

1 Tax Policy in a Small, Open, Developing Economy*

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The originally listed title for this paper was "Tax Policies and Foreign Sector Investment." The more I thought about that specific subject, the more I found that, for a small open economy, one way or another, a discussion that starts with the foreign sector ends up with the tax system as a whole. I trust that the many linkages that exist will become clear to readers as the discussion proceeds.

I. LABOR BEARS MORE THAN THE FULL BURDEN OF THE CORPORATION INCOME TAX

My definition of a small open economy is one in which the prices of tradable goods are governed by world market prices. The presence of tariffs and excise taxes, so long as they are not prohibitive, creates no problem at all. Prohibitive tariffs, quotas, and perhaps other kinds of quantitative restrictions do unhook the internal prices of the affected commodities from the world price. In effect, such policies end up by converting tradables into nontradables. For the purposes of the present discussion I am prepared to admit a substantial number of goods affected by such restrictions. All that one really needs is that there still remains a significant tradables sector, defined, as above by the linkage between world market prices and the internal prices.

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For simplicity assume that the tradables sector has both corporate and noncorporate subsegments. The corporate subsegment would most naturally consist of manufacturing activities, whose outputs are nearly all, at least in principle, tradable. The noncorporate sector would consist predominantly of agriculture. Side by side with these would be a corporate nontradable sector, consisting surely of public utilities and internal transport, and in some economies also including the "overprotected" manufacturing activities that have been shunted by policy into the nontradable category. Finally, there would be a noncorporate, nontradables sector, consisting mainly of localized services (restaurants, electricians, plumbers, perhaps construction).

Assuming for simplicity that each of those sectors can be characterized by a production function homogeneous of the first degree, we may easily construct price formation equations, following upon imposition of a corporation income tax, here taken to be a tax $T_{Kx} = T_{Kz}$ on the earnings of capital in the corporate sector. The prices of labor and capital p_K and p_L are initially assumed to be unity; coefficients like f_L , f_K , g_L , g_K , etc. represent the initial shares of the factors in each line of activity. Competition is assumed, so that the sum of factor payments (including taxes) exhausts the price of the product. The only important factor other than capital and labor, is land (A), which enters only into the production function of agriculture.

In the presence of the tax, the following equations will hold.

- $dp_x = f_K(dp_K + T_{Kx}) + f_L dp_L$ Manufacturing (1)
- $dp_y = g_K dp_K + g_L dp_L + g_A dp_A$ Agriculture (2)
- $dp_z = h_x(dp_K + T_{Kx}) + h_L dp_L$ Public utilities and transport (3)
- $dp_s = m_K dp_K + m_L dp_L$ Services (4)

Equation (1) provides the driving force in this system. For, since X is tradable, $dp_x = 0$; and since capital is mobile, $dp_K = 0$. Thus

$$dp_L = -f_K T_{Kx} / f_L \tag{5}$$

With initial prices equal to one, $f_x/f_L = K_x/L_x$, hence $dp_L = K_x T_{Kx} / L_x$. Since $T_{Kx} = T_{Kz}$, we have that the total tax revenues will be $(K_x + K_z) T_{Kx}$.

Labor's loss will be $-(K_x T_{Kx} / L_x)(L_x + L_y + L_z + L_1)$. Labor's loss will exceed total tax revenues, then, so long as $[(L_x + L_y + L_z + L_1) / L_x] > [(K_x + K_z) / K_x]$. That is to say, labor loses more than the whole burden of the tax so long as the fraction of the entire labor force that is occupied in the corporate tradables sector is less than the fraction of the corporate capital stock that is occupied in making corporate tradables. I know of no country where a plausible case could be made asserting that this inequality was not fulfilled by a wide margin.

We thus conclude that labor significantly overbears, i.e., bears more than the full burden of the corporation income tax in a small open economy. The principal beneficiaries are the owners of land, whose price goes up to offset the fall in the price of labor (see Equation 2), and the consumers of services, whose price goes down to reflect the fall in the price of labor. (The price of public utilities and transport will remain the same if $h_x = f_K$, $h_z = f_L$; i.e., if the capital intensity in the z-sector is the same as that in the x-sector.)

The mechanism by which all this works is the movement of capital out of the country, in the presence of the tax. Rewards are assumed to have been "equalized" (with due allowance for risk) before the tax was imposed; the same sort of equalization is assumed to exist in the presence of the tax. The mechanism that brings this about is capital outflow; which I assume (realistically, I think) that no small country can prevent or even seriously curtail.

II. INTEGRATE THE CORPORATION INCOME TAX WITH THE PERSONAL INCOME TAX

Such integration in effect eliminates the corporation income tax for local resident taxpayers. The advisable procedure is to maintain the corporation income tax "on the books," and to collect the tax from corporations. For local residents, these collections should be treated as a form of withholding. They must count as part of their personal income the corporations gross-of-tax profit per share times the number of shares they own, and they must pay tax on their full income including this component of corporate profits. What was paid by the corporation in tax, on their shares, however, becomes a credit when the amount of personal tax due is calculated.

This scheme has the virtue of still collecting corporation income tax from foreign corporations. In most cases, the outright abolition of

the corporation income tax would simply mean a gift to the treasuries of the United States, the United Kingdom, Germany, and other developed countries where international and multinational corporations are domiciled. By maintaining the facade of a corporation income tax, at something like the nominal rate prevailing in these advanced countries, an LDC can avoid simply transferring tax money to other countries' treasuries.

III. CONVERT THE PERSONAL INCOME TAX TO A CONSUMPTION EXPENDITURE TAX

Like the corporation income tax, a personal income tax will have the effect of driving capital abroad. In my own opinion, few LDC taxpayers pay tax to their own governments on the interest, dividend, and capital gain income that they earn on their holdings outside the borders of their countries. Whether they pay tax to the host country doesn't matter, analytically, for such payments, if made, will presumably be made whether or not the LDC taxes personal income from capital. Capital market equilibrium in the LDC will occur when the net-of-tax return on capital invested at home bears the appropriate risk-adjusted relationship to whatever return its citizens are able to get from abroad. Thus, when capital invested at home is subject to tax, more of it will end up abroad. Once again, labor will effectively bear the burden of whatever tax is collected, and perhaps more than the full burden.

A consumption tax designed to fall on goods and services consumed in the LDC will, in effect, raise their prices above world levels. This is obvious when the tax takes the form of a value-added or excise tax (see below), but it is equally true when one is dealing with a consumption-expenditure tax administered through an income-tax type of framework. In this case, people pay world prices for tradables, and the consequent equilibrium prices for nontradables. The surcharge over these prices they pay directly to the government in the form of the consumption expenditure (CE) tax.

IV. CAPITAL INVESTED ABROAD SHOULD BE NONDEDUCTIBLE AND TREATED AS CONSUMPTION

The simplest and most straightforward approach to consumption taxation, particularly for countries that already have a personal income

tax, is to permit the deduction, from income subject to tax, of certain specified investments. This has long been true of registered retirement plans in the United States; its scope has in recent years been amplified by Keough plans and Individual Retirement Accounts. All of these schemes allow for ample flexibility in shifting portfolios within the plan. The money that goes into such a plan is not taxable, nor are the interest, dividend, and capital gains receipts that accrue within the plan. Tax is paid only as money is withdrawn from the plan.

Characteristic of this sort of consumption tax system is a listing of eligible institutions. Banks, savings and loan institutions, and registered brokerage houses come immediately to mind. To them could easily be added real estate management firms, mutual funds, etc. The principle is to make the coverage as wide as possible without inviting invasion or creating undue enforcement difficulties.

The one area to avoid including in the eligible list is foreign investments (unless, of course, the government of the LDC can make reliable enforcement arrangements with foreign banks, brokerage firms, etc.). This means that investments abroad are treated as if they were consumption. They therefore pay tax *now*. Investments at home, in eligible entities, will pay tax *later*. Assuming the yields in both classes of investment to be the same, there is no gross discrimination involved; the present value of tax would presumably be the same in both cases. Only the timing of the tax would differ. But, and this is the important point, no evasion would be involved so far as foreign-source income from capital is concerned.¹

V. A PROGRESSIVE CE TAX CAN BE SUPERIMPOSED ON A CONSUMPTION-TYPE VALUE-ADDED TAX

The issue here concerns the ease and effectiveness of enforcement. In the first place, the value-added tax is administered through channels that are substantially different from those of the personal income (or consumption-expenditure) tax. Separate channels are a virtue in this case, because those who may be able to evade or avoid one of the taxes are unlikely also to be in such a lucky position *vis-a-vis* the other. Moreover, the value-added tax has lot of self-correction built into it. If farmers are even exempted from the tax, it will still be paid by the canners, freezers, and other food processors, because they do not have a voucher indicating that tax was previously paid at the farmer stage. (Actually, the exempting of farmers is likely to lead to higher tax

collections than would occur if they were full-rate members of the system. If in the system, they would be able to deduct purchases of, say, tractors, gasoline, fertilizers, seeds, etc. Out of the system they cannot deduct these items, but they are free of tax when they sell directly to the public—e.g., at open-air markets. I believe that in most countries the amount of inputs for which no deduction can be claimed is higher than the amount of direct sales from farmer to public; hence, the assertion that tax revenues are actually increased by exempting farmers from the value-added tax.)

In a consumption-type value-added tax, investment outlays are treated in the same way as current expenses. Thus they are in effect exempt from tax, and the type of problem provoked by the corporation income tax simply does not exist.

Border tax adjustments are, to my mind, an essential counterpart of a consumption-type value-added tax. While it is theoretically conceivable to have a value-added tax *without* border-tax adjustments, this particular solution requires that factor rewards be pressed down, while product prices remain at world-market levels. In turn, this creates difficulties if capital is internationally mobile. A value-added tax *with* border-tax adjustments, on the other hand, simply raises internal prices above the world price level by the amount of the tax. All consumers of products within the boundaries of the country will pay more for them. This includes visitors from abroad as well as local purveyors of the services of capital and labor. These, in turn, can escape the tax by being tourists in countries that do not have a VAT. But that is the only important way in which the VAT can be avoided—and, as mentioned, it is counterbalanced by the fact that visitors from abroad in the VAT-imposing country do indeed pay the tax.

VI. SELECTIVE EXCISES ON LUXURY GOODS COULD REDUCE THE PROGRESSIVE CE TAX BURDEN

I have always felt, at least outside the classroom, that in tax policy the pitchfork is better than the spear. That is to say, a multi-pronged approach is better than a single-pronged one, however elegant may be the arguments saying that the single-pronged approach is superior. At bottom, my argument is a moral one—different groups have different capacities and possibilities for evasion. Worse yet, this statement gets to be more true, and carries more weight, as one moves from simple

excise, sales and value-added taxes toward more delicate and sophisticated income and consumption-expenditure taxes.

One of the deepest lessons of applied welfare economics is that one should strive to equalize costs at the margin. If, then, an income or consumption expenditure tax carries with it large opportunities for selected groups to evade or avoid, it is worth paying some price in other dimensions in order to limit the extent of the resulting inequity. A general excise running from, say, 20 to 50 percent on goods of a luxury nature can assuage the (political) need for heavy progression in income or consumption taxation, and, if well designed, can do so at a relatively low cost in terms of economic efficiency. Good design entails taxing at approximately equal rates "packages" of goods that are presumptively close substitutes for each other.

Needless to say, selective excises would apply both to domestically produced goods and to imported goods in similar categories. Domestically produced goods that are exported would not be subject to such taxes. If perchance the tax were levied at the producer level, goods that were subsequently exported would receive tax remission according to the border tax adjustment formula approved by GATT.

VII. FOR A DEVELOPING COUNTRY, A MODERATE IMPORT TARIFF MAY BE JUSTIFIED

Like the previous case, the arguments for tariffs are never (for small countries) "first-best." For a tariff to be justified on first-best grounds, the importing country must occupy a monopsony position vis-à-vis the world market for the imported good. Such is the case for the United States and the European Common Market with respect to products like tin, copper, manganese, coffee, bananas, and rubber, all of which have a fairly low elasticity of global supply; the excess supply curve of the "rest of the world" facing the United States or the Common Market is undoubtedly upward sloping for all the named commodities. This is not so, however, for even Brazil or Argentina. Frankly, I know of no case of a low or middle-income country that occupies a monopsony position with respect to any commodity (loans are another matter, to be dealt with later).

But while developing countries are not monopsonists, they are monopolists in at least a limited sense. Coffee from Brazil, copper from Chile, karakul from Afghanistan—these are cases of a genuine capability

of the country to influence the world price of its principal export product. But above and beyond these obvious cases, there is a sort of quasi-monopoly power present in many situations. Does anyone think, watching Argentina, Brazil, Chile, Mexico, and Venezuela try to cope with the present international debt crisis, that they can export all they want of any given tradable (other than, say, their principal export product) at a given world price, which would be unaltered by any action they might take?

No, the fact is that even heavy real devaluations are not capable of multiplying exports by three or four. For many goods, even such a simple phenomenon as transport costs is enough to give a downward slope to the relevant demand curve for a given export product.

All of this ends up justifying export taxes. The optimum export tax for any product, from the country's own point of view and assuming no "retaliation," would be the difference between the foreign demand price and the marginal revenue to the exporting country, i.e., it would be $P^d(-1/\eta_x)$, where P^d is the demand price (f.o.b.) and η_x is the elasticity of demand on the part of the rest of the world for exports of this good from the country in question.

Export taxes are thus *justified*, at least from the country's own point of view. But they are not *popular*. What is popular are import tariffs. George Stigler notes with wry amusement how the economists have won all the debates on free trade for the past more than two hundred years, while the protectionists have written all the tariff laws. Given the downward slope of the demand curve for most exports, and given also the political unpopularity of export taxes together with the inexplicable enthusiasm for tariffs, a sort of second or third best solution can be found by imposing an import tariff instead of export taxes. Here we rely on an old theorem of international trade, to the effect that a uniform import tax has the same effect as a uniform export tax at the same effective rate. (The intuition is clear: in international trade we pay for our imports by the sales of our exports; if trade is balanced, as on the whole it approximately is, an import tax [taxing the payment], an export tax [taxing the receipt], or a hypothetical transactions tax [simply taxing the act of trade itself] should all have the same ultimate effect.) In lieu, then, of a whole set of export taxes aimed at exploiting the monopoly or quasi-monopoly power that a country possesses, one could substitute (with some loss of economic efficiency) a general import levy.

VIII. ANY IMPORT TARIFF THAT IS IMPOSED SHOULD BE UNIFORM

The motivation for this recommendation stems from the theory of effective protection. This theory, developed largely in the 1960s, showed conclusively how the actual degree to which domestic value added is protected can vary greatly, depending on the tariff rates applying to different outputs and their respective inputs, as well as on the world prices of these outputs and inputs. The standard formula for the rate of effective protection on the value added in making product j is

$$t_j = \frac{t_j - \sum \alpha_i t_i}{1 - \sum \alpha_i} \quad (6)$$

Here t_j = the effective rate of protection on value added in producing product j , t_i = the minimal rate of protection on the final product j , t_i = the nominal rate of protection on the imported (or tradeable) input i , and α = the fraction of the total cost (at international prices) of product j that is accounted for by imported input i .

A numerical example will show the sort of absurdity to which nonuniform tariffs can lead. If there is a 30 percent tariff on men's shirts, and the country in question produces its own cotton, t_j will be 30 percent for cotton shirts. However, the country may also produce wool shirts, where imported wool accounts for 50 percent of the cost at international prices. If imported wool enters free of duty, the effective protection rate for wool shirts is 60 percent. If silk shirts are also made, using imported silk accounting for 75 percent of the cost (at international prices), and if imported silk also enters free of duty, the effective rate of protection of value added in producing silk shirts becomes 120 percent. As mentioned, these rates of effective protection will vary not only with the tariff rates on men's shirts, on wool, and on silk, but also with movements in the international prices of these goods.

The sensible way out of the absurdity just described is to have a uniform tariff. If a 30 percent tariff applies on all outputs and inputs, the rate of effective protection is 30 percent for everything. Recalling that our justification for tariff protection was second or third best in any event, the wisdom of applying a uniform rate (as a protection against the arbitrary and capricious possibilities that arise when tariffs at different rates are imposed) appears obvious.

and at the same time addressing the problem of protecting a country against abrupt shifts in the supply of funds facing it.

NOTE

1. This must be qualified. If one started with such a consumption tax system today, wealth that was already held abroad would escape the net; no LDC tax would be paid as the income from that wealth, or the wealth itself, was consumed. But, of course, under my assumptions about how the world really works, such wealth would not pay tax to the LDC government under an income tax either. "Old capital abroad," if you like, would escape tax under both regimes. "New capital going abroad" would pay approximately the same present value of tax under a consumption tax. New capital going abroad would pay less under an income tax; paying tax, presumably, on the income out of which the savings were made but not on the interest and dividends generated.

REFERENCE

Harberger, Arnold. 1980. Vignettes on the World Capital Market. *American Economic Review* 70: 331-337.

IX. REGULATE THE INFLOW OF FOREIGN DEBT CAPITAL.

In my paper "Vignettes on the World Capital Market" (1980) I developed a case for a quasi-monopsony position of most debtors vis-à-vis the capital market. We all—individuals, firms, and countries alike—face upward rising supply curves of borrowable funds. Taking the rise in the supply curve at face value, borrowers face marginal costs of funds that exceed average costs. If the borrower is you or me or General Motors, the rising average cost is perceived by us, and we presumably will act in full recognition of what the marginal cost of funds really is.

But if a part of the cost of credit is a premium for "country risk," and if this premium increases as a function, say, of the country's international debt (public plus private), then the country will find itself in what I call a quasi-monopsony position with respect to its international indebtedness. Under such circumstances, a tax on international borrowing would be justified.

Many subtleties can be brought into play here, such as the distinction between lenders' and borrowers' perceptions of risk (discussed in Harberger (1980), but I do not think that this is the appropriate place to enter into detail on them. Rather, I shall take a rather pragmatic position and note that not only do countries face upward rising supply curves of funds; they also face supply curves that shift around a great deal, largely at the whim of the international banking community.

The most reasonable response of a small open economy to this combination of both upward rising and rather volatile supply curves of funds, is in my view a set of incentives that discourage short-term borrowing. The tried and tested formula is a requirement that national borrowers from foreign sources place a fraction of their borrowings in deposit at the Central Bank (usually at zero interest), the fraction being quite high (perhaps one-half) for loans of less than a year's duration, somewhat lower (perhaps one-third) for loans with a term between one and two years, and finally tapering off to zero on loans with terms of five years or more.

Though not nominally a tax, such a scheme is one in effect, for the Central Bank can gain interest on the funds deposited with it, while the borrower foregoes interest on these sums.

This device has the virtue of giving some recognition to the quasi-monopsony element that is present in international borrowing.