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TAX HARMONIZATION IN THE EUROPEAN COMMUNITY: PROBLEMS AND PROSPECTS

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ABSTRACT

The paper surveys the plans for tax harmonization in the European Community, including the most recent proposals from the EC Commission. The first part deals with indirect taxation, while the second part of the paper focusses on income taxation, with special emphasis on taxes on capital income. The plans for harmonization are critically evaluated, both from a theoretical and from an administrative point of view. It is argued that complete harmonization of indirect tax rates within the EC is not needed to reap the economic benefits of the Internal Market. On the other hand, there is a strong case for improved international coordination of capital income taxes, if the potential benefits of a liberalized international capital market are to be realized.

CONTENTS

I. INTRODUCTION

I.1. The European Single Act and the Internal Market

In 1986 the member countries of the European Community ratified the European Single Act. They thereby committed themselves to the creation of a single internal market allowing completely free movement of goods, services, capital and labor within the Community by the end of 1992. This paper discusses whether and to what extent it will be necessary for the EC countries to harmonize their tax systems in order to implement the Internal Market.

Although some progress towards the fulfilment of the goals of the Single Act have been made since 1986[1], the EC countries have tended to postpone decisions on the more controversial elements of the Act, including those relating to tax harmonization. Indeed, there has been a lot more talk than action as far as tax harmonization is concerned. Given the voluminous literature on the topic which already exists[2], the marginal benefit of yet another paper on EC tax harmonization may be rapidly diminishing. Nevertheless it is hoped that this paper will be of some use to nonspecialist readers seeking a broad introduction to the subject.

The exposition falls in three main parts: Following an introductory overview of the current structure of taxation in the EC, part II discusses the proposals by the EC Commission to harmonize indirect taxes. Part III focuses on harmonization of income taxes, concentrating mainly on coordination of capital income taxes. Finally, part IV summarizes our main conclusions.

To limit the scope of the paper, certain relevant topics have been left for consideration elsewhere. Thus we do not discuss the likely effects of EC tax harmonization on countries outside the community. Also, our discussion of direct tax coordination assumes that the EC countries wish to retain a comprehensive income tax. Hence we do not consider whether a switch to a direct expenditure tax – either in pure or simplified form – would enable EC members to cope more satisfactorily with the problem of tax coordination in a world of increasing factor mobility. A thorough investigation of this question would seem highly relevant, given the problems of capital income tax coordination identified in this paper.

I.2. Which taxes need to be harmonized?

International tax harmonization may be loosely defined as a full or partial equalization of effective tax rates across countries. In the extreme case, there is complete international equalization of tax bases and tax rates. It is widely agreed that such tax harmonization cannot be a goal in itself, but that it should be seen only as a means to avoid distortions in the international allocation of resources and horizontal inequities among taxpayers.

The need for international cooperation in designing a specific type of tax is obviously greater, the easier it is to escape one country's tax by moving the tax base to another country. Inspired by the Danish Economic Council (1989, ch. IV), we may rank the various tax bases according to their degree of international mobility as follows:

Highly mobile	Financial capital (portfolio investment)
	Physical capital (direct investment)
	Goods and services
	Labor
	Residential property
Highly immobile	Land

It is of course debatable whether physical capital is more mobile than tradeable goods. In the short run this is probably not so, but in the long run trade barriers may be circumvented via direct foreign investment establishing a production unit in the protected foreign market. Also, in the short run residential buildings are obviously just as immobile as the land on which they are erected, but in the long run the international pattern of housing investment may be affected by cross–country differences in taxes on buildings.

Suppose now that income taxation were based on the socalled territoriality principle – also called the source principle – according to which income is taxed only in the jurisdiction in which it is earned. Suppose further that commodity taxes were based on the origin principle, implying that indirect taxes are levied in the country where the taxed commodities are produced. From the above ranking of tax base mobility we would then conclude that the need for international tax harmonization is most pressing in the fields of personal capital income taxation, in corporate taxation and in indirect taxation. In the presence of large international differentials in capital income tax rates, investors would

tend to invest their capital in low–tax jurisdictions, and this would distort the international allocation of capital, just as it would erode the tax base of countries with a preference for high levels of public expenditure. Similarly, under the origin principle consumers would tend to make their purchases from countries with low rates of indirect tax rather than countries with low (relative) costs of production, and the pattern of international trade would thus be distorted.

In the absence of international cooperation, application of the source and origin principles would probably lead to a process of international tax competition by which tax rates would be driven below the level considered desirable by most countries, as each country tried to attract resources and trade by lowering its tax rates below those prevailing abroad.

Realizing these problems, countries have devised two alternative principles of taxation to protect their tax bases. The first one is the principle of worldwide income taxation according to which an individual or a corporation is taxed on the total income from domestic and foreign sources. Since such worldwide income taxation is usually practiced by the taxpayer's country of residence, one also often refers to the residence principle of income taxation. To avoid international double taxation, the residence country typically allows a credit for any taxes paid abroad against the taxpayer's domestic tax liability. If the credit for foreign taxes is unlimited, the taxpayer's total tax liability on his worldwide income is determined solely by the tax rate of the residence country. The taxpayer will then have no tax incentive to invest his capital in one jurisdiction rather than another. Further, he can escape a relatively high domestic tax rate only by changing his country of residence which is often much more costly to him than exporting his capital.

In the field of indirect taxation the socalled destination principle enables a country to impose a commodity tax without impairing its competitiveness vis á vis other countries. Under the destination principle goods are taxed in the country of final consumption, i.e. the country of consumption imposes the same tax rate whether the product is imported or produced domestically, and exported goods leave the country free of domestic tax. In other words there is no tax discrimination between domestic and foreign goods sold in a given national market.

By consistent application of the residence and destination principles it should thus be possible for each country to choose its tax rates in accordance with its own preferences without distorting the international allocation of resources and without serious threat to its tax base. To put it differently: If countries coordinate their tax systems by adopting

the residence and destination principles, it should be unnecessary for them to harmonize their tax rates, even in a world of high international mobility of goods and capital[3].

Unfortunately things are not that simple in practice. As we shall explain in detail in part III, there are serious practical obstacles to an effective enforcement of the residence principle in the taxation of income from capital. In so far as these practical problems cannot be overcome, the income tax systems will retain important characteristics of a source–based tax, and the international allocation of capital will therefore become more sensitive to tax differentials as the mobility of capital within the EC increases.

Moreover, the present destination–based indirect tax systems rely on border controls to make sure that taxes are levied on all imports and that exports leave the country free of tax. If border controls are to be abolished to establish a single Internal Market, new ways of administering indirect taxes will have to be found, and as we shall see below, this may necessitate some harmonization of indirect tax rates.

Finally, the creation of the Internal Market is likely to lead to some increase in the mobility of individuals in the EC, and this means that member states' room of maneuver in the taxation of personal income will be gradually reduced.

It is for these reasons that the question of tax harmonization in the EC is becoming increasingly urgent. Complete harmonization seems neither necessary nor desirable, at least at the present stage of integration, but some approximation of tax rates appears unavoidable in the decade to come. The need for (partial) harmonization is most pressing in the fields of capital income taxation and commodity taxation, whereas harmonization of taxes on labor income can be given lower priority. Property taxes and similar taxes on immobile bases need not be harmonized at all.

I.3. The level and structure of taxation in the EC

To get an idea of the relative importance of the various taxes mentioned above, let us take a look at table 1 which illustrates the level and structure of taxation in each EC country in 1986.

We see that the continental countries have social security contributions ranging from about 10 to about 20% of GDP at factor cost, and that most countries have personal income taxes amounting to 10–15% of GDP, except France, Greece, and Spain which

have substantially lower personal income taxes. Also, most countries have indirect tax revenues ranging from 10–15% of GDP, although Denmark, Ireland and Greece rely more heavily on this source of revenue. In Denmark and Ireland this reflects very high tax rates, whereas in Greece it mainly reflects a very broad tax base. Overall, Denmark seems to be the greatest "outlier", with a high level of taxation and a heavy reliance on the personal income tax and on commodity taxes.[4]

On the basis of table 1 one might ask whether the EC countries will have to harmonize the degree to which they rely on social security taxes relative to personal income taxes? The main difference between the personal income tax and a social security tax is that the former is (in principle) a progressive tax on comprehensive income, whereas the latter is a proportional and sometimes even regressive tax on labor income. Countries with heavy reliance on the personal income tax will therefore tend to have higher taxes on capital income and perhaps also on the labor income of highly paid wage earners. Given effective enforcement of residence–based income taxation, and given limited taxpayer mobility, this should not cause any serious erosion of the tax base. However, if foreign–source capital income is difficult to tax, and if the mobility of capital and labor is steadily increasing, countries with heavy initial reliance on the personal income tax may gradually have to put greater weight on social security taxes.

Although the reasoning in the previous section suggests that harmonization of capital income taxes is perhaps the most urgent problem, because these taxes fall on a highly mobile base, the EC Commission has given top priority to the harmonization of indirect taxes. The reason is that harmonization in this field is considered crucial for the abolition of frontier controls which in turn is seen as an essential part of the Internal Market program. Following the agenda set by the Commision, we shall therefore start out discussing the problems involved in the harmonization of indirect taxes.

II. HARMONIZATION OF INDIRECT TAXES

II.1. Background to indirect tax harmonization: The expected gains from an abolition of frontier controls

The EC Commission has proclaimed that it does not consider harmonization of indirect taxes as a goal in itself, but only as a means to enable member countries to abolish

national frontier controls among themselves. To be sure, these controls presently serve several purposes other than the administration of existing indirect tax systems. According to the Commission, however, controls are unavoidable only as long as member countries base their indirect tax systems on border tax adjustments, i.e. only as long as tax authorities use frontier controls to make sure that exported goods leave the country free of domestic tax and that imports are subject to tax at domestic rates, in accordance with the destination principle.

A study by Ernst and Whinney[5] has estimated that the direct costs to firms and governments of the customs formalities relating to border controls amount to about 2% of the value of total intra–Community trade. This figure was the basis for the Commission's estimate of the medium–term macroeconomic consequences of abolishing frontier controls, reported in table 2. It is seen that the direct effect of this part of the Internal Market program is believed to be an increase in Community real GDP of about 0.4% (after 5 to 10 years). Essentially the abolition of border controls works like a reduction in transport costs which reduces the price of imports from other EC countries. This leads to an increase in consumer real income and improves the competitiveness of EC producers relative to producers outside the Community. Both of these effects are expansionary and outweigh the contractionary effects of the job losses stemming from the redundancy of administrative work relating to customs formalities.

As seen from table 2, the Commission also expects positive indirect "supply effects" from the completion of the Internal Market. These effects stem mainly from increased competition and greater economies of scale as national markets are liberalized and integrated into a single Community market. In other words the indirect supply effects work much like positive "productivity shocks", and they are believed to be about as large as the direct effects, although this estimate is very uncertain. Thus the accumulated direct and indirect effect of abolishing frontier controls appears to be an increase in Community GDP between 0.5% and 1.0%.

As table 2 makes clear, this is only a minor part of the total effect of the completion of the Internal Market. The major effects are expected to come from the opening up of public procurement to community–wide competition, from the deregulation of the financial service sector, and from the supply effects associated with these two policy measures[6]. The Commission nevertheless attaches great importance to the removal of border controls, seeing it as an important signal to the private sector that the decison to create a single European market is irreversible and therefore credible. Ultimately, the motivation for abolishing frontier controls – from which the need for indirect tax

harmonization is derived – may be political rather than economic. As Carl Shoup (1969, p. 641) put it long ago: "The mere psychological gain from complete absence of border control within a common market can scarcely be overrated; it creates a spirit of unity, an expansiveness of outlook, that is a good, if not close substitute for political unity".

I.2. Administering the value–added tax without border controls

The value–added tax (VAT) is the most important indirect tax in the EC. It is based on the socalled invoice method, implying that each registered trader is liable to pay the difference between the VAT on his sales and the VAT he has paid on his purchases from other registered traders. In this way the VAT becomes a tax on the value–added, i.e. on sales of output minus purchases of inputs.

The VAT is also based on the destination principle according to which the revenue accrues to the country where the goods are consumed. Thus exports are "zero–rated", i.e. no VAT is payable on export sales, and exporters receive a refund for the VAT they have paid on their inputs. On the other hand, imports are subject to the VAT of the importing country. In principle this import VAT becomes liable as the goods cross the border, although in practice importing firms are allowed some respite in their tax payment. Border controls are used to ensure that goods for which zero–rating has been claimed have actually been exported, and that import VAT is in fact levied on imported goods. Frontier controls are also used to make sure that consumers undertaking direct purchases abroad are subject to an import VAT (on purchases above the personal exemption) equal to the difference between the VAT of their home country and the VAT of the exporting country.

To do away with border controls, the EC Commission (COM (87) 323) proposed in 1987 that exports should no longer be zero–rated and imports no longer subject to VAT in the importing country, as far as intra–community trade is concerned. Instead, exporters should charge the VAT of their home country, and importers should be allowed to subtract the foreign VAT on their imports from the domestic VAT on their sales. To give an example, a Danish firm importing inputs at a factor cost of 100 Kroner from a German firm should pay the German VAT of 14 Kroner (14%) on this purchase. If the Danish firm adds value of another 100 Kroner before selling to the final consumer, it should charge the Danish VAT of 22% on its sales of 200 Kroner and pay the difference between the output VAT of 44 Kroner and the input VAT of 14 Kroner to the Danish tax authorities.

Under the present system, the Danish importer would purchase its 100 Kroner worth of inputs free of German VAT, but would pay a Danish import VAT of 22 Kroner. Later, it would pay another 22 Kroner, equal to 22% of its sales of 200 Kroner minus its import VAT of 22 Kroner. In both cases we see that the consumer price would be the same (244 Kroner), but obviously the revenue accruing to national treasuries will differ. In the example above, the Danish treasury would collect 22+22=44 Kroner of revenue under the present system but only 44–14=30 Kroner under the Commission's system, whereas the German treasury would collect 0 Kroner under the former system and 14 Kroner under the latter.

In general, countries with trade surpluses vis á vis the rest of the EC and/or relatively high rates of VAT would gain revenue from a transition to the VAT system proposed by the EC Commission, while countries with trade deficits and/or low rates of VAT would lose revenue. To avoid this international redistribution of income, the Commission has proposed to set up a central Clearing House to restore the original revenue pattern. According to this proposal each country must calculate the difference between its collections of VAT on exports to other EC countries and its refunds of VAT on imports from the rest of the EC. If the difference is positive, it should be paid to the Clearing House, and if it is negative, the amount will be refunded from the Clearing House. In principle, the sum of the claims on the Clearing House will equal the sum of the payments to the House, and the clearing mechanism will ensure that there will be no net redistribution of revenue among the EC countries.

II.3. The proposed approximation of VAT rates

In our previous example of trade between a German exporting firm and a Danish importing firm it made no difference for net input costs and consumer prices whether the Danish firm had to pay the low German VAT or the high Danish VAT on its imports. The reason is that under the invoice method input VAT is deductible from output VAT. Thus VAT–registered firms will have no incentive to purchase their inputs from countries with relatively low rates of VAT under the system proposed by the EC Commission.

However, such an incentive will obviously exist for unregistered firms under the Commission's system since these firms pay no output VAT and hence cannot deduct their input VAT. By contrast, under the present system unregistered traders always pay

the domestic VAT rate on their imports and hence can make no gain by purchasing from low–tax countries.

With the abolition of border controls consumers in high–tax countries will also have an incentive to engage in direct border trade to take advantage of a lower rate of VAT on the other side of the border. Today the amount of border trade is limited by border controls which enable high–tax countries to impose a surcharge equal to the difference between the foreign and the domestic VAT rate on direct consumer purchases above the personal exemption level.

Finally, one can show with simple numerical examples that the incentive for registered importers in high–tax countries to keep transactions "off the books" will be increased by a switch to the Commission's system of VAT administration, so one might expect an increase in the amount of tax fraud.[7]

For these reasons, and especially to avoid the distortions created by a sharp increase in border trade and direct consumer purchases, the EC Commission finds that some approximation of the VAT rates applied by member countries is necessary. The present rates as well as those proposed by the Commission are presented in table 3. We see that there is indeed a substantial dispersion in the existing VAT rates. All member countries except Denmark apply at least two rates: A reduced rate for necessities such as food, medicine, heating etc., and a standard rate for other goods. Some countries also apply a higher VAT rate to various "luxuries".

In 1987 the Commission proposed that the reduced VAT rate should fall between 4 and 9%, that the standard rate should lie within a range of 14 to 20%, and that all higher rates should be abolished (COM (87) 321). The width of the rate bands was determined on the basis of experience from the United States indicating that differences of about 5–6 percentage points in indirect tax rates between neighboring states do not create serious border trade problems. The bands were selected so as to include as many of the existing rates as possible to minimize adjustment costs to member countries. According to the Commission proposal, the reduced VAT rate should apply to foodstuffs (except alcoholic beverages); energy products for heating and lighting; water supplies; pharmaceuticals; books, newspapers and periodicals; and public transport.

II.4. The 1987–proposals for harmonization of excise taxes

The excise tax systems of the EC member countries are even more divergent than the VAT systems, as table 4 indicates. By far the most important excises are those levied on manufactured tobaccos, mineral oils, and alcoholic beverages. In this field the proposals put forward by the Commission in 1987 were quite radical, since they involved complete harmonization of the rates as well as the base of excise taxes (COM (87) 324). The official defense for complete harmonization was that VAT is calculated on a product's price inclusive of excise duty, so any cross–country variation in the rates of excise duty would result in differences in VAT greater than the bands adopted for that tax.

While this argument may have some merit, the Commission was probably also motivated by a desire to prevent member countries from using their excise tax systems for protective purposes. Thus it is probably no coincidence that the southern wine–producing countries tax wine much more lightly than beer, whereas the opposite pattern prevails in the northern beer–producing member countries. Similarly, it is striking that the southern countries producing low–quality low–value tobacco impose excises on tobacco mainly in the form of an ad valorem duty, thereby favoring their own products, while the northern producers of high–quality tobacco products rely much more on specific duties which weigh more heavily on low–price products. One also wonders whether a country like Denmark would have chosen to impose such high gasoline taxes (in addition to its very high registration duty on cars) if it were not for the fact that she has no domestic car production?

Obviously the possibility to practice such discrete protection through the excise tax system would disappear if excises were fully harmonized. In most cases the harmonized rates proposed by the Commission represented simple or consumption–weighted averages of the present national tax rates. For wine and beer identical specific excises per litre were proposed. In addition, the Commission proposed a complete abolition of all excises other than those on tobacco, alcohol and oil products, in so far as these other excises cannot be administered without border controls. In most countries these excises appear to produce very little revenue.

To administer excise taxes without relying on border controls, the EC Commission has proposed the establishment of a system of socalled "linked bonded warehouses". A bonded warehouse is a storage facility where an excisable product can be stored without being subject to tax. Tax becomes due only when the dutiable product leaves the warehouse for retail sale. The bonded warehouse is monitored on a regular basis by the tax authorities to keep check on stocks, inflows and outflows. Under the Commission

proposal dutiable goods could travel under seal, tax–free, between different EC countries until they reached a bonded warehouse in the country of retail sale. When the goods were resold to the retailer, tax would become due, and the revenue would thus accrue to the country of final consumption (assuming that the goods are not diverted).

II.5. Revenue implications of indirect tax harmonization

The expected changes in tax revenues resulting from an implementation of the EC Commission's 1987–proposals for harmonization of VAT and excise duties are indicated in table 5. The figures in the table are based on mechanical calculations on 1984 revenue data. They assume that there would be no changes in the levels of expenditure on taxed goods and services in each member state, so that a rise of x per cent in the rate of tax on a given category of spending would lead to an x percent rise in tax revenues. In practice, both the level and pattern of spending will of course be affected, as consumers react to the new set of relative prices. Nevertheless table 5 probably provides a useful starting point for an evaluation of the revenue consequences of indirect tax harmonization.

It is seen that most of the eight countries covered in the table could expect rather moderate changes in overall tax revenue, except for Ireland and in particular Denmark who would suffer major revenue losses from a lowering of their present high indirect tax rates. Thus these two countries would either have to find new sources of revenue or reduce their level of public expenditure. According to qualitative estimates by the EC Commission three of the four member countries not covered in table 5 (Luxembourg, Spain and Portugal) would experience substantial increases in tax revenue from the proposed indirect tax harmonization, while Greece would obtain a moderate revenue increase. In summary, it would seem that almost half of all member countries could be forced to undertake substantial adjustments of their public finances to concur with the Commission's 1987–proposals.

II.6. Evaluation of the Commission's 1987–proposals for reform of indirect tax administration

Having described the main features of the plans for indirect tax harmonization published by the Commission in 1987, we shall now offer a brief evaluation of these schemes. We start out focussing on the administrative aspects, accepting the basic premise that

border controls have to be abolished.

Under the new VAT system proposed by the EC Commission exports would no longer be zero–rated but would bear the exporting country's rate of VAT. The tax authorities would therefore be faced with the new problem of verifying (e.g. on the basis of samples) claims for refunds of import VAT paid to foreign exporters. This would necessitate increased cooperation and exchange of information between the national tax authorities of member states. By contrast, under the present system the tax authorities do not need to know the origin of imports and the destination of exports, and the effectiveness of VAT enforcement through physical border controls is entirely in the hands of domestic tax authorities.

While the new enforcement problem might in principle be overcome through increased international coordination of VAT administration, member countries may not have the proper incentives to make such extra efforts, due to the proposed clearing mechanism. Under this mechanism the claims for refunds of import VAT made by importers can be passed on by national governments to the EC Clearing House. Hence the national tax authorities have no incentive to check that firms have actually paid the import VAT which they claim, since the bill for the refund will ultimately be paid by the EC. Therefore, while the Clearing House should in principle operate with a surplus, because non–registered traders cannot reclaim their import VAT, the House may in fact end up with a deficit due to lax enforcement, as pointed out by Lee, Pearson and Smith (1988).

To overcome this problem, the EC countries might wish to consider an alternative method described by Lee, Pearson and Smith (op. cit., pp. 21–22) and Cnossen and Shoup (1987, pp. 74–76) of administering the VAT system without relying on border controls. This alternative is the socalled Deferred Payment Scheme (DPS) which is presently applied by the Benelux–countries and a variant of which was used by the UK up to November 1984 under the name of the Postponed Accounting System. Under the DPS exports are still zero–rated, but the collection of import VAT is shifted from the border to the first taxable unit in the importing country. Effectively this means that when an importing firm sells its products, VAT is paid on the full value, without any compensating refund of input taxes, since no such input tax has been paid at the time of import. Frontier formalities for imports are thus superfluous. Furthermore, eligibility for rebate of export VAT is proven on the basis of documentary evidence such as bills of lading, payments from abroad etc., rather than through physical clearance at the border.

The major enforcement problem with the Deferred Payment Scheme is the problem of

verifying that zero–rated goods have in fact been exported, and have not instead been diverted to domestic final consumption free of tax. By contrast, we have seen that the system proposed by the EC Commission involves the problem of establishing that claims for refund of import VAT are indeed valid. Under both systems, effective enforcement seems to require some exchange of information among national tax authorities. The advantage of the DPS is that national governments do have a material incentive to check that zero–rated goods are not diverted from export markets to the domestic market, since they would lose revenue from such a traffic. This contrasts with the Commission's system, where incentives to check claims for rebate of import VAT are at best weak.

On the other hand, a system like the DPS based on zero–rating of exports tends to provide greater gains from tax evasion. If a trader relying on imports for his inputs is able to conceal his domestic sales from the domestic revenue authorities, he can do business without paying any VAT at all under the DPS, whereas he would have to pay import VAT to his foreign supplier under the system proposed by the Commission. Another problem with the DPS is that some border controls for imports made by private individuals and non–registered traders might have to be retained to make sure that VAT is paid on such imports. Both systems thus have their drawbacks, but it is not obvious (at least not to this writer) that the system preferred by the EC Commission is administratively superior.

Let us turn next to the Commission's proposal to administer excise taxes through a system of linked bonded warehouses. One problem with such a system is the one of ensuring that the revenue actually accrues to the country where the exciseable goods are sold, in accordance with the destination principle. To be sure, with complete harmonization of excise tax rates, as the Commission proposes, there will be no tax incentive to divert sales from one country to another. However, there may be economies of scale involved in concentrating the bonded warehouses in a few strategic locations from which the retailers of several national markets can be served. Since the excise duty must be paid to the country where the product leaves the warehouse system, there is no guarantee that it will be sold for final consumption in that same country, once the authorities can no longer rely on border controls. In addition, wholesalers or retailers might also engage in exports after having purchased the dutiable products from the warehouse system.

To ensure that excise revenue accrues to the government in the country of final consumption, it may therefore be necessary to supplement the bonded warehouse

system by some physical marking of the products in the form of tax stamps, "banderoles" and the like. By such physical marking it could be indicated that a product on which duty has been paid can be legally sold only in one particular national market. Indeed, several EC countries presently operate important parts of their excise tax systems by means of physical marking, and a similar practice is prevalent in the U.S. where individual states often have different excise tax rates. Moreover, the EC Commission itself has announced that it will propose a system of physical marking as a basis for administering the excises on mineral oils. It appears, however, that such a system may have to be extended to other exciseable goods when frontier controls are eliminated.

II.7. Evaluation of the Commission's 1987–proposals regarding indirect tax rates

While the question of the proper method of indirect tax administration may seem a rather boring issue relevant only to a small sect of tax administrators, the question of the proper level and structure of indirect taxes has created considerable political controversy in EC member countries, following the EC Commission's 1987–proposals for tax harmonization. Two main issues have been at the center of debate: First, is it really necessary to harmonize tax rates to the degree proposed by the Commission? Second, is the structure of indirect taxation implied by the harmonization proposals fair and efficient?

Realizing the political sensitivity of these issues, the Commission has explicitly and repeatedly stressed that it has not attempted to design an "optimal" indirect tax system; that it does not wish to carry tax harmonization any further than what is absolutely necessary to abolish border controls without creating excessive trade distortions; and that the suggested changes in national tax rates have been chosen so as to minimize the burden of adjustment for as many member countries as possible. Nevertheless it is of course a matter of judgement whether the harmonization proposals live up to these declared goals, and indeed whether the Commission has set itself the proper goals.

It has been argued by some observers, most notably by British politicians eager to preserve national sovereignty, that there is really no need at all to impose indirect tax harmonization "from above". One only needs to do away with frontier controls and allow unrestricted border trade. Market forces will then induce governments to undertake the necessary approximation of tax rates to avoid intolerable trade distortions.

The obvious drawback of this socalled "market solution" to the harmonization problem is that tax competition would tend to drive indirect tax rates down to the lowest common denominator, as national governments in high–tax countries felt the necessity of reducing their tax rates to avoid losing trade to neighboring countries with lower rates. Thus, while the market solution might be convenient for a country whose geographical position more or less protects her from the forces of tax competition in continental Europe, or for a government wishing to cut back on public expenditure, it would impose a disproportionate burden of adjustment on the high–tax countries and make it difficult for these countries to satisfy their preference for relatively high levels of government expenditure.
For this reason Lee, Pearson and Smith (1988) have argued that the EC should impose a set of minimum indirect tax rates below which no member country could set its national rates. On the other hand, member countries should retain their freedom to set their rates as far above the minimum as they wish. The motivation given by Lee, Pearson and Smith is that the costs of the distortions created by relatively high taxes in one country would be borne by that country itself in the form of loss of border trade, the associated loss of revenue, balance of payments difficulties etc. Hence, since it would create no serious problems for the rest of the EC if one member country found it worthwhile to incur the costs associated with relatively high indirect tax rates, there is no reason why the EC should erode national sovereignty by imposing upper limits on these rates.

This argument seems correct if the high–tax country is too small to have any significant impact on overall trade volumes and relative prices in neighboring member countries. However, if the high–tax country is relatively large, its tax policy may in fact have undesirable side effects on resource allocation in neighboring low–tax countries.

For instance, suppose that France imposes a much higher rate of VAT than, say, Germany. With unrestricted border trade, this will induce French consumers to purchase substantial amounts of consumer goods in Germany, and this in turn may drive up the prices of consumer goods relative to the prices of investment goods in that country, since the latter goods are exempt from VAT under the present consumption–based VAT systems. In France, on the other hand, there would be a tendency for the price of consumer goods to fall relative to prices of investment goods. The capital goods industries would thus tend to expand at the expense of consumer goods industries in France, whereas Germany would experience a reallocation of resources in the opposite direction. As pointed out by Sinn (1989), the marginal rate of transformation between consumption and investment goods would come to diverge between the two countries,

and this would violate one condition for international efficiency in EC resource allocation. Moreover, the effects of French tax policy would be felt also in Germany who might not appreciate the fact that she would be forced to undergo a structural readjustment as a result of a French decision to adopt a much higher VAT rate.

Sinn (op. cit.) has argued that most observers tend to underestimate the diversion of trade which could be expected in the absence of harmonization, when the barriers to direct consumer purchases in other countries fall. He believes that such direct sales from firms to consumers in other countries will not only take the form of traditional border trade, but that new ways of organizing such sales will be devised so as to enable it to take place at a very large scale.

Thus there could be a substantial and inefficient reallocation of resources if the EC imposed only minimum rates of indirect tax, and the ensuing costs of readjustment would in general be felt not only by the high–tax countries. This is obviously an argument in favor of maximum as well as minimum tax rates. On the other hand, EC countries may find that the benefits of retaining some national sovereignty in tax policy outweigh the costs of the economic distortions resulting from a lack of maximum rates. At any rate, it seems that the case for minimum rates to avoid destructive tax competition is stronger than the case for harmonization within a narrow rate band.

Let us make one final point regarding the need for rate harmonization: It appears that the Commission proposed complete harmonization of excise taxes partly for fear that national rate differentials in this field would lead to diversion of sales to low–tax countries. However, if some form of physical marking of exciseable products turns out to be necessary for the reasons given in the previous section, this could help to prevent such diversion of sales. Some national rate differentials of excise tax rates should then be possible without creating serious trade distortions.

We turn next to the question of the proper structure of indirect taxation. Even though the Commission is trying to avoid discussing this controversial issue, it is bound to prop up if the Commission really succeeds in its harmonization efforts. In effect, the EC has then taken political responsibility for indirect tax policy, and it will be natural for the makers of EC policy to ask themselves whether the emerging common EC rate structure is rational and fair.

It would take us too far to discuss thoroughly the implications of the theory of optimal commodity taxation for indirect taxation in the EC, so we shall make only a few basic

observations.[8] At present all EC countries except Denmark apply a reduced rate of VAT to certain "necessity goods". Such a reduced rate is normally defended on the ground that it helps to redistribute real income towards the lower income groups. However, it is widely recognized that indirect taxation is a very imprecise and inefficient means of income redistribution, and that it would be much more efficient to implement such redistribution by direct government transfers to the poor. In addition, the operation of a differentiated VAT requires a distinction between various types of goods which in practice can be very burdensome and difficult to administer, as Cnossen (1983) explains.

It could of course be argued that consumer prices of food in the EC are currently too high from an efficiency point of view, due to the Community's Common Agricultural Policy, and that foodstuffs should therefore be taxed at a relatively low rate (see Rose (1987) for an elaboration of this point). On the other hand, the theory of optimal commodity taxation tells us that if markets are not already distorted, commodities with relatively low compensated price elasticities of demand such as foodstuffs should bear relatively high rates of tax, if policy makers aim solely at minimizing the deadweight loss from taxation. Thus it is not obvious that efficiency considerations call for low tax rates on food products, even when the effects of the Common Agricultural Policy are accounted for. Moreover, there is a growing recognition that the present level of agricultural price support in the EC cannot be maintained forever, both for budgetary reasons, and because it creates enormous economic distortions without ensuring a permanent increase in the real incomes of EC farmers. As the CAP is gradually dismantled and (hopefully) replaced by more efficient methods of income support to farmers, the case for a move to a uniform rate of VAT in the EC will become still stronger.

A realization of the proposals for complete harmonization of excise taxes would imply a substantial reduction of taxes on tobacco and alcohol in some northern European countries. This would seem inconsistent with generally accepted goals of health policy. The EC proposal to impose identical duties on wine and beer despite the greater content of alcohol in the former type of drink also seems illogical and must be seen as a concession to the southern member countries which presently levy excises only on beer but not on wine. In these fields it certainly seems fair to allow individual member countries to set rates higher than those proposed by the Commission, if they wish to do so for budgetary reasons and for reasons of health policy.

Finally, it appears that the Commission's 1987–proposals would create or maintain a serious distortion in the market for energy products: The proposals do not allow excises

on electricity to households (such as those existing in Denmark) as a complement to the duties on mineral oils. The proposals thereby discriminate in favor of such sources of energy as coal, nuclear power, and hydro power, at the expense of energy produced on the basis of mineral oils. Is this simply a discrete way of supporting Europe's ailing coal industry and the troubled nuclear power industry?

II.8. Recent revisions of proposals for indirect tax harmonization

In the course of 1989 it became clear that the EC Commission had been impressed by at least some of the above objections to its 1987 harmonization proposals. In a series of recent documents it has modified its original plans in several important respects, thereby hoping to make them politically acceptable to all member countries.

While member countries seem willing to accept the Commission's idea that the administration of excise duties should take place mainly through a system of linked bonded warehouses, they have not been sympathetic to the Commission's 1987–proposal regarding the administration of the VAT system. Apparently member states are afraid that the Commission and the European Parliament wish to appropriate the VAT as their "own" source of revenue. The motivation for this fear is that once the zero–rating of exports is abolished, in accordance with the Commission proposal, the distinction between national VAT systems will become blurred, and in the long run it will then become natural to harmonize VAT rates completely.

To accommodate the member states, the Commission has therefore accepted that – at least in the short run – the VAT system will be administered by means of a variant of the Deferred Payment Scheme. The zero–rating of exports will thus be retained, but fiscal border controls will be abolished, and the collection of import VAT will be shifted to the first taxable unit in the importing country. Once a month firms will have to submit a special form to the tax authorities stating their exports to and imports from other EC countries, and control of this information will be based on documentary evidence supplied by firms on request. It is worth noting, though, that the Commission still retains its 1987–proposal of abolishing the zero–rating of exports as a long run goal.

As far as the rates of tax are concerned, the EC Commission still proposes a standard VAT rate within a band of 14 to 20% and a reduced rate between 4 and 9%. However, the Commission has given up the idea of complete harmonization of excise tax rates, at least for the moment. Instead it proposes that, from the beginning of 1993, the excise

tax rates of member states should be at least as high as the minimum rates stated in the lower part of table 4. Moreover, from 1993 no member state will be allowed to change its excise tax rates except in so far as the tax rates are thereby brought closer to the target rates indicated in table 4. These new target rates are 10% higher than the rates proposed in 1987. The Commission feels that it has thereby accommodated those member states which have argued for higher rates for reasons of health policy and environmental protection. The minimum and target rates are supposed to be revised every second year on the basis of unanimity, although indexation of tax rates can take place by qualified majority.

All member states except Denmark and Ireland agree with the Commission that the present restrictions on tax and duty free purchases by private individuals travelling abroad must be gradually abolished so that no restrictions on purchases made for personal consumption will remain within the EC from the beginning of 1993. To enforce the destination principle, it has been proposed that firms specializing in direct mail–order sales to private consumers should charge the indirect tax rates prevailing in the consumer's country of residence. Also, indirect taxes on cars should be imposed at the place of registration to eliminate the incentive for consumers to engage in direct imports from low–tax countries.

II.9. Conclusion on indirect tax harmonization

It is clear that the EC Commission has not given up the goal of abolishing border controls, but it seems that it has given up realizing this goal through a process of tax rate harmonization, at least in the short and medium term. Instead, the Commission now relies mainly on a policy of fixing minimum tax rates to avoid completely unfettered tax competition when the border barriers fall.

In narrow efficiency terms a policy of harmonization may in fact be superior to a strategy of setting minimum tax rates. As Michael Keen (1987) has shown, if two countries adopt a harmonization program involving a uniform proportionate convergence of all commodity tax rates towards a common weighted average of the prevailing rates in each country, such a policy will generate a potential Pareto improvement, i.e. if accompanied by appropriate international transfers, it can improve the welfare of consumers in both countries. The reason is that, because excess burden tends to increase more than proportionately with the tax rate, the welfare gain from the reduction of the relatively

high tax rates outweighs the welfare loss from the increase in the relatively low tax rates. By contrast, a policy of setting minimum tax rates — but no maximum rates — is likely to raise the overall level of indirect taxation in the EC and may therefore increase excess burden in the aggregate.

Nevertheless, member countries will probably welcome the new tax rate proposals from the EC Commission, partly because they may not believe that a policy of tax rate harmonization would be followed up by appropriate transfers to ensure that a potential Pareto improvement would be turned into an actual Pareto improvement, and partly because the new proposals leave more room of maneuver for national tax policies. On the other hand, member countries may also find that market forces do not really leave them much national sovereignty in indirect tax policy, when consumers start to take advantage of the new opportunities which will open up when border controls are dismantled. Thus we will probably see further harmonization of indirect tax rates, enforced through tax competition rather than through the EC institutions.

It should be stressed that the need for tax rate harmonization stems mainly from the desire to eliminate the restrictions on consumer purchases abroad. If these restrictions and the associated border controls of private consumers were retained, it would be possible to have substantial differences in indirect tax rates across member states while at the same time allowing business trade to take place free of border controls, by adopting the variant of the Deferred Payment Scheme sketched in the previous section. In this way member states could retain a substantial measure of national sovereignty in indirect tax policy and still reap the expected economic gains from abolishing the fiscal frontiers inhibiting business trade.

Nevertheless the great majority of EC member countries seem willing to sacrifice national sovereignty in indirect taxation in order to obtain the alleged political benefits of the dismantling of frontier controls for private individuals. In short, the argument for indirect tax harmonization is ultimately of a political rather than an economic nature.

III. HARMONIZATION OF INCOME TAXES

III.1. Requirements for efficiency and equity in capital income taxation

We turn now to a discussion of harmonization of income taxes in the EC. Most of this discussion will focus on taxes on capital income, since the need for tax coordination in this area seems the greatest, given the high international mobility of capital. As a background to the subsequent analysis of EC tax policy, this section will briefly review some general criteria for efficiency and equity in international capital income taxation.[9]

From an internationalist viewpoint, there are two main conditions for efficiency in the international capital market. The first one is that the marginal product of capital should be the same in all countries, since it would otherwise be possible to increase world output by reallocating capital from countries with low marginal products to countries with high marginal productivities. Equality of marginal products across countries will obtain if firms are competitive, if capital mobility is perfect, and if investors are taxed at the same effective rate on domestic and foreign investment. Equality of effective tax rates on investments at home and abroad may in turn be achieved if residence countries tax investors on their worldwide income – applying the same accounting rules in the calculation of domestic and foreign–source income – and provide full credit for taxes paid abroad against the domestic tax liability. Under these circumstances investors will obtain the same after–tax rate of return on investment at home and abroad when the pre–tax rates of return are the same. Capital mobility will therefore tend to equate the rates of return before tax which, under competitive conditions, are given by the marginal products of capital. A tax regime like this is said to possess the property of capital export neutrality, because it provides no incentive to invest in one jurisdiction rather than another.

The second efficiency criterion requires that consumers' marginal rate of substitution between present and future consumption be equated across countries. Otherwise it would be possible to obtain a Pareto–improvement by reallocating the world's savings from countries with a higher preference for present consumption to countries where consumers require a lower premium to postpone consumption. Since utility–maximizing consumers will equate their marginal rate of substitution between present and future consumption to the after–tax rate of return on capital, a tax regime ensuring cross–country equality of after–tax rates of return would meet this second efficiency criterion. With perfect capital mobility, the after–tax rates of return would tend to equality if capital income taxation were based on a pure source principle. Thus, if foreign investment income were exempt from domestic tax, and if source–countries were to tax foreign and domestic investors operating in their jurisdiction at the same effective rate, efficiency in the world allocation of savings would obtain. The tax system is then said to display capital import neutrality, because foreign and domestic suppliers of capital to any

given national market are given the same tax treatment.

It is worth noting that both capital export neutrality and capital import neutrality will prevail if (effective) capital income tax rates are the same in all countries, whether capital income taxation is based on the source principle or the residence principle. At the same time it should be stressed that the two neutrality criteria abstract from "second–best" considerations; a problem which has been given too little attention in the conventional literature on international tax coordination. For instance, if savings were highly elastic in some countries and very inelastic in others, it might be worthwhile to violate the principle of capital import neutrality and have higher after–tax rates of return in the former group of countries and lower net rates of return in the latter, in order to reduce the overall tax distortion of the choice between present and future consumption.

On the other hand, in the absence of firm empirical knowledge of cross–country differentials in savings elasticities, it seems safer to assume that these elasticities are roughly the same, at least within a group of countries at roughly identical levels of economic development. In this pragmatic way one might justify a policy of harmonization of capital income tax rates to guarantee capital import neutrality as well as capital export neutrality.

Despite the likely efficiency gains from such a policy of harmonization, national governments may nevertheless wish to retain their rights to set their own capital income tax rates, and they may have very good reasons for this. For instance, a government committed to the ideal of comprehensive income taxation would wish to apply the same tax schedule to labor income and capital income. Thus, if it were to accept an international harmonization of capital income tax rates, it would lose its freedom to set its own tax rate on labor income and its own overall level of income taxation – and even the freedom to set its own level of public expenditure, if the use of other tax instruments were "blocked" for political reasons.

If complete harmonization of capital income tax rates is politically unacceptable, it is impossible to achieve both capital export neutrality and capital import neutrality. It can be argued that the goal of capital export neutrality should then take precedence. The arguments are the following ones:

– First, capital export neutrality ensures that no output gains can be made from an international reallocation of the world stock of capital, whereas capital import neutrality implies that it is impossible to undertake a Pareto–improving reallocation of the flow of

total world savings. Since annual savings are rather small relative to the preexisting capital stock, one would expect the welfare losses resulting from a misallocation of the existing stock to be more serious in the short and medium run than the losses from a misallocation of the current additions to the capital stock.

– Second, although there has been some controversy over this issue, most of the empirical literature suggests that the intertemporal elasticity of substitution in consumption and hence the elasticity of savings is not very high.[10] If savings are more or less inelastic with respect to the after–tax rate of return, the distortion of the aggregate savings level stemming from capital income taxation will be limited, and the goal of capital import neutrality will not be very important.

– Third, capital export neutrality would guarantee "production efficiency" in the world economy by equating marginal products of capital across countries. According to the theory of optimal taxation such production efficiency will be desirable even under "second–best" conditions, given the popular assumption of constant returns to scale.[11] By contrast, we saw previously that the goal of capital import neutrality becomes dubious under second–best circumstances.

– Fourth, a regime of capital export neutrality would be consistent with the generally accepted norm of horizontal equity in taxation, since investment income from foreign and domestic sources would be taxed according to the same tax schedule. Thus two taxpayers with the same worldwide income would pay the same amount of tax, regardless of the division of their income between domestic and foreign sources. This would not be the case under a regime of capital import neutrality.

For these reasons we shall take capital export neutrality to be the proper norm of international tax policy, given that complete international harmonization of effective capital income tax rates is ruled out for political reasons. The following sections will discuss various practical obstacles to the realization of capital export neutrality in the EC.

III.2. Obstacles to capital export neutrality in portfolio investment

At least in the short and medium run, international capital flows tend to be dominated by portfolio investors. As a first approximation, let us therefore follow Sinn (1989, pp. 9–11) and abstract from direct foreign investment. It is then fairly easy to identify a set

of sufficient conditions for capital export neutrality:

Suppose that all countries levy a uniform tax on all income from capital. Suppose further that the tax code allows true economic depreciation and deductibility of interest in the calculation of taxable business income. We then know from the theory of taxation that competitive firms will invest up to the point of equality between the pre–tax marginal product of capital and the market rate of interest before tax, whether investment is financed by debt or by equity. To guarantee equality of marginal products across countries, the pre–tax rate of interest must therefore be the same everywhere. This will be achieved if there is perfect capital mobility and the residence principle of interest income taxation is applied by all countries.

Suppose next that there is some double taxation of corporate equity income, because the double taxation of dividends is only partially alleviated, and because there is some personal taxation of capital gains on shares on top of the corporate tax on retained profits. If the combined corporate and personal tax on corporate equity income exceeds the personal tax on interest income, the tax code will then discriminate against equity finance, and corporations will be induced to use debt as their marginal source of finance.[12] Given true economic depreciation, deductibility of interest, and residence–based interest income taxation, the neutrality result derived above will continue to hold, i.e. the required pre–tax rate of return on marginal business investment will still be equal to the pre–tax world rate of interest.

The analysis above suggests that we should ask whether the rules defining taxable business profits in the EC countries drive a wedge between the market rate of interest and the required rate of return on business investment, and whether member countries fail to enforce the residence principle of interest income taxation? If this is not the case, we would expect that the EC tax regime will not deviate seriously from the norm of capital export neutrality, despite cross–country differences in capital income tax rates.

To identify possible deviations from neutrality in the definition of taxable business profits, one must beware of the complications introduced by inflation. Under inflationary conditions, there are essentially two ways of ensuring equality between the pre–tax marginal product of capital and the pre–tax market rate of interest (see e.g. Bradford, 1981): The first one is to apply consistent real income accounting for tax purposes. This would mean that depreciation allowances should be based on replacement costs, that inventories should be valued according to the LIFO principle to avoid taxation of purely nominal gains, that accrued real capital gains on fixed assets should be taxable, and that

only real interest payments should be deductible. The second method would involve consistent nominal income accounting. In this case nominal losses in asset values and nominal interest payments would be deductible, and nominal capital gains would be fully taxable.

As table 6 indicates, neither a nominal nor a real income concept is applied consistently within the EC. To be sure, all countries except Denmark calculate depreciation allowances on the basis of historical costs while at the same time allowing full deductibility of nominal interest payments. This accords with nominal income accounting. At the same time, however, several countries allow valuation of inventories by means of the LIFO principle, thereby (roughly) exempting purely nominal gains on inventories from tax. Moreover, no country taxes all nominal capital gains on fixed assets on an accrual basis, as would be required for neutrality. The limitations on loss offsets represents another source of nonneutrality, since full neutrality would require that losses could be carried forward indefinitely at the proper market rate of interest.

Calculations reported in Sørensen (1988) indicate that the tax rules in most countries imply a subsidization of debt–financed investment in the sense that the required rate of return is driven below the pre–tax market rate of interest, essentially because depreciation allowances exceed the true nominal depreciation of business assets. We also see from table 6 that the rules defining taxable business income are far from being identical across the EC countries. For these reasons alone, the present EC tax regime is inconsistent with capital export neutrality. This conclusion is strengthened once one allows for the special regional or sectoral investment incentives offered by several member countries.

In a recent draft directive, the EC Commission has proposed some harmonization of the business income tax base of member countries. The main ingredients of the proposal are indicated in the bottom row of table 6. The Commission has not explicitly specified the rates of depreciation to be applied to various types of fixed assets, but it has stated that the rates should approximate the true rates of economic depreciation, without indicating whether it refers to nominal or real economic depreciation rates. Since the Commission wishes to retain full deductibility of nominal interest payments, it would seem logical to allow deductions only for nominal depreciation, but this would probably meet with resistance from member states which would then have to reduce their depreciation allowances substantially. Consistent nominal income accounting would also call for valuation of inventories by means of the FIFO principle, but in fact the Commission wishes to leave the choice between FIFO and LIFO accounting to member countries.

The proposal for unlimited carry–forward of losses and a three–year carry–back would represent a major liberalization relative to the present tax code of most member countries. On the other hand, the proposal to include all realized capital gains would involve a tightening of tax rules in several countries, even though the Commission proposal implies postponement of tax on gains which are reinvested, to avoid undesirable "locking–in" effects. On balance, while the Commission proposal could have been more clear and consistent on some accounts, it probably represents a desirable move towards greater neutrality.

Nevertheless, a harmonization of the business income tax base is not sufficient to ensure capital export neutrality in the EC. As we have seen, member countries must also apply the residence principle of interest income taxation. In theory they do so, but in practice a large amount of interest income seems to go untaxed. Only France, Denmark and the Netherlands require domestic banks to send statements of their customers' interest income to the tax authorities, so there are ample opportunities for most EC citizens to evade personal income tax on interest. In particular, it may be easy for taxpayers to conceal their foreign interest income, so the tax evasion problem is likely to become more serious as capital flows among the EC countries are liberalized.

Even if most interest receipts in the EC escaped the personal income tax, capital mobility would still tend to equate the pre–tax rates of interest throughout the Community, if the impersonal and inescapable withholding taxes on interest were the same in all member countries. Unfortunately this is not the case, as table 7 makes clear. Under these circumstances, (dishonest) household investors and institutional investors subject only to withholding tax will often find that the effective tax rates on foreign and domestic interest income differ, and hence a perfect equalization of pre–tax interest rates cannot be expected. This would cause a deviation from capital export neutrality, even if taxable business profits in all countries coincided with true economic profits.

Realizing the problem of international tax evasion, the Commission recently proposed the imposition of a minimum withholding tax of 15% on interest paid from debtors in one EC country to residents in another member country. According to the proposal member countries should clear the revenue from the tax to ensure that it finally accrues to the taxpayer's residence country. Unfortunately some member countries resisted the proposal for a withholding tax so strongly that the Commission has had to give up implementing it. This will not only make it difficult to achieve capital export neutrality, but it also raises the question whether effective capital income taxation can be upheld

within the Community, as the mobility of capital increases.

III.3. Is source–based taxation a feasible alternative?

The practical problem of implementing the residence principle in the taxation of interest and true economic depreciation in business taxation has led Hans–Werner Sinn (1989) to propose an alternative tax regime based on immediate expensing of business investment and taxation of interest at source.

When interest income is taxed at the capital income tax rate prevailing in the source country, investors will be in portfolio equilibrium when

$$(1) \qquad r(1-t) = r^*(1-t^*)$$

where r and r* are the domestic and foreign rates of interest, respectively, and t and t* denote the domestic and the foreign tax rate. Thus (1) simply says that capital mobility will tend to equate the after–tax rates of interest under the source principle.

If firms are allowed full expensing of investment outlays, business profits will effectively be exempt from tax. Via the deduction for investment expenditure, the government will finance a share of investment corresponding to the share of the gross return which it taxes away. A profit–maximizing firm will therefore invest until the pre–tax rate of return on investment equals the after–tax cost of finance. Since deductibility of interest payments is retained under the Sinn proposal, the net cost of finance is simply the after–tax rate of interest. Denoting the pre–tax rate of return on business capital by MPC, a domestic firm will thus invest until

$$(2) \qquad MPC = r(1-t)$$

while a foreign firm will invest to the point where

$$(3) \qquad MPC^* = r^*(1-t^*)$$

Obviously equations (1) through (3) imply that MPC=MPC*, so capital export neutrality will be achieved. In addition, capital import neutrality will prevail, because capital income is taxed according to the source principle. There is no mystery about this result: In both countries the pre–tax marginal rate of return on capital equals the

after–tax rate of return received by savers, so the effective marginal tax rate on capital income is zero in the two countries, even though the nominal tax rates may differ. When marginal tax rates are identical across countries, we remember that there is no conflict between the goals of capital export neutrality and capital import neutrality.

Although elegant, the Sinn proposal may be difficult to implement. First of all, policy makers may not find it acceptable that capital income is effectively exempt from tax at the margin.

Second, the proposal relies on the use of an impersonal proportional tax on capital income. Thus, progressive taxation of global (comprehensive) income would have to be abandoned, and if policy makers wished to retain progressive taxation of labor income, they would have to find ways of distinguishing between income from capital and income from labor. Recent experience in Denmark suggests that this is certainly not easy as far as income from self–employment is concerned.[13]

Third, effective tax enforcement under the Sinn proposal would probably require the use of withholding taxes on interest payments to foreigners, but as we have just noted, this seems to be inacceptable to some EC countries. If there were no withholding taxes on interest paid to foreigners, and if banks were not obliged to send statements of their customers' interest income to the tax authorities, it might be too easy to evade tax on foreign–source interest income. Provided enforcement of taxes on domestic–source income were still effective, a domestic investor would then be in portfolio equilibrium when

$$r(1-t) = r^* \tag{4}$$

On the other hand, the arbitrage condition for (dishonest) foreign investors would be

$$r^*(1-t^*) = r \tag{5}$$

Clearly, (4) and (5) are incompatible, and deviations from capital export neutrality and capital import neutrality could be expected.

To sum up: As long as withholding taxes or strict notification from banks to revenue authorities cannot be implemented, it will be very hard to achieve an efficient allocation of portfolio capital within the Community.

III.4 Is double taxation of dividends a serious problem?

The discussion in the previous section implicitly assumed that international portfolio investment involves the purchase of debt instruments. While this is indeed typically the case, we must also allow for portfolio investment in foreign shares, since such investment may become increasingly common as the Internal Market is realized.

Apparently it is widely believed that varying degrees of integration of corporate and personal income tax systems in the EC create distortions in the allocation of equity capital within the Community. To alleviate this alleged problem, the Commission proposed in 1975 that all member states should adopt the socalled imputation system according to which a credit for (part of) the corporate tax on distributed profits is deducted from the personal income tax on the dividend. The Commission further proposed that the credit should be between 45 and 55% of the corporate tax on distributed profits, to ensure that all member states would provide roughly the same degree of double taxation relief, and that the credit should be extended to shareholders in all EC countries, and not just to domestic shareholders (COM (75) 392).

From table 8 we see that member countries have not followed the Commission proposal. Thus the Benelux countries and the Iberian countries apply a "classical" corporate tax system, providing no relief at all from the double taxation of dividends, whereas Greece, Italy, and Germany grant full double taxation relief, although in different ways. Other member states alleviate double taxation to varying degrees by means of a partial imputation system. Moreover, only two countries extend their dividend tax credits to foreign shareholders, as the Commission would have it.

Unfortunately the Commission may have made it more difficult to achieve capital export neutrality in share investments by proposing a politically unacceptable overdose of harmonization in the field of corporate taxation. The point is that identical degrees of corporate–personal tax integration are not necessary for capital export neutrality, as long as dividend tax credits are extended to foreign shareholders. The reason is that varying degrees of double taxation will tend to be reflected in the relative prices of the shares issued by different countries.

To illustrate this, consider the Netherlands, with a classical corporate tax system, and Germany, with a full imputation system. Suppose that residence–based interest income taxation ensures a common pre–tax rate of interest r throughout the Community. Further, let MPC^n and MPC^g indicate the pre–tax (marginal and average) rates of

profit in the Netherlands and Germany, respectively, let t^n and t^g denote the marginal personal income tax rates in the two countries, and let τ^n indicate the Dutch corporate tax rate.

In a stationary state where profit rates are constant and all corporate profits are distributed, the market value to a Dutch shareholder of a unit of Dutch corporate capital (V^n_n) would then be

$$(6) \qquad V^n_n = (1-t^n)(1-\tau^n)MPC^n/r(1-t^n) = (1-\tau^n)MPC^n/r$$

The Dutch share price specified in (6) is simply the present value of future dividends after payment of corporate and personal taxes, discounted at the investor's opportunity cost of capital, represented by the after–tax rate of interest. In the absence of taxation, the share price would simply be MPC^n/r, but because dividends are in fact taxed twice in the Netherlands whereas interest is taxed only once, we see that the share price is reduced by the tax factor $(1-\tau^n)$ to ensure that investors still earn the same net rate of return on shares and debt instruments.

By analogous reasoning, the market value of a German share to a German investor (V^g_g) will be

$$(7) \qquad V^g_g = (1-t^g)MPC^g/r(1-t^g) = MPC^g/r$$

Note that the German corporate tax rate does not appear in (7), since the German government provides full credit to domestic shareholders for this tax.

If there is no international trade in shares, the equilibrium share prices in the two countries will be given by (6) and (7). Suppose now that the EC capital market is opened up to trade in shares and that dividends are subject to personal income tax in the shareholder's country of residence. If the German government does not provide dividend tax credits to Germans investing in Dutch shares, a German investor would be willing to pay the following price for a Dutch share:

$$(8) \qquad V^n_g = (1-t^g)(1-\tau^n)MPC^n/r(1-t^g) = (1-\tau^n)MPC^n/r$$

On the other hand, if Germany extends tax credits to Dutch holders of German shares,

in accordance with the Commission proposal, a Dutch investor would be willing to pay

$$(9) \qquad V_n^g = (1-t^n)MPC^g/r(1-t^n) = MPC^g/r$$

for a German share. Comparing (6) to (8) and (7) to (9), we see that foreign investors in each national stock market would have exactly the same demand prices for shares as domestic shareholders, and that these common demand prices would equal the initial equilibrium prices. Hence no investors would have an incentive to shift their capital from one market to another.

By contrast, suppose the German government were to grant full tax credits only to Germans, i.e. to German holders of German or Dutch shares but not to Dutch holders of German shares. It is then easy to see that the Dutch would be deterred from investing in German shares, whereas Germans would be willing to pay a price of MPC^n/r for a Dutch share. Since Dutch shares are initially sold at a price of $(1-\tau^n)MPC^n/r$, there would be an outflow of capital from Germany to Holland, and we would have the paradoxical situation that corporate investment would be stimulated in the country practicing double taxation, whereas it would be deterred in the country providing full double taxation relief.

The implication of the simple analysis above is that countries with a full or a partial imputation system should grant dividend tax credits to all holders of domestic shares (resident or non–resident) rather than all resident shareholders, if they wish to avoid a tax–induced international reallocation of capital when national stock markets are opened up to foreign investors.

On the other hand, in the example above it might actually be desirable to induce a flow of capital from Germany to the Netherlands, because the marginal product of corporate capital in the latter country might be higher, due to the double taxation of dividends. If new issues of shares were the marginal source of investment finance, the required pre–tax rate of return on corporate investment would indeed be higher in the Netherlands than in Germany, provided the rates of interest were the same in the two countries.

However, this argument overlooks the fact that the double taxation of dividends provides a tax incentive to use cheaper sources of finance such as debt or retained profits. If debt finance were used at the margin, and if depreciation allowances approximated true

economic depreciation, we have already seen that the marginal product of capital would tend to equal the pre–tax rate of interest which in turn would tend to be equated across countries under the residence principle of interest income taxation. In that case there would be no international misallocation of corporate capital, even if some countries were to practice double taxation of dividends.

Empirical evidence does in fact indicate that new share issues finance only a very small part of new corporate investment in most countries. Debt finance is far more important, and retained profits are the dominant source of equity finance.[14] A harmonization of the degree of double taxation of retained corporate profits may thus be more urgent than a harmonization of the amount of double taxation of dividends. In other words, countries with relatively high rates of corporate tax should have low personal taxes on capital gains on shares, and vice versa, to ensure that the total corporate and personal tax burden on retentions is approximately the same in all EC countries. Under such a tax regime the cost of the dominant source of corporate equity capital would tend to be equated across countries.

While the efficiency argument for harmonization of taxes on distributed corporate profits is thus rather weak, considerations of inter–nation equity may nevertheless call for such harmonization. This may be seen by considering a variant of the two–country example given above: Suppose a corporation operating in Germany were fully owned by Dutch shareholders. If Germany were to extend her credit for the German corporate tax to foreigners, she would effectively collect no taxes from this Dutch–owned corporation. By contrast, the Dutch Treasury would collect revenue from a German–owned corporation operating in the Netherlands, because the Dutch tax system offers no relief from the double taxation of dividends. This asymmetry might result in an unfair international distribution of the gains from international investment, and the solution might be to harmonize the degree of corporate–personal tax integration.

However, there is an obvious alternative solution to the problem of inter–nation equity which is much simpler: In the example given above, the Netherlands could simply pay a refund to the German Treasury covering the German tax credits granted to Dutch holders of German shares. In this way both countries would collect tax revenue from foreign–owned corporations, and both could retain their own preferred system of corporate taxation without distorting the allocation of portfolio share investment in the Community.

III.5. Obstacles to capital export neutrality in direct investment

Though direct foreign investment weighs less heavily in international capital flows than portfolio investment in debt instruments, it is more important than international portfolio investment in shares. It is also likely to become more important as multinational corporations continue to grow. We must therefore consider how the tax system affects the international investment pattern of multinationals.

In the field of direct investment, the present EC tax regime is roughly one of capital import neutrality rather than capital export neutrality. There are several reasons for this: First, as indicated in table 8, some countries like France and the Netherlands generally exempt income from foreign subsidiaries from the taxable income of their "resident" corporations. Moreover, countries like Belgium and Denmark provide for such exemption in their tax treaties with most other member states. In these cases the profits of foreign subsidiaries are taxed at the corporate tax rate of the host country, in line with the principle of capital import neutrality.

Second, even though most EC countries practice double taxation relief by means of a credit system, they do not grant tax credits in excess of the amount of domestic tax on income earned abroad. When the tax rate in the host country of the subsidiary exceeds the tax rate of the parent company's home country, the subsidiary is thus effectively taxed at the rate prevailing in the host country. If such ceilings on tax credits did not exist, host countries would have an incentive to raise their tax rates on foreign investors without limit, since they could thereby soak revenue from foreign treasuries without deterring foreign investment.

Third, in the alternative case where the tax rate of the home country exceeds the rate prevailing in the host country, and where the limit on tax credits is therefore not operative, Hartman (1985) has shown that the tax system will nevertheless tend to work like a regime of capital import neutrality. This is due to the practice of "deferral" whereby the home country defers taxation of foreign–source income and the associated foreign tax credit until the time when the profits are repatriated from abroad. Under such circumstances the multinational will have an incentive to finance foreign direct investment by retained profits in foreign subsidiaries rather than via injections of new equity capital from the parent company. Moreover, the subsidiary's cost of capital can be shown to depend only on the host country tax rate, as would be the case under a pure exemption system (see Hartman, op.cit., or Sørensen, 1989, pp. 23–24).

This brief description of the present EC tax regime immediately suggests what would be necessary to achieve capital export neutrality: First, all countries would have to adopt the credit system of international double taxation relief. Second, the home countries of parent companies would have to grant unlimited tax credits, thus providing a refund to the company when taxes paid abroad exceed the domestic tax liability on foreign–source income. We noted above that the absence of limits on tax credits involves an incentive problem, since host countries will be tempted to levy (infinitely) high discriminatory taxes on foreign–owned corporations operating in their jurisdiction. This problem might be overcome by adhering to the principle of non–discrimination whereby governments have to impose the same tax rates on foreign–owned and domestically–owned corporations.

The third requirement for capital export neutrality in direct investment would be the abolition of deferral within the EC. Multinationals would then be taxed at the home country tax rate on all profits from their EC subsidiaries, whether these profits were repatriated or not. To guarantee equality of effective tax rates on domestic and foreign investment, the accounting rules of the home country would have to be applied in the calculation of foreign–source profits, so subsidiaries would have to prepare separate accounts to home–country and host–country tax authorities, as long as the rules for calculating taxable business income were not fully harmonized within the EC.

The abolition of deferral might have some controversial implications. For instance, neutrality would require that investment incentives offered by the home country such as accelerated depreciation should also apply to foreign investment and not just to domestic capital formation, as it is usually the practice today. It is also problematic that home–country tax authorities would have to rely on accounts submitted by foreign subsidiaries without being able to check this information through proper field audits. Thus increased cooperation between national tax administrations in the EC would probably be necessary.

If the above obstacles to the implementation of a pure credit system could be overcome, capital export neutrality in direct investment would prevail throughout the EC, despite national differences in effective corporate tax rates. However, it would probably be hard to retain substantial tax rate differentials. The reason is that EC multinationals would have an incentive to shift their country of legal "residence" to the member state applying the lowest effective corporate tax rate. In this way multinationals could minimize the total tax liability on their Community–wide income. Such a concentration of parent companies in "tax–haven" countries could inflict revenue losses not only on

higher–tax jurisdictions, but also on the low–tax countries which would have to grant unlimited credits for the foreign taxes paid by their "resident" multinationals. Both groups of countries might thus be induced to harmonize their corporate tax rates to prevent the shifting of legal residence.

To summarize: A pure credit system may imply capital export neutrality in the traditional sense, but it will not be neutral with respect to the location of parent companies in a highly integrated common market where multinationals can shift their headquarters from one country to another without large transactions costs. Thus the corporate tax system sketched above will probably not provide much room for cross–country corporate tax differentials, and it may be administratively difficult to operate. It is therefore tempting to conclude that the EC countries might as well harmonize their corporate tax rates completely through a coordinated supranational policy process rather than relying on piecemeal and possibly erratic harmonization via uncoordinated national tax reforms. With full harmonization of effective tax rates, capital export neutrality would be guaranteed; the cumbersome tax credit mechanismn would be superfluous, and the corporation tax could be levied according to a pure source principle.

III.6 Transfer–pricing and unitary taxation

Whether or not the EC countries decide for full harmonization of effective corporate income tax rates, they will have to find a satisfactory solution to the problem of dividing the corporate income tax base among them. At present, the tax code relies on separate accounts for each branch or subsidiary of a multinational group to determine where profits have been earned, and requires adherence to the so–called "arm's length" principle whereby transactions between the various parts of the firm should be priced in the same way as transactions with other firms. The trouble with this approach is that proper arm's length prices are often very hard to identify because there are no comparable open market prices for the transactions in question. In addition, it is often impossible to undertake an objectively correct allocation of common overhead costs among the various parts of the multinational.

For these reasons separate accounting may lead to a rather arbitrary international division of the worldwide profits of a multinational, causing an unfair international division of the revenue from corporate taxation. This problem is particularly severe when corporate tax rates differ across countries, because multinationals will then have an

incentive to shift profits from high–tax to low–tax jurisdictions by over– or underinvoicing ("transfer–pricing") and by allocation of overheads to subsidiaries in low–tax countries.

To limit the possibilities for transfer–pricing, tax authorities in many countries have imposed complicated rules for the determination of arm's length prices and for the allocation of overheads. These rules involve a heavy administrative burden for authorities and taxpayers, and sometimes they differ across jurisdictions so that it is simply impossible for the multinational to adhere to all the different national accounting rules simultaneously.

A preferable alternative to this messy situation is to adopt the system of "unitary taxation" applied in local corporate taxation in federations like Canada and the United States. Under such a system the corporate tax would be based on a pure source principle. To determine the "source" of corporate profits, the Community–wide profits of an EC multinational would be calculated according to a common set of accounting rules and would be allocated among EC countries according to a common apportionment formula. For instance, total profits could be allocated in proportion to the amount of capital and labor employed in the various member countries or in proportion to factor inputs and sales in the various jurisdictions, with appropriate weights being given to sales and factor inputs, respectively. In such a regime multinationals would clearly have no possibility of shifting taxable profits from one country to another through transfer–pricing.

Of course, since there is no objectively correct way of allocating the global profits of a highly integrated multinational group of firms, any choice of apportionment formula would involve an element of arbitrariness and would be a matter of political negotiation among the EC countries.[16] However, once member countries agreed to adhere to the same formula, there would be no further conflict over the distribution of the corporate tax base. By contrast, if each member country were to use its own apportionment formula, there might be an overlapping of national corporate tax bases, or part of the profits of multinationals might go untaxed.

While the adoption of unitary taxation could solve the problem of transfer–pricing and simplify corporate tax administration, it would not remove all distortions in international direct investment as long as national corporate tax rate differentials persisted. For instance, suppose the level of employment (the wage bill) in the various jurisdictions were part of the basis for the apportionment of total profits. By increasing employment

in low–tax jurisdictions and decreasing employment in high–tax countries, an EC multinational could then reallocate its total profits so as to reduce its total tax bill. In other words, the corporate tax would in part work like a hidden tax on labor in high–tax countries and like a hidden subsidy to labor in low–tax countries.[17] Alternatively, if the amount of capital invested were the only criterion for the apportionment of global profits across jurisdictions, investment in high–tax countries would be deterred – because a higher proportion of global profits would then be allocated to that country – while investment in "tax havens" would be stimulated.

The only way to avoid these distortions would be to have roughly identical corporate tax rates in all countries. Once again we are thus forced to conclude that the problems involved in international corporate taxation seem almost impossible to solve without a harmonization of corporate tax rates.

III.7. Are withholding taxes on border–crossing dividends a serious problem?

In 1975 the EC Commission did in fact propose that the corporate income tax rates of member countries should be harmonized within a band of 45–55% (COM (75) 392). The proposal was never implemented, but during the 1980s a process of tax competition has led to a lowering of the average level of nominal corporate tax rates and to some approximation of national rates in the EC. It is expected that a new harmonization proposal on corporate tax rates will be forthcoming, especially if member states accept the idea of harmonizing the business income tax base.

The Commission has not made any major attempts to harmonize the methods of international double taxation relief applied in direct foreign investment. Nor has it supported a move towards unitary taxation, even though this may become increasingly urgent as the weight of multinationals in EC production and trade continues to grow. However, reflecting its general concern with the double taxation of dividends, the Commission suggested already in 1969 that host countries should not impose any withholding taxes on dividends distributed from a subsidiary to a parent company in another member country. Would the adoption of this proposal significantly improve the allocation of resources within the EC?

Under a pure credit system of international double taxation relief, the elimination of withholding taxes would have no effect at all on the incentive for foreign investment, since the home country of the parent company would allow full credit for any

withholding taxes paid abroad. Under such a regime of capital export neutrality the withholding tax would only affect the international distribution of tax revenue. However, we have seen that in practice there are limits on tax credits, and some countries use the exemption system of double taxation relief rather than the credit system. Under these circumstances it is tempting to conclude that withholding taxes discourage foreign investment and contribute to an international misallocation of capital.

Yet this is not necessarily the case. Suppose that international double taxation relief is granted by means of exemption. Suppose further that a multinational considers whether to repatriate a unit of profits from a foreign subsidiary or to let the subsidiary retain the profit for investment abroad. In the case of immediate repatriation, the parent company will receive a net dividend of $(1-t_w)$, where t_w is the foreign withholding tax rate. If the profit is instead retained for investment abroad, and if the net return on this investment is repatriated after one year, the after–tax payment to the parent at that time will be $(1-t_w)[1+\rho(1-\tau)]$, where ρ is the pre–tax rate of return on the subsidiary's investment, and τ is the corporate tax rate in the host country of the subsidiary. We thus see that the ratio of the net dividend foregone by the parent company in the first year to the net dividend it receives in the second year is independent of the withholding tax rate t_w. Hence the after–tax rate of return to foreign investment will depend only on the foreign corporate tax rate τ when foreign investment is financed by retentions of subsidiaries.

The withholding tax will raise the cost of foreign investment only when this investment is financed by issues of new shares from the subsidiary to the parent. For this very reason multinationals in practice tend to finance the major part of foreign direct investment by retentions in subsidiaries rather than by injections of new equity capital from the parent (see Hartman, 1985). Consequently, withholding taxes seem to be a problem only when a new subsidiary has to be set up or when the retentions of the subsidiary cannot cover its need for equity capital. In fact, the effect of withholding taxes in the present context is quite parallel to the effect of the double taxation of dividends discussed in section III.3: If the need for equity finance can be met by retained profits, there is no reason to issue new shares, and then dividend taxes will not raise the cost of capital.

The conclusion is that the distortionary effects of withholding taxes on dividends from subsidiaries to parent companies have probably been overestimated. Also, these withholding taxes must be evaluated in conjunction with the ordinary corporate tax rates. If a high withholding tax rate only serves to compensate for a low corporate tax rate in some country, there may still be an appropriate incentive to set up new

subsidiaries in that country.[18]

The analysis of this section and of section III.3 above should not be taken to imply that elimination of the economic and international double taxation of dividends is not warranted. In fact such a tax reform would be desirable, mainly because it would eliminate tax discrimination against the establishment of new firms via issues of shares. However, our analysis does suggest that elimination of double taxation of dividends is probably of limited quantitative importance and therefore should be given lower priority than harmonization of business income tax bases and tax rates and introduction of unitary taxation. Moreover, the analysis of section III.3 indicates that elimination of double taxation would cause a rise in the market prices of shares and hence provide a windfall gain to existing shareholders. It would thus be natural to impose a special capital levy on these gains, at least in countries with very liberal capital gains tax rules.

III.8 Taxation of income from labor: Is there a need for harmonization?

Following this lengthy discussion of capital income taxes, let us briefly consider the need for harmonization of taxes on labor income within the EC. As table 9 reveals, there are at present substantial differences in personal income tax schedules in the Community. Yet these data do not provide all of the information needed to evaluate the tax disincentives to work in the various member countries. First of all, some countries are more generous than others in allowing deductions for work–related expenses and in the definition of such expenses. Second, and more important, member countries levy substantial social security taxes and in some cases also payroll taxes which contribute to the wedge between the gross wage paid by employers and the net wage received by employees. Third, differences in indirect tax rates contribute to international differences in the real purchasing power of net wages.

The OECD–figures in table 10 attempt to allow for all personal and impersonal direct taxes on labor income as well as indirect taxes. They relate to a socalled "average production worker", i.e. a person with an income level equal to the average of earnings of production workers in the manufacturing sector. Only standard deductions from the personal income tax base are allowed for, so the figures do not reflect international differences in the degree to which, say, mortgage interest payments may be deducted. The worker is assumed to be the only "breadwinner" in a married couple with two children, and all his earnings are assumed to be spent (now or later) on goods and services bearing a representative rate of indirect tax calculated as the ratio of total

indirect tax revenue to a measure of total consumption.

The total marginal effective tax wedge on labor is the difference between the gross labor cost to employers and the consumption available to employees from increasing labor input by an additional unit. The marginal effective tax rate is then the ratio of this marginal tax wedge to gross labor cost. The total average tax rate on labor is the total amount of direct and indirect tax relative to total gross compensation at the income level of the average production worker. Deviations of average and marginal tax rates reflect the progressivity of the tax system.

We see from table 10 that the total marginal effective tax rate on labor income in 1983 varied from a low of 44% in Portugal to a high of 73% in the Netherlands.[19] The latter country seems to have a highly progressive tax system, since its average effective tax rate was only 38%, despite its high marginal rate. Denmark stands out as the country having by far the highest average tax rate and also a very high marginal rate. In general the cross–country variations in average tax rates seem to be smaller than the variations in marginal rates.

In evaluating whether tax differentials like those illustrated in table 10 might cause workers to move from one EC country to another, thereby distorting the allocation of labor in the Community, we must of course also consider the expenditure side of the public budget. Except for certain special groups of workers to be considered in the next section, most wage earners have to live in the country where they work. Hence, with income taxation being based on the residence principle, a high level of taxation may be compensated by a high level of public services and transfers. If average tax rates reflect fairly well the value of these services and transfers to workers, cross–country variations in average rates of tax may not provide any incentive for labor migration but may simply reflect differing national preferences for public expenditure.

However, substantial differences in the degree of progressivity of the tax system may give rise to migration. If a country has a highly progressive income tax, reflected in a high marginal tax rate in the top income brackets and a low marginal rate at the bottom of the income scale, individuals with high incomes would have an incentive to emigrate, while foreigners with low incomes would be tempted to enter the country. If labor were highly mobile internationally, migration would sooner or later force the country to reduce the progressivity of its tax system since its public finances would otherwise become severely strained. In this way market forces might enforce tax harmonization, but in the meantime resources would have been wasted on migration. Moreover, chances are that

such tax competition would force countries with high preferences for income redistribution to adopt the tax systems of countries offering little or no such redistribution, i.e. the burden of adjustment might fall disproportionately on the former group of countries.

It might be objected that the scenario above is unrealistic, and that there is consequently no need for harmonization or coordination of taxes on labor, since the psychological and cultural barriers to international labor mobility are very high. This description of the current situation is certainly correct as far as most types of labor is concerned, but for certain strategic groups in high income brackets (business managers, academics, "entrepreneurs" of various kinds) the barriers to mobility are substantially lower. As the EC policy of mutual recognition of national educational diplomas is implemented, and as international student exchanges within the Community become more common, we are likely to see an increased mobility of many other categories of skilled labor.

Thus, while harmonization of labor income taxes does not seem very urgent at present, and while it is of course desirable to leave as much national sovereignty to member states as possible in this field, at least some amount of harmonization may become necessary in the not too distant future. One way of reducing the pressure for harmonization might be to base taxation on citizenship rather than residence. In that case a Dane moving to the UK to work there would continue to be taxed at the high Danish rates rather than the low British rates, as long as he retained his Danish citizenship. Since people are often more reluctant to change their citizenship than their residence, such a change of tax principles might reduce the influence of tax factors on the decision to migrate. Still, the Brits would probably wish to collect some taxes from the Danish immigrant, since he benefits from British public services. This problem could be handled by allowing the British authorities to collect an impersonal source tax from the resident Dane which he might credit against his Danish tax liability. The total amount of tax paid by the Dane would then continue to depend only on Danish tax law.[20]

III.9. Commission proposals for coordination of taxes on labor

At present the EC Commission has no plans for a general harmonization of taxes on labor income, but it has proposed rules for coordination of taxes on two special types of internationally mobile labor: (a) "Frontier workers" who live on one side of the nearby

border and work on the other side, and (b) "Other non–resident workers" who spend part of the year living and working in a foreign country, and the remaining time living and working in their home country.

According to the Commission proposals, frontier workers are to be taxed in their country of residence, with full credit being given for any personal income tax which may have been collected by their country of employment. As Ulph (1987) has demonstrated, such a tax regime will guarantee an efficient allocation of labor under the following set of conditions: Frontier workers must be indifferent between working on one or the other side of the border; transport costs must be tax–deductible; no payroll taxes must be collected by the country of employment; and employers must operate in competitive output markets. Under these circumstances the pre–tax marginal product of labor can be shown to be the same on each side of the border, and consequently no output gain can be made by reallocating the stock of frontier workers. Ulph (op.cit.) proceeds to show that if transport costs are negligible, efficiency can also be obtained in the presence of source–based payroll taxes, provided the rate of payroll tax is the same on both sides of the border, and full credit is granted for any personal income taxes paid abroad.

Ulph's analysis thus suggests that the Commission proposal to grant unlimited tax credits for personal taxes will tend to promote efficiency in the allocation of frontier workers, but that some harmonization of EC payroll taxes may also be desirable, at least from a narrow efficiency point of view.

For "other non–resident workers" the Commission has proposed a different set of rules: These workers are to be taxed in the country of employment on terms no less favorable than those applied to that country's own resident workers. Tax reliefs are to be applied pro rata of the proportion of time spent working in the member state.

It is hard to see the economic rationale for this proposal. As Ulph (op.cit., p. 315) notes, one wonders why frontier workers should be taxed on the basis of residency and others on the basis of employment and why the latter group should not be granted full tax credits?

IV. SUMMARY

The main conclusions of this paper may now be summarized as follows:

1. The background to the current plans for tax harmonization in the EC is the decision by member countries to create a single market with completely free mobility of commodities and factor inputs before the end of 1992.

2. In theory it should be possible for EC member states to maintain different rates of tax without distorting the international allocation of resources, if they apply the destination principle in indirect taxation and the residence principle in direct taxation. Under the destination principle commodities are taxed in the country of consumption rather than the country of production. Under the residence principle taxpayers are taxed on their worldwide income by their country of residence. However, serious practical obstacles to the strict enforcement of these principles exist, and hence the problem of tax harmonization in the EC becomes increasingly urgent as economic integration proceeds.

3. At present the destination principle in indirect taxation is implemented through border tax adjustments ensuring that exported goods leave the country free of tax and that indirect tax is levied on imported goods. The plans for the Internal Market require that national frontier controls and the associated customs procedures must be abolished. This will require profound changes in the administration of indirect taxes.

4. In 1987 the EC Commission proposed to abolish border tax adjustments in the taxation of value–added. According to the proposal, exports from one member state to another should be taxed at the exporting country's rate of VAT, and importers should be allowed to deduct this VAT on their imported inputs from the VAT on the sales of their output. In this way consumer prices would be unaffected relative to the present situation, but a redistribution of VAT revenue among member states would result.

5. To avoid this redistribution of VAT revenue, the Commission proposed to set up a central EC Clearing House. Under this clearing mechanism, each country would calculate the difference between the total amount of VAT collected on exports and the total refunds of import VAT. If the difference were positive, it should be paid to the Clearing House; if it were negative, it should be refunded from the House.

6. A main problem with the above clearing mechanism is that national tax authorities have no incentive to check the taxpayers' claims for refund of import VAT, and that extensive cooperation between national tax administrations will be needed. To avoid the incentive problem, the Commission recently proposed a "macroeconomic" clearing mechanism based on foreign trade statistics, but this would require quite reliable statistics. As an alternative, member states seem to prefer a variant of the socalled Deferred Payment Scheme applied in the VAT administration of the Benelux countries. Under this scheme the zero–rating of exports is retained, relying on documentary evidence from firms rather than border controls, and the collection of import VAT is shifted away from the border to the first taxable unit in the importing country. Ultimately, the position taken by member states may reflect concern that the Commission and the European Parliament wish to appropriate the VAT as an "own" source of revenue for the EC.

7. To administer excise taxes without border controls, the EC Commission has proposed that dutiable goods should be able to travel under seal free of tax between member countries, as long as the goods stay within a system of linked bonded warehouses (storage facilities). Excise tax will become due only when the taxable product leaves a bonded warehouse for retail sale. To ensure that dutiable goods are actually sold in the country where tax has been paid, some kind of physical marking of the goods (tax stamps, banderoles etc.) will probably be necessary.

8. If border controls are eliminated, and VAT is imposed on exports, the possibilities for consumers to make their purchases in low–tax countries will greatly increase, and non–registered traders will have an incentive to import from countries with low rates of VAT. To avoid the ensuing distortions of trade, the Commission finds that some harmonization of the VAT rates applied by member states is necessary. According to the Commission's 1987 proposal, the VAT on most goods and services should be between 14 and 20%, while foodstuffs and certain other necessities should be taxed at rates between 4 and 9%. In choosing these rate bands, the Commission has hoped to minimize the rate adjustments required by member states.

9. The abolition of border controls would also encourage increased border trade in exciseable goods, given the large existing differentials in national rates of excise tax. In 1987 the Commission proposed a complete harmonization of excises on tobacco, alcohol and mineral oils and an abolition of all other excises which cannot be administered without border controls. The arguments for complete harmonization are that national differences in excise duties would amplify the effects of differentials in VAT rates, and

that harmonization would prevent member countries from using excises for protectionist purposes.

10. The Commission's 1987–proposals on indirect tax rates have met with severe criticism from several member states. It has been argued that the proposed rates of excise duty do not allow countries to pursue their own long–standing goals of health policy, environmental policy, energy policy etc. In particular, it has been claimed that only minimum rates of indirect tax are needed, since countries imposing higher rates of tax will bear the costs of doing so themselves, in the form of loss of border trade, balance of payments difficulties etc. Although this argument is fully valid only when the high–tax country is small relative to neighboring member countries, it does have some merit.

11. Faced with these criticisms, the Commission has indicated in 1989 that it is willing to give up complete harmonization and switch to a strategy of setting minimum rates of indirect tax, at least for the time being. However, the goal of abolishing border controls by the end of 1992 is retained, so the pressure from increased border trade and direct consumer purchases abroad will probably lead to further harmonization of indirect taxes through market forces rather than through EC directives.

12. The literature on international coordination of direct taxes distinguishes between two main criteria for international efficiency in the taxation of income from capital: (a) Capital export neutrality is said to obtain when the tax system provides no incentive to invest in one country rather than another. This may be achieved if the taxpayer's residence country taxes his worldwide income and grants full and immediate credit for any taxes paid abroad. (b) Capital import neutrality is said to prevail when all suppliers of capital to a given national market pay the same effective rate of tax on the return to that capital. This will be guaranteed if foreign–source income is exempt from tax in the residence country, and if the source country does not practice tax discrimination between foreign and domestic investors.

13. Capital export neutrality and capital import neutrality can be achieved simultaneously only if effective capital income tax rates are the same in all countries. If this condition cannot be met, because countries do not wish to give up national sovereignty in capital income taxation, it can be argued that capital export neutrality should take precedence over capital import neutrality as the norm for international and EC tax coordination. The main arguments are that capital export neutrality is consistent with international production efficiency and with the goal of horizontal equity among

taxpayers.

14. To guarantee capital export neutrality in international portfolio investment, the EC countries will have to enforce the residence principle of interest income taxation and to ensure that taxable business profits correspond to true economic profits. To meet the latter requirement, depreciation allowances must correspond to true economic depreciation, and the present investment incentives granted by most member countries must be abolished.

15. In theory the EC countries apply the residence principle in the taxation of interest income, but in practice enforcement of taxes on interest is lax in several member states. In particular, it may be hard for tax authorities to reach interest income earned abroad. A cross–country equalization of pre–tax interest rates through capital mobility is therefore difficult to achieve, although it would be required for an efficient allocation of capital in the Community. To improve tax enforcement, the EC Commission has proposed that all countries should impose a minimum rate of withholding tax of 15% on interest income, but some member states have found this to be unacceptable.

16. A draft proposal to harmonize the rules for the calculation of taxable business income has been prepared by the EC Commission. The Commission wishes depreciation allowances to approximate true economic depreciation, in line with the requirements for capital export neutrality. However, since the proposal does not apply consistent nominal or real income accounting in the calculation of taxable profits, it does not take the full step towards neutrality.

17. In 1975 the Commission proposed to harmonize the degree of integration of corporate and personal income taxes in member states. All member countries were asked to adopt the socalled imputation system whereby a (partial) credit for the corporate tax on distributed profits is deducted from the personal tax on the shareholder's dividend income. Yet such harmonization of corporate–personal income tax integration is not necessary to achieve capital export neutrality in international portfolio investment in shares, provided firms use the cheapest sources of finance, and provided the countries applying the imputation system extend their dividend tax credits to foreign holders of domestic shares, as the Commission did in fact propose. However, to guarantee inter–nation equity, the residence countries of foreign shareholders should grant a refund for the tax credits extended by source countries.

18. As far as direct foreign investment by multinational corporations is concerned, the

present tax regime in the EC approximates the norm of capital import neutrality rather than capital export neutrality. There are three reasons for this: First, in many cases a parent company is exempt from domestic tax on the profits of foreign subsidiaries. Second, in cases where the home country taxes the multinational on its worldwide income and grants a credit for taxes paid abroad, this credit is limited to the amount of domestic tax on the foreign profits. Thus the company pays the domestic or the foreign tax rate on its foreign profits, whichever is higher. Third, domestic tax on the profits of foreign subsidiaries is deferred until the time when these profits are repatriated to the parent company. This means that only the foreign corporate tax rate is relevant for the profitability of foreign investment financed by the retained profits of a subsidiary.

19. To guarantee capital export neutrality in direct foreign investment within the EC, all countries would have to adopt the credit system of international double taxation relief; they would have to grant unlimited credits for the taxes paid to other member states by their "resident" multinationals, and they would have to abolish the deferral of domestic taxation of foreign subsidiaries. There are two main drawbacks of such a regime. First, it would be difficult to administer. Second, EC multinationals would have an incentive to shift their headquarter (their country of "residence") to member states with low corporate tax rates in order to minimize their total tax bill. Such shifting of residence could inflict revenue losses on all EC countries and might induce them to harmonize their corporate tax rates.

21. The present EC tax code relies on separate accounts from each subsidiary of a multinational group to determine the source of the total profits earned by the multinational. This practice leaves considerable opportunities for multinationals to shift taxable profits from high–tax to low–tax jurisdictions by means of transfer–pricing. Tax authorities have reacted by developing highly complex tax rules for determining socalled "arm's length" prices to be used in intra–company transactions, and often multinationals are unable to adhere simultaneously to the different rules used by different countries.

22. An alternative to this dissatisfactory tax regime might be to adopt the system of "unitary taxation" used in local corporate taxation in the United States and Canada. Under this system the corporate tax is based on a pure source principle, and the total worldwide profits of the multinational are allocated among jurisdictions according to a common apportionment formula. The formula could apportion profits in proportion to factor inputs and sales in the various member states. However, while such unitary taxation would eliminate opportunities for transfer–pricing, it would still distort the

multinational's demand for the factors entering the apportionment formula, as long as international differentials in corporate tax rates persisted.

23. To alleviate international double taxation within the Community, the EC Commission has proposed that withholding taxes on dividends paid from a subsidiary in one member state to a parent company resident in another member state should be abolished. It can be shown that such a reform would have no impact on the incentive to undertake foreign direct investment by means of retained profits in foreign subsidiaries, but it would improve the incentive for investment financed by injection of new equity capital from the parent company. However, since the latter source of finance seems quantitavely insignificant, no great efficiency gains from the abolition of withholding taxes should be expected.

24. Harmonization of taxes on labor income in the EC does not seem very urgent at present, since the international mobility of labor is still very low. Yet, labor mobility – especially for some strategic types of labor – may rise significantly in the not too distant future, as the internationalization of higher education proceeds and the mutual recognition of educational diplomas is implemented. The question of harmonization will then become more pressing.

25. International differences in average effective tax rates on labor income hardly provide very strong incentives for migration, because they tend to be compensated by corresponding differences in the level of public services and income transfers. However, differences in marginal effective tax rates – reflecting differing degrees of progressivity of the tax system – will tend to cause emigration of high–income individuals from countries committed to a high degree of income redistribution via the public budget. Such tendencies might be checked if taxpayers owed their primary tax allegiance to their country of citizenship rather than to their country of residence.

FOOTNOTES

1) A good "progress report" on the implementation of Europe's Internal Market can be found in the July 8 issue of The Economist.

2) Numerous references could be given here, but let us just note that Cnossen (1987) has collected an important set of recent contributions to the literature on EC tax harmonization.

3) The point that the residence and destination principles enable countries to impose different rates of tax was previously stressed by Sinn (1989).

4) It is well–known that the traditional measure of tax revenue relative to GDP shown in table 1 can give a rather misleading picture of cross–country differences in tax burdens. For instance, the traditional measure of tax burden will be higher in countries which prefer to redistribute income by means of direct government transfers than in countries where such redistribution takes the form of tax expenditures (special deductions from the tax base etc.). Also, the measure of tax burden will be higher in countries where transfer payments are taxable income than in those countries where transfers are granted on a "net" basis, free of tax.

5) This study is described in European Economy, no. 35, March 1988, pp. 48–49.

6) The supply effects indicated in table 2 also include the expected efficiency gains from harmonization and mutual recognition of technical standards and health and safety regulations.

7) On the other hand, one can also construct numerical examples to show that the incentive to keep transactions off the books will be reduced for VAT–registered importers in low–tax countries. It is therefore unclear whether the total amount of fraud will necessarily increase.

8) A good survey of the theory of optimal commodity taxation can be found in Sandmo (1976).

9) These criteria are explained and discussed in greater detail in Sørensen (1989).

10) An up–to–date survey of recent estimates of savings elasticities is contained in Smith (1989).

11) See e.g. the survey of optimal tax theory by Auerbach (1985).

12) This is demonstrated in ch. 4 of Sinn (1987).

13) In 1987 Denmark abolished the principle of global income taxation and adopted a tax system based on (roughly) proportional taxation of income from capital and progressive taxation of income from other sources. The motivation for this reform was a desire to reduce possibilities for tax arbitrage and to stimulate private savings.

14) Sinn (1987, pp. 92 and 98) cites evidence supporting this statement.

15) A thorough analysis of the American system of unitary taxation can be found in McLure (1984). The Canadian system is well described by Boadway (1989).

16) McLure (1989) warns that a division of corporate tax bases based on formula apportionment will not necessarily yield a fair outcome in all industries. Thus he believes that separate accounting will be more appropriate in the international division of the profits of oil companies.

17) This is demonstrated formally in McLure (1980) and Sørensen (1989).

18) Withholding taxes on dividends paid out to foreign portfolio investors may be problem, however, in so far as they are not creditable in the investor's home country. Since these taxes are paid only by foreign investors, they will not be fully capitalized in share prices and hence will tend to deter foreign investors from the domestic stock market.

19) As noted in the headline of table 10, these data refer to the situation in 1983. Since then, important tax reforms have taken place in most EC countries, but unfortunately more recent OECD data corresponding to those in table 10 were not available.

20) Sinn proposes a rather radical variant of a tax system based on citizenship: His idea is that people should make a binding once–and–for–all choice of citizenship while they are young, before they have a firm basis for calculating their expected future net payments to or from the government. In this way the choice of country of tax allegiance would not be distorted by tax factors, and countries with strong preferences for income redistribution could maintain progressive tax–transfer systems despite high international mobility of labor. While interesting, this proposal will hardly be politically acceptable in the foreseeable future.

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TABLE 1. Tax burdens and tax structures in the EEC.
Taxes in per cent of GDP at factor cost, 1986.

	DK	L	F	B	NL	UK	IRL	D	GR	I[c]	E
1. Income taxes	29.3	14.7	7.6	16.9	10.2	12.7	15.5	11.9	6.1	10.1	6.6
2. Social security taxes	1.8	13.9	21.5	16.9	21.4	8.2	6.4	15.5	13.5	12.9	14.6
3. Corporation taxes[a]	2.2	8.8	2.4	3.0	3.3	4.6	1.7	2.3	1.2	2.7	1.5
4. Commodity taxes	21.4	13.3	14.8	12.1	13.0	14.1	19.9	10.5	18.8	9.4	11.9
5. Other taxes[b]	4.2	3.4	3.9	1.0	2.0	5.9	1.7	1.3	1.3	1.3	2.0
6. Total	59.0	54.0	50.3	50.0	49.0	45.5	45.5	41.6	41.0	36.4	36.7

[a] Average over the period 1980 - 1986
[b] Taxes on property and wealth, user charges etc.
[c] Data for 1985

Source: OECD Revenue Statistics, 1988. Figures for Portugal are excluded because of lack of data.

Table 2.

Macroeconomic consequences of completion of the internal market: Community as a whole in the medium term

	Frontier controls	Public procurement	Financial services	Supply effects[1]	Total	
					Average	Range
Relative change						
As % of GDP	0,4	0,5	1,5	2,1	4,5	(3,2 to 5,7)
Consumer prices	−1,0	−1,4	−1,4	−2,3	−6,1	(−4,5 to −7,7)
Absolute change						
Employment (× 1 000)	200	350	400	850	1 800	(1 300 to 2 300)
General government borrowing requirement as a % of GDP	0,2	0,3	1,1	0,6	2,2	(1,5 to 3,0)
External balance as a % of GDP	0,2	0,1	0,3	0,4	1,0	(0,7 to 1,3)

[1] Scenario including the supply effects estimated by the consultants, the economies of scale phenomena (industry) and the competition effects (monopoly rents, X-inefficiency).

Source: Hermes and Interlink models. The Interlink simulations were conducted within the Commission services and the OECD is in no way responsible for them.

Source: European Economy, No. 35, March 1988, table 10.2.1.

Table 3. Value-added tax rates (%) in the EC, as of January 1, 1989.

	Reduced rate	Standard rate	Higher rate	Weighted average
Belgium	1, 6 and 17	19	25 and 33	14.8 (1985)
Denmark	-	22	-	22.0 (1989)
France	5.5	18.6	28	16.0 (1986)
Greece	6	18	36	n.a.
Ireland	0, 2, 4 and 10	25	-	14.9 (1986)
Italy	2 and 9	18	38	12.6 (1985)
Luxembourg	3 and 6	12	-	9.3 (1985)
Netherlands	6	18.5	-	15.0 (1985)
Portugal	8	16	30	n.a.
Spain	6	12	33	10.2 (1986)
United Kingdom	0	15	-	9.9 (1986)
West Germany	7	14	-	12.5 (1986)
Commission proposal	4 - 9	14 - 20	-	

Source: Økonomiministeriet et alia: "Redegørelse vedr. dansk afgiftspolitik og det Indre Marked", 1989, p. 29, and EF-Avisen, no. 3, March 19, 1989.

Table 4. Excise tax rates in the EC

	Alcohol (40%)[a] (ECU per litre)	Wine[a] (ECU per litre)	Beer[a] (ECU per litre)	Cigarettes[b] (ECU per 20)	Cigarettes[b] Ad valorem (%)[1]	Petrol[c] (ECU per litre)
Belgium	5,20	0,34	0,13	0,05	66	0,25
Denmark	13,28	1,59	0,61	1,53	39	0,46
France	3,87	0,03	0,03	0,03	71	0,42
Greece	0,39	0	0,08	0,01	60	0,33
Ireland	10,05	2,57	0,85	0,98	34	0,37
Italy	1,15	0	0,20	0,04	69	0,55
Luxembourg	0,83	0,14	0,51	0,03	64	0,20
Netherlands	5,45	0,36	0,20	0,52	36	0,34
Portugal	1,92	0	0,07	0,05	67	0,27
Spain	1,92	0	0,03	0,02	53	0,33
United Kingdom	9,55	1,55	0,52	0,96	34	0,31
West Germany	4,91	0	0,07	0,55	44	0,25
Commission proposals						
1987-proposal	5,08	0,17	0,17	0,39	52-54	0,34
1989-proposal						
Minimum rate	4,47	0,09	0,09	0,30	45	0,34
Target rate	5,59	0,19	0,19	0,43	54	n.a.

a. Rates as of July 1, 1988. b. Rates as of January 1, 1988. c. Rates as of September 1, 1988.

1. Sum of ad valorem excise duty and of the VAT as per cent of the retail price.

Sources: Information supplied by the Danish Ministry of Economic Affairs and the Danish Ministry of Taxation.

Table 5. Revenue Consequences of Indirect Tax Harmonization, Assuming Unchanged Spending Patterns

Based on 1984 revenues and spending

	CHANGE IN REVENUE FROM EXCISE DUTIES AND VAT	
	As percentage of indirect tax receipts	As percentage of total tax receipts
Belgium	+ 3	+ 0.7
Denmark	- 27	- 9.5
France	- 6	- 1.7
W. Germany	+ 6	+ 1.6
Ireland	- 10	- 4.4
Italy	- 3	- 0.8
Netherlands	+ 6	+ 1.4
UK	+ 2	+ 0.6

Source: Lee, Pearson and Smith (1988, table 6.2).

Table 6. Main rules for determining taxable business income in the EC, around 1988

	Depreciation allowances (%)[1]		Valuation of Inventories[2]	Loss offset[3]	Realized capital gains
	Equipment	Structures			
Belgium	20(L, DB)	5(L)	LIFO	5-year CF	Partly taxable
Denmark	30(DB)*	2-6(L)*	FIFO	5-year CF	Partly taxable
France	10-20(L), 30(DB)	2-5(L)	FIFO	5-year CF, 3-year CB	Partly taxable
Greece	10-15(L)	5-8(L)	LIFO	3-5 year CF	Partly taxable
Ireland	10-25(DB)**	4-10(L)**	FIFO	Unlimited CF	Partly taxable
Italy	10-33(L)	3-10(L)	LIFO	5-year CF	Taxable
Luxembourg	20(L), 30(DB)	1.5-5(L)	LIFO	5-year CF	Taxable
Netherlands	10-20(L)	2.5-4(L)	LIFO	8-year CF, 3-year CB	Taxable
Portugal	10-15(L)	2-4(L)	n.a.	5-year CF	Partly taxable
Spain	8-15(L)	2-3(L)	FIFO	5-year CF	Taxable
United Kingdom	25(DB)	4(L)	FIFO	Unlimit. CF, 1-year CB	Partly taxable
West Germany	20(L), 30(DB)	1,5-5(L)	LIFO	5-year CF	Taxable
Commission proposal	L, DB, rates approximating true economic depreciation		FIFO or LIFO	Unlimited CF, 3-year CB	Taxable

1. L = linear depreciation schedule. DB = declining balance.
2. LIFO = Last-In-First-Out. FIFO = First-In-First-Out.
3. CF = carry-forward of losses. CB = carry-back of losses.

* Depreciation allowance calculated on an indexed base.
** First-year depreciation allowance is 50% for equipment and industrial structures.

Source: Arthur Andersen and Co.: "Western Europe: A Tax Tour", 1987, plus information from the Danish Ministry of Taxation.

Table 7. Witholding tax rates (%) on interest income in the EC, 1987

Payment from \ Payment to	Belgium	Denmark	France	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	United Kingdom	West Germany
Belgium	25	15	15	10	15	15	0	0	15	15	15	0
Denmark	0	0	0	0	0	0	0	0	0	0	0	0
France	15[a]	0	0	a	0	15[a]	10[a]	10[a]	12[a]	10	10[a]	0
Greece	25-49	25-49	10	25-49	25-49	10	25-49	10	25-49	25-49	0	10
Ireland	15	0	0	35	35	10	0	0	35	35	0	0
Italy	15	15	15	10	10	12.5[a]	10[a]	15	15	12	a	0[a]
Luxembourg	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0	0	0
Portugal	15	15	12	30[b]	30[b]	12[b]	30[b]	30[b]	30[b]	15	10	15
Spain	15	10	10	20	20	12	10	10	15	20	12	10
United Kingdom	15	0	10	0	0	27	0	0	10	12	27	0
West Germany	15[c]	0	0	10[c]	0	25	0	0	15[c]	10[c]	0	0[c]

a. Special provisions apply. b. 15% on deposit interest. c. There are certain exceptions.

Source: Arthur Andersen and Co.: "Western Europe: A Tax Tour", 1987.

Table 8. Corporate tax rates and methods of double taxation relief in the EEC around 1989

	Corporate tax rate (%)[1]	Relationship to personal income tax[2]	Dividend credit extended to foreign portfolio investors	Taxation of income from foreign subsidiaries
Belgium	43	Classical	No	Credit with deferral (E)
Denmark	50	Partial imputation	No	Credit with deferral (E)
France	39/42[a]	Partial imputation	Yes	Exemption
Greece	40/0[a]	Dividend deduction	-	Credit with deferral
Ireland	10/43[b]	Partial imputation	No	Credit with deferral
Italy	46	Full imputation	No	Credit with deferral
Luxembourg	41	Classical	-	Credit without deferral
Netherlands	40/35[c]	Classical	-	Exemption
Portugal	39	Classical	-	Deduction[e]
Spain	35	Classical	-	Credit with deferral
United Kingdom	25/35[d]	Partial imputation	Yes	Credit with deferral
West Germany	58/47[a] (1990)	Full imputation	No	Credit with deferral

1. Where substantial local corporate taxes are levied, these are included in the tax rates reported.
2. "Partial (full) imputation" means that shareholders are given partial (full) credit for the corporate tax on distributed profits.

a. Rate for retained profits/rate for distributed profits. b. Rate for manufacturing companies/standard rate.
c. Degressive rate schedule. d. Progressive rate schedule. e. In the absence of a tax treaty, taxes paid abroad are deductible from the foreign profits taxable at home. Treaties allow credit with deferral.
E: Most tax treaties provide for full exemption.

Sources: Bird (1987), Alworth (1988), Meldgaard (1989).

Table 9. Personal income taxation for single earners in the EC around 1989

	Marginal tax rates (%)[a]	Exemption level [b]	Lower Limit of top tax bracket [b]	Deductibility of interest on	
				Home mortgages	Other debts
Belgium	32-62	30.700	280.000	Yes, limited	No
Denmark	50-68	28.000	220.000	Yes, limited	Yes, limited
France	5-57	38.000	266.000	Yes, limited	No
Greece	18-50	15.700	245.000	No	No
Ireland	32-56	21.000	96.000	Yes, limited	No
Italy	12-50	5.300	800.000	Yes, limited	No
Luxembourg	10-56	4.500	240.000	Yes	Yes
Netherlands (1990)	35-60	15.500	286.000	Yes	Yes, limited
Portugal	16-40	16.500	141.000	Yes	No
Spain	8-66	29.000	690.000	No, but special tax rebate for home purchases	
United Kingdom	25-40	33.200	256.000	Yes, limited	No
West Germany (1990)	19-53	22.000	430.000	No	No

a. Including local taxes. b. Income levels stated in Danish Kroner.

Sources: Arbejderbevægelsens Erhvervsråd (1989, p. 47), Arthur Andersen and Co. (1987), and Meldgaard (1989).

Table 10. Average and marginal effective tax rates on labor income of an average production worker in the EC, 1983*

	Total average effective tax rate (%)	Total marginal effective tax rate (%)	Contribution to marginal effective tax rate from			
			Payroll tax	Social security tax	Personal income tax	Indirect taxes
Belgium	48	62	0	28	25	8
Denmark	53	71	0	4	56	11
France	46	60	5	40	6	10
Ireland	45	64	0	18	31	14
Italy	49	63	0	37	18	7
Luxembourg	33	51	1	26	14	10
Netherlands	38	73	0	51	17	6
Portugal	37	44	0	27	4	13
Spain	36	47	0	28	14	5
United Kingdom	39	55	1	17	27	9
West Germany	37	57	0	30	19	8

* The figures relate to a single-earner married couple with two children. Only standard deductions from the personal income tax base are allowed for. Figures for Greece were not available.
Source: McKee, Visser and Saunders (1986).

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