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The origin principle and the welfare gains from indirect tax harmonization.

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Introduction

The literature dealing with the coordination of economic policies among countries or groups of countries in an integrated world stands out as one of the most prominent developments of the last few years. Although not the only one, a clear application of the results emerging from this literature is associated with the tax approximation efforts that have been carried out in the European Union, and, without any doubt, the above-mentioned development cannot be understood without a reference to these real world events. One of the issues most actively researched has probably been that of indirect taxation, stimulated by the European Comission proposals aimed at harmonizing value added taxes and excises. In particular, some questions related to tax competition have been analyzed in different contexts [Mintz and Tulkens (1986), de Crombrugghe and Tulkens (1990), Sinn (1990), Lockwood (1993), Kanbur and Keen (1993)] as well as the welfare effects of indirect tax harmonization policies [Keen (1987,1989.a,1989.b), Turunen-Red and Woodland (1991), Keen and Lahiri (1993)].

The framework for the analysis of the impact of harmonizing reforms has been the destination principle, i.e., the principle that internationally traded commodities are taxed at the rates of (and the revenue accrues to) the country in which final consumption takes place. The alternative to the destination principle is the origin, or source, principle, under which commodities entering international trade are taxed at the rates prevailing in the country where they are produced (this being the one which collects the revenue). Although the destination principle has been the central idea governing the harmonizing efforts of indirect taxation that have been carried out by the European Comission, the abolition of border controls has rendered it unsustainable. The definitive system, to be enacted at the start of 1997, maintains the destination system for transactions between firms but cross-border purchases by individuals will be taxed on an origin basis, thus appearing as a mixed system.

The purpose of this paper is to establish a parallelism between the analyses in Keen (1987,1989.a) referred to indirect tax harmonization when taxes are levied according to the destination principle and its counterpart when taxes are imposed on an origin basis. Using a simple two-country model of international trade it is argued that indirect tax harmonization under the origin principle, considered as a movement of domestic taxes towards an appropriately designed "average" tax structure, is potentially Pareto improving, in the sense that the welfare of a given country can be increased provided that the other country's welfare is kept unchanged with the aid of an international transfer. In the same vein, it is shown that if the initial position is a Nash equilibrium, there are situations under which the above-mentioned

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reform may generate an actual Pareto improvement, so that both countries improve their welfare without any need for a compensating international transfer.

As stated above, the definitive system will be a mixed one, so that the pure origin case is not the most realistic framework from a policy point of view. However, it may be useful in yielding indications that, coupled with the results that have been obtained under the destination principle, provide insights on the effects of the definitive system. In the same way as Keen (1987,1989.a) constructs his harmonizing reform under the destination principle in such a way that (neglecting income effects) world producer prices are unchanged, the counterpart of his analysis under the origin principle does not affect world consumer prices. This parallellism translates into modifying the common target towards which countries harmonize their indirect tax structures, which does not depend on local demand responses but on local supply responses. The structure of the paper is as follows. In section 1 the basic model is set up. Section 2 considers tax harmonization as a potential Pareto improvement. Section 3 poses the question whether the specific kind of harmonizing reform being analyzed can also result in an actual Pareto improvement. Section 4 includes some additional comments.

1. The model

The basic framework is a standard model of international trade [Dixit and Norman (1980)] in which two countries, labelled as "home" and "abroad", trade in N commodities. Each country's variables are represented by lower case and upper case letters respectively, and there is a single consumer in each of them. The only distortions are due to consumption taxes, levied on an origin basis, so that commodities are taxed at the rates prevailing in the country in which they are produced, this being the country which collects the tax revenue. Since, assuming away transport costs, the application of the origin principle implies that consumer prices in each country are the same, we have the following relationship between consumer prices, $q = Q$, producer prices in each country, p and P, and the tax instruments, t and T:

[1] $\qquad p = q - t \qquad\qquad P = q - T$

where taxes are expressed in specific terms.[1]

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[1] Since the application of the origin principle implies that exports are taxed and imports are exempted, the home (abroad) country's consumer must be indifferent, in equilibrium, between paying $p + t$ $(P + T)$ for domestically-produced goods and $P + T$ $(p + t)$ for imported goods. Thus, consumer prices are equalized across countries, i.e., $q = Q$. On the working and consequences of the origin principle see Cnossen and Shoup (1987) and Keen (1990,1993).

The home and foreign consumers can be characterized by their expenditure functions, $e(q,u)$ and $E(q,U)$, where u and U stand for the utility levels achieved by the consumer in each country. Tax revenue is returned to the individuals as a lump sum payment. As for the production side, it is assumed that both countries behave competitively, and their behaviour can be resumed in the revenue functions $r(p)$ and $R(P)$.[2]

Since the partial derivatives of the expenditure and revenue functions yield, respectively, the compensated demand and supply functions, the world market-clearing conditions for the N commodities are given by:

[2] $e_q(q,u) + E_q(q,U) = r_p(p) + R_P(P)$

where the subindices denote the (vector of) partial derivatives of the relevant functions.

Consumer expenditure in each country equals national income at domestic prices plus tax revenue. Using the sign ' to denote transposition, the budget constraints in each country can be written as:

[3] $e(q,u) = r(p) + t'r_p(p) + q_1z$

[4] $E(q,U) = R(P) + T'R_P(P) - q_1z$

where $t'r_p(p)$ and $T'R_P(P)$ express tax revenue in each country. The term z represents a transfer of commodity 1 from the foreign country to the home one. Its purpose is to characterize reforms entailing a potential Pareto improvement, in the sense that u can be increased for a given value of U. The role of z is just that of assuring that the foreign utility level does not change. On the other hand, $z = 0$ in [3] and [4] when the focus is on characterizing an actual Pareto improvement, i.e., a situation in which both u and U increase without any need for an international transfer.

As a matter of normalization, commodity 1 is taken to be the numeraire (so $q_1 = 1$) and is assumed to be untaxed in both countries (i.e., $t_1 = T_1 = 0$). In order to avoid excessive notation, vector prices will hereafter be interpreted as being of N-1 dimension. By Walras' Law one of the N+2 equations in [2]-[4] can be dropped, so we can drop the equilibrium condition for commodity 1. Therefore the system in [2]-[4] can be described as N+1 independent equations with N+1 variables. In the search for a potential Pareto improvement the latter are N-1 relative consumer prices, q, the home utility level, u, and the size of the international

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[2] The revenue (or GNP) function, expressing the value of production at given producer prices (and amounts of the primary factors), is extensively discussed in Dixit and Norman (1980, ch. 2).

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transfer, z, given the tax parameters t and T as well as the foreign utility level, U. Alternatively, in the search for an actual Pareto improvement the $N+1$variables are q, u and U and the parameters are t and T.

2. Tax Harmonization as a Potential Pareto Improvement

Consider first tax harmonization as a potential Pareto improvement, so that the policy leads to an increase in one country's welfare when it is accompanied by an appropriate international transfer to the other country so that its welfare level is kept constant. We can thus evaluate in [2]-[4] the welfare effects in terms of the home country's welfare, du, of an arbitrary tax reform, $\{dt, dT\}$, coupled with the transfer, dz, required to hold U unchanged. Differentiating in [2]-[4] with $dU = 0$, we have:

[5] $\quad e_{qu}du + [e_{qq} + E_{qq} - r_{pp} - R_{PP}]dq + r_{pp}dt + R_{Pp}dT = 0_{N-1}$

[6] $\quad e_u du + [e_q - r_p - r_{pp}t]'dq + t'r_{pp}dt - dz = 0$

[7] $\quad [E_q - R_P - R_{PP}T]'dq + T'R_{Pp}dT + dz = 0$

where 0_{N-1} is the $(N-1)$-vector of zeroes. Thus, eliminating dz in [6] and [7]:

[8] $\quad \begin{bmatrix} e_u & -(r_{pp}t + R_{PP}T)' \\ e_{qu} & \Lambda \end{bmatrix} \begin{bmatrix} du \\ dq \end{bmatrix} = \begin{bmatrix} -(t'r_{pp}dt + T'R_{Pp}dT) \\ -(r_{pp}dt + R_{Pp}dT) \end{bmatrix}$

where $\Lambda = e_{qq} + E_{qq} - r_{pp} - R_{PP}$, i.e, the matrix of the derivatives of the compensated world excess demand for the non-numeraire goods with respect to the non-numeraire prices, is negative semi-definite. It will be assumed throughout that there is enough substitutability in demand or production between the numeraire good and the other goods to ensure that Λ will be negative definite.[3]

The system in [8] allows one to obtain an expression for the change in home utility, du, as a function of the reform associated with dt and dT:

[9] $\quad du = \dfrac{1}{\alpha|\Lambda|} \begin{vmatrix} -(t'r_{pp}dt + T'R_{Pp}dT) & -(r_{pp}t + R_{PP}T)' \\ -(r_{pp}dt + R_{Pp}dT) & \Lambda \end{vmatrix}$

where:

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[3] See Dixit and Norman (1980, ch. 5).

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[10] $\qquad \alpha = e_u + (r_{pp}t + R_{PP}T)'\Lambda^{-1}e_{qu}$

and it can be shown that α is positive whenever an increase in the home country's endowment of the first commodity, at constant tax rates and foreign utility, implies a strict potential Pareto improvement. We will assume this is the case.

The notion of harmonization is usually taken to mean making the tax systems more "uniform". This entails both a process of convergence towards a common target and the suggestion of determining this target as some kind of average of the existing tax structures. The first question can be approached as a program of domestic tax reforms implying a uniform proportionate convergence of the tax rates in both countries towards a certain common structure H, i.e.:

[11] $\qquad \begin{bmatrix} dt \\ dT \end{bmatrix} = \beta \begin{bmatrix} H - t \\ H - T \end{bmatrix}$

where H is a N-1 vector and β is a small positive scalar which measures the "size" of the reform. As for the second question, i.e., the choice of the common target to which both countries "harmonize" their taxes, the counterpart of the proposition shown in Keen (1987) refers to the particular class or harmonizing reforms [11] which imply a convergence towards the vector:

[12] $\qquad H = [r_{pp} + R_{PP}]^{-1}(r_{pp}t + R_{PP}T)$

The interpretation of [12] becomes clearer when it is rewritten as:

[13] $\qquad H = \Phi t + (I_{N-1} - \Phi)T$

where $\Phi = [r_{pp} + R_{PP}]^{-1}r_{pp}$ and I_{N-1} is the identity matrix of order N-1, so that $(I_{N-1} - \Phi) = [r_{pp} + R_{PP}]^{-1}R_{PP}$. As shown in [13], H is a matrix weighted average of the tax structures in the two countries where the weights depend on local supply responses. In particular, if these local supply responses are identical at the starting position, i.e., $r_{pp} = R_{PP}$, [13] becomes $H = (1/2)(t+T)$, and each component of H is located just midway between the corresponding components of the initial domestic tax structures t and T.

Now we can show that the harmonizing reform under examination leads to a welfare improvement:

Proposition 1: *When taxes are levied according to the origin principle, and given any arbitrary initial position in which $t \neq T$, the harmonizing reform in [11]-[13], consisting in a proportionate convergence towards an appropriate weighted average of the existing domestic tax structures, generates a potential Pareto improvement.*

Proof: The proof runs parallel to that of Keen (1987) and hinges on the fact that [11]-[13] imply:

[14] $\qquad r_{pp}dt + R_{PP}dT = 0_{N-1}$

whose substitution in [9] gives rise to:

[15] $\qquad du = \dfrac{-1}{\alpha}(t'r_{pp}dt + T'R_{PP}dT) = \dfrac{\beta}{\alpha}(T-t)'R_{PP}\Phi(T-t) > 0$

where the inequality follows from the fact that the matrix $R_{PP}\Phi = R_{PP}[r_{pp} + R_{PP}]^{-1}r_{pp} = \left[r_{pp}^{-1} + R_{PP}^{-1}\right]^{-1}$ is positive definite. Q.E.D.

Some intuition on the result can be obtained if we neglect income effects for the non-numerarie goods, i.e., if $e_{qu} = 0_{N-1}$. Substituting in [8] and using [14] provides $dq = 0_{N-1}$, so that world consumer prices do not vary. Therefore, the harmonizing reform is designed to leave consumer prices unchanged. As a consequence, world demand, $e_q(q,u) + E_q(q,U)$, will not change, as neither will world supply, $r_p(p) + R_P(P)$. The only effect of the policy is the "reallocation" of production between countries so that the aggregate welfare loss from distorting taxes is decreased.

A graphical explanation is provided in Figure 1.[4] It shows the simplified case in which the two countries have the same supply schedule for a single taxed good whose consumer world price is q. The excess burden associated with the taxes t and T in each country is given by ABC in country 1 and ADE in country 2. In this case in which supply responses are the same, if the two countries harmonize their taxes at the level $(1/2)(t+T)$ implied by [12], the reduction in excess burden in the high-tax country is BCFG, which exceeds the increase in the low-tax country, DEFG. Since the distances y_2y and y_1y are the same, aggregate supply does not vary. Provided the appropriate international transfer is made, one country can improve without the other one experiencing any welfare change.

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[4] Figure 1 is the counterpart in the present context of the analysis of harmonization under the destination principle in Keen (1990,1993). I am indebted to Ben Lockwood for suggesting this diagram in his discussion of the paper at the Copenhagen meeting of the HCM research network on "Fiscal Implications of European Integration".
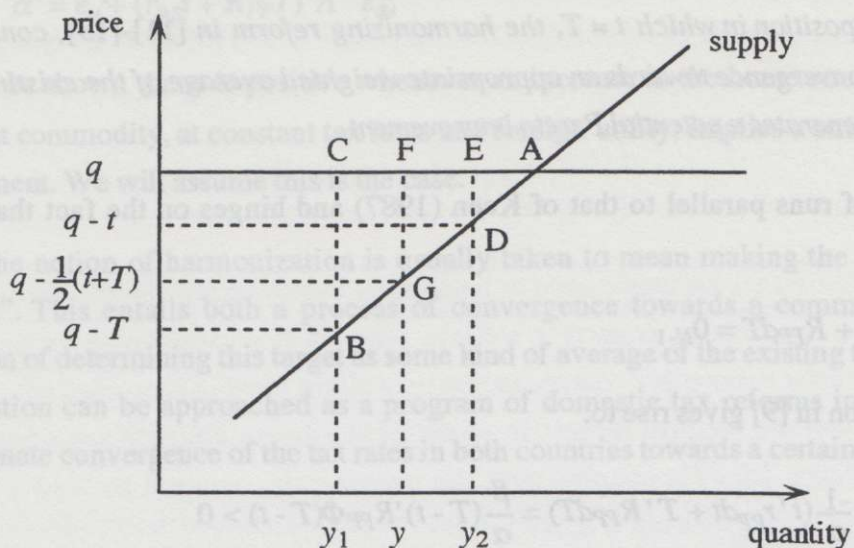
price

q C   F   E   A ... supply

$q - t$ .... D

$q - \frac{1}{2}(t+T)$ .... G

$q - T$ .... B

y_1 y y_2 quantity

Figure 1

3. Tax Harmonization as an Actual Pareto Improvement

    While the previous section has argued that the harmonizing reform [11]-[13] is welfare improving in the sense that it increases the utility level of a country provided the other country's welfare is kept unchanged, the question that arises is whether this reform may also imply an actual Pareto improvement, i.e., a gain in both countries' utility without any need for an international compensation. This is the question discussed in Keen (1989.a) when taxes are levied according to the destination principle under the assumption that the are no income effects for the N-1 taxed commodities (i.e., $e_{qu} = E_{qU} = 0_{N-1}$ in terms of the present model).

    The analysis can now be carried out forcing $z = 0$ in [2]-[4] and interpreting the $N+1$ variables as N-1 consumer prices, q, and two utility levels, u and U, for given values of the tax parameters t and T. Differentiating totally we obtain:

[16] $e_{qu}du + E_{qU}dU + \Lambda dq + r_{pp}dt + R_{PP}dT = 0_{N-1}$

[17] $e_u du + [e_q - r_p - r_{pp}t]'dq + t'r_{pp}dt = 0$

[18] $E_U dU + [E_q - R_P - R_{PP}T]'dq + T'R_{PP}dT = 0$

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Using [16] to isolate dq, the effects on welfare, du and dU, associated with an arbitrary reform $\{dt, dT\}$ are the solution to the system: [5]

$$[19] \quad \begin{bmatrix} e_u - (e_q - r_p - r_{pp}t)'\Lambda^{-1}e_{qu} & -(e_q - r_p - r_{pp}t)'\Lambda^{-1}E_{qU} \\ -(E_q - R_P - R_{PP}T)'\Lambda^{-1}e_{qu} & E_U - (E_q - R_P - R_{PP}T)'\Lambda^{-1}E_{qU} \end{bmatrix} \begin{bmatrix} du \\ dU \end{bmatrix} =$$

$$= \begin{bmatrix} -t'r_{pp}dt + (e_q - r_p - r_{pp}t)'\Lambda^{-1}(r_{pp}dt + R_{PP}dT) \\ -T'R_{PP}dT + (E_q - R_P - R_{PP}T)'\Lambda^{-1}(r_{pp}dt + R_{PP}dT) \end{bmatrix}$$

We can now assume, as in Keen (1989.a), that there are no income effects for the N-1 taxed goods, i.e.:

$$[20] \quad e_{qu} = E_{qU} = 0_{N-1}$$

so that all income effects are through the untaxed numeraire. This allows one to rewrite [19] as:

$$[21] \quad \begin{bmatrix} e_u du \\ E_U dU \end{bmatrix} = \begin{bmatrix} -t' + (e_q - r_p - r_{pp}t)'\Lambda^{-1} & (e_q - r_p - r_{pp}t)'\Lambda^{-1} \\ (E_q - R_P - R_{PP}T)'\Lambda^{-1} & -T' + (E_q - R_P - R_{PP}T)'\Lambda^{-1} \end{bmatrix} \begin{bmatrix} r_{pp}dt \\ R_{PP}dT \end{bmatrix}$$

Solving for du we obtain:

$$[22] \quad du = \frac{-1}{e_u}\left\{[t' - (e_q - r_p - r_{pp}t)']\Lambda^{-1}r_{pp}dt - (e_q - r_p - r_{pp}t)'\Lambda^{-1}R_{PP}dT\right\}$$

and a similar expression for dU. Focusing on the harmonizing reforms [11]-[13], and recalling that they imply $r_{pp}dt + R_{PP}dT = 0_{N-1}$, [22] becomes:

$$[23] \quad du = \frac{\beta}{e_u}\{t'St - t'ST\}$$

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[5] In the particular case of the harmonizing reforms [11]-[13], and using [14], the right hand side in [19] becomes $[\ -t'r_{pp}dt\ ,\ -T'R_{PP}dT\ ]'$. We can observe that adding the expressions for du and dU in [19] we find a weighted sum of the welfare changes experienced by both countries:

$$\left[e_u + (r_{pp}t + R_{PP}T)'\Lambda^{-1}e_{qu}\right]du + \left[E_U + (r_{pp}t + R_{PP}T)'\Lambda^{-1}E_{qU}\right]dU = -(t'r_{pp}dt + T'R_{PP}dT) > 0$$

where the weights are α (> 0) in [10] and its counterpart A (> 0) for the foreign country. Since this is positive using the right hand side in [15], the harmonizing reform [11]-[13] is welfare-enhancing in the sense that it increases the value of a social welfare function $W = \alpha u + AU$, i.e., an additive measure of world welfare where the weigths attached to each country are α and A. Actually, this result is not surprising when compared to that in section 2, and the procedure in that section has the advantage of focusing on the role of the international transfer dz required for du to be positive for a given value of U.

where $S = r_{pp}(I_{N-1} - \Phi) = r_{pp}[r_{pp} + R_{PP}]^{-1}R_{PP}$ is a positive definite matrix, and, as before, I_{N-1} is the identity matrix of order $N-1$. The first term in braces in the right of hand side of [23] is positive. However, the sign of $t'ST$ is, in general, indeterminate. Using Keen's (1989.a) examples, if $T = -t$ then $t'ST = -t'St < 0$, and the whole expression in [23] would be positive; but if $T = (1+\phi)t$, with $\phi > 0$, then $t'ST = (1+\phi)t'St > 0$, and [23] would be negative. In general, therefore, the sign of du (and dU) when the harmonizing reform [11]-[13] is undertaken will be uncertain.

Since the term $t'ST$ is the reason for the indeterminacy, we can search for situations in which $t'ST < 0$, and thus $du > 0$. The procedure followed by Keen (1989.a) is to take as a starting point a Nash equilibrium in which the tax structure in each country maximizes its own welfare given the choice of the other one, and we will also take this approach. For the home country this entails considering $dT = 0_{N-1}$ in [21], and there will exist reforms which the home country will consider as desirable and believe to be feasible except when:

[24] $$\left[t' - (e_q - r_p - r_{pp}t)'\Lambda^{-1} \right] = 0_{N-1}$$

Using [24] and its counterpart for the foreign country, Nash-equilibrium taxes t_N and T_N verify:

[25] $$t_N = [r_{pp} + \Lambda]^{-1}(e_q - r_p)$$
$$T_N = [R_{PP} + \Lambda]^{-1}(E_q - R_P)$$

so that:

[26] $$(t_N)'S(T_N) = -y'My$$

where $y = (e_q - r_p) = -(E_q - R_P)$ denotes the vector of imports (exports) by the home (foreign) country and $M = [e_{qq} + E_{qq} - R_{PP}]^{-1}S[e_{qq} + E_{qq} - r_{pp}]^{-1}$. We can now ask about sufficient conditions for [26] to be negative, so that du in [23] is unambiguously positive. The following result is parallel to that in Keen (1989.a):

Proposition 2: *Starting from a Nash equilibrium, the harmonizing tax reform [11]-[13] generates an actual Pareto improvement, so that both du and dU are positive without any need for an international compensation, if either (i) there are no cross effects in consumption or production, or (ii) local supply responses are identical at the initial position, in the sense that the equality $r_{pp}(p) = R_{PP}(P)$ holds.*

Proof: We have only to show that $(t_N)'S(T_N)$ in [26] is negative at a Nash equilibrium, which amounts to show that M in that expression is a positive definite matrix. In case (i) M is nothing

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but the product of two diagonal negative definite matrices and a diagonal positive one, so that the elements M_{ii} of the principal diagonal are positive. In case (ii) the positive definiteness of M follows directly from that of S. Notice that in case (ii) [12] entails that the vector H towards which both countries' tax structures converge is given by $H = (1/2)(t + T)$.[6] Q.E.D.

4. Concluding Comments

The purpose of this paper has been to verify whether some reasonable conjectures concerning the welfare effects of certain indirect tax harmonizing policies actually hold. These conjectures arise when a parallelism between the destination and the origin (or source) principles is established in the framework of a standard general equilibrium model of international trade. The analysis suggests that some results that have been reported in the literature with respect to the effects of indirect tax harmonization when taxes are levied on a destination basis can be extended to its counterpart under the origin principle.

In particular, under "normal" circumstances, there exist harmonizing reforms that generate a potential Pareto improvement provided that they are supplemented with the appropriate international transfer(s). Furthermore, when the starting point is a Nash equilibrium at which each country sets its own taxes under the belief that the other(s) will not react, there are "exceptional" situations under which the above-mentioned reforms are also actually Pareto improving, so that each country benefits without any need for an international compensation.

Two final remarks are in order. The first one is related to the fact that frameworks different from the one adopted in this paper yield very different results. In particular, in both de Crombrugghe and Tulkens (1990) [building on Mintz and Tulkens (1986)] and Kanbur and Keen (1993), when the starting point is a Nash equilibrium, a strict Pareto improvement is only possible if both countries increase their taxes, thus implying that a "harmonizing" reform cannot increase both countries' welfare. The second one refers to the limitations of the model itself. These are the same as those that have been pointed out concerning the analyses of the destination principle, and the absence of an explicit consideration of the distributional and budgetary effects of the harmonizing reforms stands out as one of the potential shortcomings of the whole approach [Keen (1990,1993)].

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[6] This implies that the situation in figure 1 should not only illustrate tax harmonization as a potential but also as an actual Pareto improvement. The failure of the diagram to reflect the latter is a consequence of its partial equilibrium nature.

As for the latter, we have assumed that the revenue from taxation is returned to the consumers as a lump-sum transfer and no attention has been paid paid to the effects associated with the governments having binding revenue requirements or providing public goods. This is important because both in Keen's (1987,1989.a) model and in the present one the optimal commodity taxes are always zero, in sharp contrast with the above-mentioned literature on tax competition, which allow for positive government expenditure which is optimally determined. Recent papers by Lockwood (1995), Delipalla (1994) and Lahiri and Raimondos (1995) discuss the effects of undertaking harmonizing reforms in the presence of (local) public goods provision under the destination principle in different models. The last two of them are the closest to the present analysis. Although there are important differences in their frameworks,[7] both suggest that even when the governments use tax revenue to finance the provision of public goods there may continue to be a welfare case for tax harmonization. In the same way as we have advanced a paralellism between destination and origin principles in a simple model that sidesteps the financing of public goods, it may well be the case that their results, obtained when taxes are levied on an destination basis, can also be extended to its counterpart under the origin principle. In any case, it seems fair to say that more research on the subject is warranted.

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[7] On the one hand, Delipalla (1994) assumes that the public good is internationally traded and both transfers between individuals and between governments are considered. On the other hand, the public good is domestically produced in Lahiri and Raimondos (1995) and only transfers between governments are allowed. Furthermore, Delipalla focuses on Keen's (1987,1989.a) rule of tax harmonization, while Lahiri and Raimondos analyze not only this rule but also one of their own.

References

Cnossen, S. and C.S. Shoup (1987), "Coordination of Value-Added Taxes", in S. Cnossen (ed.) Tax Coordination in the European Community, Deventer: Kluwer Law and Taxation Publishers, pp. 59-84.

de Crombrugghe, A. and H. Tulkens (1990), "On Pareto Improving Commodity Tax Changes under Fiscal Competition, Journal of Public Economics, Vol. 41, pp. 335-350.

Delipalla, S.(1994), "Commodity Tax Harmonisation with Public Goods", Department of Economics Discussion Paper 94-17, University of Wales, Swansea.

Dixit, A.K. and V. Norman (1980), Theory of International Trade, Cambridge: Cambridge University Press.

Kanbur, R. and M. Keen (1993), "Jeux Sans Frontieres: Tax Competition and Tax Coordination when Countries Differ in Size", American Economic Review, Vol. 83, pp. 877-892.

Keen, M. (1987), "Welfare Effects of Commodity Tax Harmonisation", Journal of Public Economics, Vol. 33, pp. 107-114.

____ (1989.a), "Pareto-Improving Indirect Tax Harmonisation", European Economic Review, Vol. 33, pp. 1-12.

____ (1989.b), "Multilateral Tax and Tariff Reform", Economic Studies Quarterly, Vol. 40, pp. 195-202.

____ (1990), "Aspects of Tax Coordination in the European Community", in D. Purvis (ed.), Europe 1992 and the Implications for Canada, John Deutsch Institute Policy Forum Series No. 21, Queens University, Kingston, pp. 28-43.

____ (1993), "The Welfare Economics of Tax Co-ordination in the European Community: A Survey", Fiscal Studies, Vol. 14, pp. 15-36.

Keen, M. and S. Lahiri (1993), "Domestic Tax Reform and International Oligopoly", Journal of Public Economics, Vol. 51, pp. 55-74.

Lahiri, S. and P. Raimondos (1995), "Public Good Provision and the Welfare Effects of Indirect Tax Harmonization", Paper presented at the 51st Congress of the IIPF, Lison.

Lockwood, B. (1993), "Commodity Tax Competition under Destination and Origin Principles", Journal of Public Economics, Vol. 52, pp. 141-162.

____ (1995), "Commodity Tax Harmonisation with Public Goods: An Alternative Perspective", EPRU Discussion Paper 1995-10, Copenhagen Business School.

Mintz, J. and H. Tulkens (1986), "Commodity Tax Competition between Member States of a Federation: Equilibrium and Efficiency", Journal of Public Economics, Vol. 29, pp.133-172.

Sinn, H.W. (1990), "Tax Harmonization and Tax Competition in Europe", European Economic Review, Vol. 34, pp. 489-504.

Turunen-Red, A.H. and A.D. Woodland (1990), "Multilateral Reform of Domestic Taxes", Oxford Economic Papers, Vol. 42, pp. 160-186.