-covered investment with, say, a 17 percent yield.

whereby the investing firm gets to expense a fraction a of the cost of a covered investment and then is required to depreciate the remaining fraction (1 - a) of that cost, using the normal pattern of depreciation over the economic life of the asset. Here there is a credit of a·r(PVY + PVD) followed by a tax of r applying to [(Y + D) - (1 - a)D]. In present value terms the net tax is r(1 - a) PVY. That is, the ordinary tax rate of r has been reduced by the incentive scheme to r(1 - a).

There are yet other devices which meet the condition for a "rational" investment incentive. All are the same in the undisturbed "long run" which economists are prone to contemplate. They differ in the way the flows of tax and subsidy payments are distributed over time. For example, the full expensing scheme is virtually inflation-proof, since it gives credit at the full tax rate at the time an investment is made, and collects tax at the full tax rate on the annual flows of (Y + D) as they occur. The net investment credit, on the other hand, is vulnerable to inflation. Full credit is received when the asset is bought; but when in later periods the depreciation of the asset is offset against later investment purchases, the offsets are understated by the amount of accumulated inflation. The partial expensing scheme is likewise vulnerable to inflationary distortions, but a variant of it is not. This variant would simply divide the price paid for an asset into two components PVY and PVD, the shares reflecting the pattern of benefit flows combined with the normal profile of true economic depreciation of the asset. The firm would then be allowed to take PVD + a PVY as an expense in the year the investment was made, subject to its later paying tax at the rate r on the full annual flows (Y + D). The net result, in present value terms is a tax equal to r(PVY + PVD) minus r(aPVY + PVD) for a net tax of r(1 - a) PVY.

The above family of "rational" incentive devices is greatly to be preferred to most of the schemes commonly found in practice. Once it is realized that the objective of "rationality" is met only when the incentive is somehow calibrated to Y (or PVY), and not to D (or PVD), it becomes clear why many widely used schemes fall short. Accelerated depreciation schemes tend to work capriciously as among assets of different economic lives and types. It is practically impossible for an incentive scheme which operates solely on the depreciation side to end up being perfectly (or nearly perfectly) calibrated to net income Y. Similarly, tax holidays grant exemptions for a period of years. They are welcomed by investors whose projects yield much or most of their taxable income during the "tax holiday" years; but they mean little for projects whose main income flows will in any event accrue after the "holiday" is over. Thus it is not possible for a tax holiday scheme to affect all covered investments equally, in relation to their respective present values of net income (PVY).

The lesson with respect to tax incentives to investment is simple. To the extent that such incentives are used for any purpose not calibrated to a specific externality, they should be chosen from a by now rather amply shelf of what we have here called rational investment incentives. Such a choice will provide a true incentive for covered investments while at the same time guarding against gross and avoidable inefficiencies.

Indexing the Income Taxation of Business Firms

The indexing of tax systems for inflation is a subject about which we had little organized knowledge, and virtually no experience, until the past few decades. Now there are a number of countries that have adopted a system of full or partial indexing. The analytical base for dealing with the subject is, moreover, by now well developed. The task that remains is one of disseminating the knowledge and experience that we have, and of perhaps trying to ensure that a wide segment of people come to appreciate the simplicity (and ease of administration) that characterizes a well-designed indexing system.

The story can be told very simply. Historically, business firms have been among the first (and the loudest) to complain about the way inflation affects their taxes. They point out, quite rightly, that depreciation allowances based on historical cost are grossly unrealistic when substantial inflation has intervened. They argue on this basis in favor of being permitted to write up the book value of each asset so as to reflect inflation as it occurs, and then to calculate depreciation for tax purposes on the basis of this written-up value.

The problem with the above solution (partial indexation on the basis of fixed assets) is that it only does part of the job -- precisely that part in which the inflationary adjustment favors the business firm. The other key part of a system of indexing concerns debt. For, quite obviously, inflation erodes the value of any debt that is expressed in nominal terms, creating a large inflationary benefit for any firm that has a significant portion of its capital in the form of debt. This inflationary benefit is hardly ever mentioned by those who complain so vociferously about the understatement of depreciation in an inflationary environment.

A proper indexing procedure would correct for both of these broad types

of distortion that inflation introduces into the measurement of the true economic income of business enterprises. One possible procedure would be to specifically deal with each asset on the one side, and each instrument of debt on the other. Such a procedure is cumbersome, and tends to neglect the fact that nominal assets and liabilities run through a whole continuum -- from cash on hand to accounts receivable and payable to all sorts of instruments of long-term and short-term debt.

Fortunately, there is a simpler, yet completely general procedure which accomplishes the task of indexing without having to deal explicitly with each and every nominal asset and liability. This procedure is based on the simple accounting equation that Assets equal Liabilities plus Net Worth (Capital and Surplus). It deals with real assets and liabilities in one category, nominal assets and liabilities in a second category, and net worth as the third category.

Three rules govern the entire system:

a) All real or indexed assets are to be written up by the inflation factor for the period (e.g., year) for which taxable income is being calculated. The aggregate amount of such write-ups for all real or indexed assets should then be added as a profit item on the income statement for the period.

b) All real or indexed liabilities, together with the capital and surplus of the firm, are to be written up by the inflation factor for the period (e.g., year) for which taxable income is being calculated. The aggregate amount of such write-ups should then be added as a loss item on the income statement for the period.

c) For real depreciable assets, depreciation for the period should be calculated on the basis of the written-up value of the assets.

The interesting thing about these rules is that they make no mention of

nominal assets and liabilities -- i.e., there is no explicit adjustment for debt items. But consider that the adjustment that we would like to make with respect to these items is to attribute to the firm a profit equal to the inflation rate times (Nominal Liabilities minus Nominal Assets). The accounting equation says that this is equal to (i) the inflation rate times (Real Assets minus Real Liabilities) minus (ii) the inflation rate times Net Worth (Capital and Surplus).

Note now that rules (a) and b) bring in item (ii) by assigning as a profit item the aggregate adjustment on real assets and as a loss the aggregate adjustment on real liabilities. In another part of rule b) item (ii) is brought in by adding as a loss item the aggregate write-up of capital and surplus. The end result is that rules a) and b) effectively bring about the appropriate adjustment for nominal assets and liabilities without ever explicitly mentioning them, or the interest which they may or may not carry.[11]

The system permits all interest payments to be treated as expenses, just as they are in non-indexed accounting systems. If there is a 20 percent inflation and a firm pays an interest rate of, say, 30 percent, the system gives the firm an implicit profit of 20 percent on the loan through the adjustments indicated above, and then allows the firm to write off the 30 percent explicit interest payment as an expense. The net result is that the firm pays only 10 percentage points of real interest, and exactly that amount is the net interest deduction which the system in effect permits.

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[11]From the accounts of the firm we have RA + NA - RL + NL + CS, where RA and RL represent real assets and liabilities, NA and NL equal nominal assets and liabilities and CS equals capital and surplus. Inflation at the rate x brings about a loss on all nominal assets and a gain on all nominal liabilities. The net gain is x (NL-NA). This of course equals x (RA-RL) minus x CS.

The system treats firms that are net creditors in a fashion exactly symmetrical to that accorded to net debtors. If the above debt was owed to another enterprise in the same national economy, that firm would declare as income the full 30 percent rate of interest received, but the profit and loss increments implied by adjustments a) and b) would offset 20 points of that, leaving only 10 percentage points of net taxable interest income.

It should be noted, too, that firms which hold cash are implicitly attributed a loss due to the loss of real purchasing power of that cash. Similarly, firms owing non-interest-bearing payables are attributed a gain, and those awaiting payment on non-interest-bearing receivables are attributed a loss by this system. The gain and loss in this case are precisely the inflationary change in real value of the liability or asset in question.

Two simple examples may help readers see how the system works. Consider a fixed asset that was bought at a price of 1,000 by a newly formed company with capital and surplus of 1,000. An inflation of 20 percent in the first year of use would cause the machine to be written up to 1,200 (rule a); at the same time, by rule b), the firm's capital and surplus would be written up to 1,200. The revaluation of the machine would cause 200 to be added as a profit item and loss statement. The revaluation of capital and surplus would cause 200 to be added as a loss item. These two adjustments cancel one another, leaving no direct impact on profits. However, by rule c), depreciation is taken on the basis of the written-up value of 1,200, hence the widely-recognized inflationary distortion of depreciation is avoided.

The second example deals with a fixed asset financed by debt. In this case, the fixed asset would be written up to 1,200, and depreciation taken on that sum just as in the previous example. Similarly, a profit item of 200 would

be generated by the write-up. But in this case, the operation itself entailed no modification of capital and surplus. So the firm must pay tax on an additional income of 200. However, the firm gets to deduct the interest paid on its debt. If this interest reflects the inflation rate plus a real interest factor, the 200 of additional income is automatically cancelled by the inflation factor in the interest rate, and what is left is a net deduction of the real interest actually paid.

6. **Conclusions**

In this paper we have explored a number of areas in which considerable advances have taken place in our understanding of important tax issues and/or in the design and implementation of tax policies. These areas represent only a sampling, but I believe they cover what are the most important advances of the last several decades, judged from the standpoint of responsible and efficient policymaking in developing countries.

Section 1 deals with the value added tax, a fiscal innovation which has swept over half the world in the course of a mere three decades or so. Today the VAT stands as the premiere indirect tax, from a technical point of view. Even though it is never a truly general tax, as its most ardent apologists would sometimes like to pretend, it is a robust and good tax, which can be designed in such a way as to raise substantial revenues at small economic cost. Our review of the VAT also includes a discussion of criteria for drawing the boundary lines of its coverage. Such criteria are quite essential - especially once one recognizes that nothing approaching full generality of coverage has ever been achieved, nor can one plausibly aspire for it in any foreseeable future.

In Section 2 we consider uniform import tariffs. Such tariffs are clearly not first-best alternatives for any country, but they have great merit in allowing a developing country to respond in an organized and rational way to protectionist pressures. The end result of a uniform tariff is uniform effective protection of all import-competing activities. The particular irrationality that pervades tariff structures in just about every country is the maintenance of zero or very low tariffs on raw materials and other imported inputs that enter into the production of import substitutes. Uniform tariffs provide the basis for

equal effective protection of all import-substituting activities, which in turn is a sensible principle on which a country can base an economic policy that is constrained for political reasons to involve some degree of protectionism.

Section 3 deals with the taxation of income from capital. It first points out how such taxation tends inevitably to reduce the size of a country's capital stock and hence to lower its level of real wages. In general, the welfare of any developing country, and of labor within that country, is best served by reducing the rate of capital income taxation. The section also notes, however, that reducing the rate of corporation income taxation can end up simply transferring certain revenues to the treasuries of the developed countries where most multinational corporations are based. This occurs because such companies are typically liable for tax in their home countries, subject to the tax credits for the amounts paid to the countries where their foreign income is earned. If one such country falls to tax that income, the home-base country typically will tax it anyway. Thus the company receives no stimulus, but the developing country that reduced or eliminated its tax rate simply loses revenue.

An ingenious package of policies has been discovered, which manages to get the best of both worlds for a developing country. The first part of this package is the integration of the country's personal and corporation income taxes, as far as resident shareholders (of corporations operating in the country) are concerned. For such shareholders, collections under the corporation income tax are regarded simply as amounts withheld for the shareholders' personal income tax liability. These shareholders pay personal tax, but only personal tax, on their pro rata portion of the corporation's income. Non-resident shareholders, however, are in a different situation. In effect, the corporation income tax remains in force as far as they are concerned. They can continue to claim tax

credits, as before, from their home countries, but they do so only after establishing a pro forma tax liability on the basis of the income in question. Their situation remains one of owing to their home government the relevant tax on their foreign source income, but of being able to claim a tax credit for the tax paid to foreign governments on the basis of that income.

The end result of the above scheme is that the developing country's own residents are in effect exempt from corporation income tax, while non-resident shareholders (including multinational corporations on the incomes of their subsidiaries) continue to pay it.

Section 4 of this paper deals with tax incentives designed to stimulate particular types of investment. Such incentives have been widely used in developing countries. Unfortunately, the specific policy devices employed -- mainly tax credits, tax holidays, and accelerated depreciation schemes -- have serious flaws. It is very easy for such devices to end up stimulating one investment with a low overall (social) rate of return, while simultaneously leading to the rejection of similarly situated investments (i.e., in the same region, industry or other category being favored by the stimulus) with much higher overall rates of return.

Section 4 shows how this anomaly can be corrected through the use of better-designed tax incentives. Several different devices -- reducing the corporation tax rate on favored investment categories, granting tax credits on net rather than gross investment, full or partial expensing of the affected categories -- are shown to be proof against the defects of most existing incentive schemes. These devices are the indicated instruments for future investment incentives in developing countries.

Section 5 treats the indexing (for inflation) of the computation of the

taxable income of business enterprises. It is noted that in addition to the familiar understatement of depreciation (with an unindexed system in the presence of inflation), there are gains to debtors and losses to creditors, on instruments of debt that are denominated in nominal terms. An extremely simple system of indexing, consisting of only three basic rules, is then set forth. This system effectively corrects for all understatements and/or overstatements of real income that may result from inflation. Moreover, the system is relatively easy to administer. Adoption of such an indexing scheme is thus advisable for any country suffering from chronic inflation, as well as for any that runs a significant risk of substantial spurts of inflation in the future.

These are some of the areas in which important new insights and improvements in the theory and design of tax policy have been generated during the past few decades. Together with other innovations not covered here, they have brought about very significant improvements in the "tax package of choice" which serious professional observers would recommend to almost any developing country.

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