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Tax Competition and the Internal Market

by

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1. Introduction.

As originally proposed the European Community’s Internal Market envisaged a high degree of tax harmonisation across member states. However to date the only real consensus is in the area of indirect taxation where the Community has agreed that each member state should operate two rates of value added tax - standard and reduced with respective minimums of 15% and 5%. There is no agreed programme of harmonisation for either excises or the direct taxation of incomes and profits. Likewise agreement on the taxation of real and financial assets has yet to be finalised. Despite this apparent failure to implement fully the complete tax harmonisation programme, the removal on non-tariff trade barriers combined with the elimination of customs frontiers and restrictions on capital movements may nevertheless create a more competitive environment between fiscal authorities leading to a degree of approximation, or convergence, of tax rates within the Community.

Hence in the absence of a fully agreed and coordinated Community policy, tax approximation rather than harmonisation has been accepted as the basis of short term progress in implementing the Internal Market Programme. Approximation, however, implies that individual countries will retain the right to order their internal tax structures as they wish subject to the constraints of non-discriminatory distortion of trade or of factor movements, and subject to some tax-band guide-lines in the case of VAT and excises. The guidelines as already agreed for indirect taxes leave plenty of room for inter-state variation in tax rates. In practice this apparent fiscal autonomy will be restricted by government budget constraints and the freedom of households and firms to locate purchases and production so as to minimise tax burdens. Hence EC governments are likely to find themselves operating in a regime characterised by increased tax competition.

In this paper we explore the possible implications of increased tax competition at two levels - inter-state and intra-state. The former refers to effects on relative tax rates between member

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1 By harmonisation we mean an agreed policy on the level and method of taxation in the EC. Approximation, on the other hand, implies an element of convergence driven by competition between fiscal authorities, subject to general guidelines as to upper and lower limits and the breadth of the tax base.
states while the latter is concerned with implications for different tiers of government within a given state. As a preliminary to this analysis Section 2 considers the nature of tax collusion and tax competition. Section 3 deals with the implications of greater tax competition between countries while Section 4 analyses the implications of tax competition for different tiers of government within a given member state. A summary and conclusions are given in the final section.

2. Tax Competition.

Non-cooperative, or non-coordinated, tax competition (NCTC) exists when individual fiscal authorities set rates of taxation and benefits (provision of public goods, etc.) without regard to the effects on other fiscal jurisdictions. Standard theoretical models of tax competition normally assume that fiscal authorities in each state or region will select rates of taxation and benefits which maximise the economic welfare, or utility, of their own residents subject to a given financing constraint\(^2\). An essential feature of this approach is that the welfare of non-residents does not enter the domestic authority’s objective function with the consequence that external effects on other fiscal jurisdictions are ignored in the decision making process. Hence NCTC may lead to externalities which reduce economic welfare for the aggregate of fiscal jurisdictions even though it maximises welfare within each jurisdiction conditional on policies pursued elsewhere.

NCTC results in significant spill-over effects when individual fiscal authorities are concerned with their own revenues but not those of other authorities. With free movement of goods, services, labour and capital, tax changes in one state will affect the revenues in competing states. Increasing taxes in A shifts output demand and/or factor supply to B. The tax base and revenues in A will contract while those in B will expand. If tax policy were centralised or if there existed a coordinating body this effect would be taken into account in determining rates of tax. However when tax policy is decentralised individual authorities will compete for the tax base with the consequence that tax rates may be lower than in the coordinated case. For example suppose there is a given supply of capital which is freely mobile between states. A coordinated policy aimed at achieving an efficient allocation of capital would choose a common rate of capital tax so as not to distort investment decisions with the revenue redistributed towards states where the pre-tax return is relatively low. However in a NCTC environment individual authorities will compete for the available supply of capital and the tax base via low and distorting differential tax rates.

A simple, but instructive, example is the decision of the Irish Government, motivated by the liberalisation of capital movements in the EC, to introduce a low rate of withholding tax for interest earned on specified types of savings. In the absence of this change the Irish tax base would contract but those of other EC countries, with lower tax rates, would expand. Hence the welfare implications for Ireland (the individual fiscal authority) would be different from the EC as a whole. In the same context, consider the preferential taxation of profits in Ireland in the manufacturing sector. This was introduced to replace export tax relief and to permit a reduction in the degree to which industrial development was dependent on attracting foreign investment by means of direct grants. As a measure designed, inter alia, to encourage a capital
inflow it has the implication that if capital can be used more productively in other EC countries the Irish policy may impose losses on the Community even if Irish residents gain by the action.

It is also worth noting that industrial restructuring and a greater degree of concentration has been identified as being crucial to the success of the single market if it is to deliver major gains via exploitation of scale economies. In theory this should imply that capital will be concentrated in the regions of the Community where it is most productive. However in practice it is likely that governments will compete for the location of "Euro-industries". In the absence of a coordinated policy for capital and corporate taxes relatively inefficient countries may attempt to protect their existing industrial base via a tax policy which compensates for differences in productivity.

Viewing taxes on transactions and/or factor supplies as prices for the supply of public sector outputs helps us to reinterpret the problems of tax harmonisation, approximation and competition. Governments may be regarded as either exacting a charge for the right to do business within their jurisdictions or as supplying public sector outputs which in some sense are an input into private sector production. To the extent that production/consumption is mobile as between jurisdictions (and/or substitutable for non-taxable activities) governments face competition as they seek to extract tax revenues from producers and consumers. In particular, they face competition from other tax jurisdictions. Geographic and other factors which differentiate jurisdictions imply that governments may be thought of as competing in a market which has a relatively small number of suppliers, and with very limited potential for entry.
In this context NCTC may be treated as analogous to non-collusive behaviour by oligopolistic firms. The "market" in which they compete is that of the provision of an environment for production and consumption by private sector firms and households. The output can be viewed as the provision of inputs to consumption and/or simply permitting production or consumption to be undertaken (a legalised protection racket!). The price dimension of the market is the vector of taxes.

There are two basic economic models of competition between oligopolistic firms. The first of these, is the "Cournot" model, named after a French economist of the first half of the 19th century, who analysed competition between duopolists. He assumed that each firm decided on a quantity to produce and accepted whatever price would clear the market. The second model is the "Bertrand" model in which the firm is viewed as deciding on a price and letting market demand decide the level of output. Steel producers are pretty certain to be Cournot competitors; supermarkets or insurance companies are best thought of as Bertrand competitors.

In the case of Cournot competition, by and large, coalitions between firms which do not cover the entire market (or at least a very large proportion of it) which seek to increase profits by restricting output fail in their objective as firms outside the coalition respond by increasing their output. Under Bertrand competition, however, a merger between a sub-group of firms (the ultimate form of coalition) will increase prices and profitability for all firms.\(^3\) The gains are, however, not necessarily proportionately shared between the participants, unless a pre-

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\(^3\) In the language of game theoretic economics there are gains to be made by moving away from a non-collusive Bertrand-Nash equilibrium.
agreed set of side-payments is established. Furthermore, to the degree that the firms’ products are close substitutes, the old problem of cartel stability emerges, since Bertrand competition tends to drive prices and profitability down towards competitive levels again. Finally, some “firms” in the tax harmonisation case may not desire to increase "profitability" (despite the best efforts of the management/bureaucracy): a desire to curb public spending by restricting the growth of taxation was certainly one of the motives underlying Britain’s obstructive attitude under Mrs. Thatcher during the debates on harmonisation between 1986 and 1990.

Cournot competition in the present context would imply that governments decide on a level of public sector output first, and then seek to find ways to finance it. This is the way politicians prefer in general to present their activities. Bertrand competition would imply that a government chooses a vector of tax rates with a view to raising revenue and then spends whatever it can raise.

Continuing with the analogy of oligopolistic competition, consider the implications of domestic fiscal policy and EC policies for the drive towards tax harmonisation. Imagine that the EC member states’ governments had decided on (or had had imposed on them) a common standard of public sector outputs, a common mix of outputs and/or a common environment for production and consumption. As a result the "products" of the "firms" would be highly substitutable. Alternatively, suppose that the technical or locational factors affecting the efficiency of production and/or consumption were very similar in all jurisdictions. Furthermore, let us assume that in general there is a political preference at member state level (and perhaps at EC level) for higher rather than lower public sector production, liberally
defined. We would have in effect a Cournot competitive market in public sector outputs and taxation.

We know\(^4\) that under quite plausible assumptions on demand and cost conditions in a standard Cournot oligopoly a coalition/merger can be assured of raising coalition profits by restricting output only if the cartel members account for 80% or more of industry capacity. Intuitively, this is because cartel restrictions create incentives for non-cartel members to expand output. The implications for tax regime relations are clear: harmonisation, if it can be achieved, is to every government’s advantage, provided all (or nearly all governments agree) as to the basis of harmonisation. If, for whatever reason(s) a major player opts out, the others’ best interests are not served by forming a smaller coalition, and tax competition ensues.

In contrast, assume that either because there is no common economic environment regime in the EC or because of underlying differentiation of the real factors affecting location and volume of production and consumption, so that the "products" of the "firms" are fairly strongly differentiated. This makes Bertrand competition more plausible.

Under Bertrand competition, the conclusions concerning the incentives to form coalitions are radically different.\(^5\) All players’ payoffs are increased by the formation of a coalition among

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a subset of players. This is because any firm's profit maximising price will increase if other firms raise their prices. The payoffs to firms outside a coalition, however, are expected to be larger than those of members (there is "super-free" riding); and the payoffs to all players are increasing in the size of the cartel/coalition.

On the basis of the foregoing we propose to treat EC member state governments as producers of a differentiated product (conditions for consumption/production) which they "sell" to raise revenue to finance their own internally chosen level and composition of public sector outputs or household subsidies by taxing consumption and production rights. We model them as Bertrand competitors. If there exists a perfect side-payment system joint government welfare is achieved by forming a coalition to extract a monopoly rent. One set of taxes is agreed, and a revenue sharing arrangement is put in place. We observe perfect tax harmonisation. This is the dominant solution to the game.

Notice, however, that by implication the location of production and purchasing by firms and households becomes endogenous, and is outside the control of member state governments. Governments have to accept the pattern of location of production and consumption determined by the agreed set of taxes. If, however, location of economic activity is a priority target variable for governments (i.e., if they are not indifferent to whether firms or people migrate), then the monopoly solution is no longer available. Full tax harmonisation becomes impossible, even if member governments, cet. par., wish to maximise collective tax revenue. A fortiori, it is even less likely if there are different objective functions as between members where tax and spending levels are concerned. Finally, note that the impracticability of (or lack of
agreement on) a side-payments system (e.g., the sharing out of cohesion funds) will fatally undermine a collectively unified agreement producing full harmonisation.

These problems will not, however, prevent the emergence of some forms of coalescing behaviour. The Bertrand model indicates that some coalition is better for everyone than none at all, even if there is an uneven distribution of the gains. Enter tax approximation. This can be viewed as a regime under which a minimum degree of coalescing (necessary to prevent cheating where there is a high degree of substitutability of tax base) is achieved. Subject to that, inter-state approximation can produce local sub-coalitions which enhance insider and outsider benefits.

Other than as agreed under the approximation programme, governments continue to engage in apparent tax competition. That competition will have reallocation effects to the degree to which the tax-base is mobile. Cet. par., we would expect that a highly mobile tax base would create the basis for gains from inter-governmental collusion. To avoid resource movements arising from competition, approximation would be extended to tax bases not at present included. To establish whether or not there is likely to be an extension of approximation we need to have some idea of the likely effects of competition.

3. Inter-State Tax Competition.

With the collapse of the drive towards "harmonisation" the driving mechanism behind approximation in the years ahead will be competition for tax revenues between tax jurisdictions. Internally, state governments are assumed to behave like price discriminating
monopolists. Subject to political acceptability, this means distributing the tax burden of a given revenue requirement between tax bases in inverse proportion to the elasticity of supply to the jurisdiction of the tax-bearing activity or asset. The completion of the internal market means differentially increasing the elasticity of supply of the various tax bases to any given jurisdiction. From being more or less local monopolists, governments became oligopolists. Some fall in tax rates was inevitable where high tax regimes were concerned. Only if the governments concerned collude by establishing a tax cartel can they avoid the consequent reduction in taxable capacity. At the same time, as we have seen, possibilities for coalition forming now presented themselves. That was the underlying reality in the negotiations between 1986 and 1991 on tax harmonisation, and is what is clearly driving the ongoing debate and negotiations about taxation of financial assets. As we have already suggested, the replacement of "harmonisation" by "approximation" can plausibly be represented as the consequence of a cartel failure due to a combination of different objectives and constraints among the potential members.

How powerful might we expect tax competition effects to be in the Internal Market situation? This question can be answered best by breaking the competition effects into two categories. The first of these concerns the impact of tax differences on location of purchasing decisions by agents, and the second the impact on location of production decisions.

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6 see Papke, J. and L. Papke: "Measuring State-Local tax Liabilities and Their Implications for Business Investment Location"; National Tax Journal, vol. 39, 1986, pp. 357-366. They suggest that the possibility of forward or backward shifting of the tax burden should be taken into account. Clearly the degree to which incidence and impact differ will affect the rate-elasticity of the tax base. In the context of the completion of the internal market we may note that

(a) for any given ability to shift the burden of taxation the elasticity of base supply will be increased;
(b) given an existing high degree of labour mobility and free trade in goods and services the susceptibility of a tax to shifting is unlikely to be increased very much.

Consequently, it seems legitimate to confine our attention to the impact of the completion of the internal market to the elasticity of supply of the taxed activity or asset.
Where location of purchase is concerned we can again break it down into two sub-categories: purchases by households of consumer goods and services and purchases by firms of inputs for further production. Direct purchases by households are characterised by relatively high information and transaction costs per value unit of consumption when they are relocated to take advantage of differences in tax rates on consumption. This is not to say that substantial distortions can be discounted. The experience of the Irish Government in its attempts to protect its tax base (and political support among small retailers) in the face of substantially lower VAT and excise rates in Northern Ireland during the later 1980s bears eloquent testimony to the impact of tax competition. In this case, however, the tax differences were very large for some commodities (especially alcohol) and appear to have been compounded by market segmentation effects on net of tax prices. 

Several recent studies in the US have attempted to quantify border area tax competition effects. The main conclusion is that for small changes or differences in indirect taxes facing consumers distortionary effects on location of purchase are weak and dominated by transport costs. 

Location of purchases by firms should in principle be more price sensitive than consumption decisions. If we look at these purchases and their exposure to inter-jurisdictional tax

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8 See, for example, W.F. Fox: *Tax Structure and the Location of Economic Activity Along State Borders*; *National Tax Journal*, vol.39, 1986, pp. 387-401. This study’s results suggest that consumer response to differences in general sales taxes (equivalent to VAT differences) is greater than response to differences in specific taxes (e.g., excises on tobacco or alcohol). The results also suggested non-linearity of response, indicating that for larger differences, a greater location sensitivity might be expected. This is speculative, since, as is common in the US, the absolute differences in tax rates between the jurisdictions examined were small. It is, however, consistent with the Irish experience discussed above, as well as with anecdotal evidence from Scandinavia.
differences it quickly becomes apparent that the relevant taxes are fairly few in number. Firms purchase factor services, energy and unfinished goods and capital equipment. Under a fully liberalised internal market, purchases of labour and capital services will be treated as occurring in the location of production regardless of the domicile of the owners of the factors concerned. The firms ensuing tax liability can, of course, be offset to some extent by internal transfer pricing within the enterprise, but either way, *given the location of production*, inter-jurisdictional variations in taxation on labour and capital service inputs will have little or no effect on the location of purchase of these inputs.

Energy and goods for further production are another matter. These bear taxation in the form of VAT and excises. In principle, VAT rate differences should make no difference to the location of purchase since VAT paid on purchases is fully offset against VAT liability on sales. Under a system of rebates as operated at the moment, paperwork apart, there is no penalty in purchasing an input from a higher VAT jurisdiction. If, as is envisaged, VAT is administered on a point of purchase basis, this state of affairs is altered marginally. Cet. par., it is preferable to locate purchases in a low VAT jurisdiction since this will reduce the working capital requirement of the purchaser. Excises, of course, are not offset against tax liability (other than profits tax), so there is a strong incentive to relocate purchases into low tax jurisdictions.

On balance, the implication of the foregoing is that for low inter-jurisdiction variations in tax rates, competition effects on the tax base via purchase location are likely to be small. As far as local and regional variations are concerned the further away a jurisdiction with lower taxes the higher are the transaction costs involved in relocating purchases and the smaller are the
tax competition effects. This suggests that after 1993 purchase relocation is likely to have non-trivial consequences only in close proximity to existing national fiscal frontiers where those frontiers (a) are enforced and (b) separate jurisdictions with substantially different existing effective tax rates.

This leaves the question of location of production. Again, we can distinguish between location decisions that are more or less sensitive to differences in tax regimes. Less sensitive sectors include manufacturing activities where the ratio of transport costs to unit sales value are high. These will let proximity to markets dominate production location. Similarly, services requiring direct contact between a large customer base and the firm supplying the service will be less sensitive. Services involving high value unit sales to small customer bases and manufacturing activities with a low ratio of transport costs to unit sales values will be more sensitive to inter-location tax differences.

It should be noted that the existence of mobility costs means that in the short run firm responses to differences in tax regimes will be much lower than in the long run. The impact of the different tax systems will primarily be felt in new production location decisions.

Overall, the conclusion to be drawn from the foregoing is that in the short to medium term tax competition effects are not likely to be strong even if there were no barriers to such competition. Arrangements agreed to already affecting VAT and excises in fact operate to weaken competition effects further. An important qualification to this overall conclusion is that the impact of tax competition may be stronger in localised border areas where there are significant differences in tax rates across fiscal frontiers.
4. Intra-State Tax Competition.

To date, most attention has been paid to the overall exchequer consequences of the process of tax approximation. The question of whether the tax competition process could affect relations between tiers of government has not been addressed. This is surprising, since if the process of tax approximation works to bring tax rates closer as between member states post 1992, this clearly could have an effect on the fiscal relations between the different tiers of government within those states. Moreover, the impact on these relations might be expected to vary as between states, reflecting differences in pre-1992 internal fiscal structures.

Within the Community there is a wide diversity of internal fiscal structures. At one extreme there is the fully federal state in Germany: each tier of government has its allocated fiscal expenditure functions and (to a large degree) the revenue resources to finance that spending. At the other extreme there are highly centralised states like Ireland: spending policy is determined by central government, and subordinate tiers of government act as spending agents for central government using revenue largely derived from grants made by the central government. In between lie states with some degree of fiscal autonomy for lower tier governments.

As tax rates are driven closer together by the tax competition process then one possibility is that lower level tiers of government might experience an erosion of their fiscal autonomy as their own revenue resources fell relative to tax revenues for the member state concerned as a whole. The opposite is equally possible. Alternatively, central government, faced with a loss
of tax revenue, might seek to recoup this by encroaching on the revenue resources of the lower tiers.

It may not be possible to predict from an economics perspective what expedient might be adopted by any given government faced with revenue losses, but we can try to see if the circumstances in which pressure for some form of internal fiscal adjustment would arise are likely to be realised. The key to this is the impact of tax approximation on the relative revenues of the different tiers of government and on the level of transfers between them. In order to establish this, it seems reasonable to take the existing allocation of spending responsibilities as given (although a reallocation of these responsibilities could result from the process under discussion). The tax approximation process can then be seen as affecting relations between government tiers in the following way.

Central government spending may be divided into grants to lower tiers of government, $G_c$, and other spending, $S_c$; its revenues may be divided into taxation, $T_c$, non-tax current revenue, $NT_c$, and grants from subordinate tiers of government, $G_i$. Lower level revenue and spending may be similarly classified, using the 1 subscript to denote lower level. In the simple two tier case this results in the formal accounting identity:

$$T_c + NT_c - S_c = G_c - G_i = G_n = -(T_i + NT_i - S_i)$$

Revenue changes from approximation can affect inter-tier relations either through the consequences for overall tax revenues, a scale revenue effect, or through differential impact on revenues of the different tiers of government, a tier revenue effect. It seems reasonable to expect that there will be asymmetries in impact both as between revenue gains and losses and as between scale effects and tier effects. This is based on the premise that at any level of
government the marginal utility of spending to decision makers exceeds the marginal utility of reducing taxes. An increase in tax yields as a result of approximation will therefore increase spending, while a reduction in yields will cause the decision-makers to seek methods of financing existing spending programmes rather than reduce them. Transfers to other tiers of government must be a prime source of such finance.

If approximation reduces yields overall, the demands from grant receiving governments for transfers will rise, while the supply of grants will fall. This scale effect will lead to pressure from the grantor on the grantee to seek alternative tax sources. In general, this must mean asking subordinate tiers of government to increase local taxation. Given the threat of tax competition it is safe to predict that they will seek to increase taxes on assets or activities with a low elasticity of supply to the relevant tax jurisdiction. What if approximation should leave overall revenue unchanged, but shift the relative positions of the tiers of government? The answer has to be that this would initially result in an attempt to recoup the revenue loss by securing a change in the net grant flow into the tier losing revenue. In principle, this should not cause a fiscal problem, although it might well lead to political difficulties. If approximation caused in effect a revenue shift between tiers of government, it is clearly possible to offset this by an increase in the net grant flow in the opposite direction without affecting the spending programmes of the tier which gained from approximation. The political problems would arise from two sources. The first is the possible reluctance of the gaining tier to increase the outflow of funds which could be used to increase its own non-grant spending. The second is the implications for the degree of devolution of fiscal (and, therefore, political) responsibility. A change in the proportions in which a tier of government obtains its revenues internally and from grants obviously affects its share of political and economic sovereignty.
5. Implications for the European Community.

Increased tax competition is likely to manifest itself in substantial asymmetrical implications for member states. Specifically, the low tax, labour surplus and low income countries have little incentive to respond to a regime of tax competition by increasing their tax rates insofar as those lower taxes affect the internal terms of trade between the tradeable and non-tradeable sectors to the former's advantage. Further, insofar as lower taxes affect location of industry, a competitive tax regime in the EC as a whole provides a mechanism for covert distortion of production and investment location decisions. Conversely, high tax and high cost countries have a strong incentive to restructure their taxes so as to minimise the competitiveness effects of tax competition. With the overwhelming bulk of EC taxes (outside Germany) being collected at central rather than local government level, and with the taxes exposed to tax competition being mainly central government taxes, the countries affected will undoubtedly face pressure to reduce taxation which turns the internal terms of trade against their tradeable goods sectors.⁹

An obvious method for doing this is to reduce transfers out of tradeable goods sector taxes to subordinate tiers of government while replacing them either by obliging subordinate tiers to raise their own taxes or by re-funding the transfers by means of taxation the impact of which falls on non-tradeables, or, preferably, on tax bases whose supply elasticity to the taxing authority is very low.

⁹ The German enthusiasm for certain aspects of the Social Charter proposals is widely interpreted as reflecting this aspect of regime competition. It is likely to be a major consideration in the debate over the proposed carbon tax.
The coincidence of the need to reduce tradeable goods taxation and the need to avoid inter-jurisdiction competition at a subordinate level within member states points clearly towards increased reliance on taxes such as those on real property. In this respect there clearly could arise in the longer term a conflict between central and subordinate tiers of government.

The general rule in the EC is that in so far as subordinate tiers of government have tax revenue sources, they do not share that source with central government. Further, the long term impact of intra-state tax competition between subordinate tiers of government has tended
towards the assignment of taxes with a low rate elasticity of base to subordinate tiers. In particular, this includes property taxes.

Taking the EC as a whole, and using a broad definition of property taxation (which includes wealth and property related transactions taxes), it is clear (Table I) that subordinate tiers of government in general rely to a much greater extent on property taxes than does central government. If this were narrowed to include only taxes on real property, this difference would be even greater. Only in Luxembourg (which probably should be excluded as being too small for the purposes of this study, and in any case relies on sales to non-nationals of low tax commodities to a larger extent than other EC states) and in Belgium are property-related taxes more important to central than to local governments.

There exists, therefore, a possibility that erosion of revenue yields at central government level as a result of tax competition in a regime of approximation could result in a conflict over revenue sources between central and subordinate authorities. If this occurred, it would be only after a considerable period of time, since it seems to us that the immediate effectiveness of tax competition in the post 1992 regime will be rather weak.

The mechanisms already in place or agreed for implementation are in general designed to reduce rather than enhance tax competition between member states. For example, only when VAT is genuinely payable at the rate obtaining in the country of sale, with no compensating mechanism to deal with the effects of payments imbalances or "clearing" of revenues between tax jurisdictions, will there be real revenue effects on governments arising from differences in VAT rates. The likelihood of this happening
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without some degree of harmonisation is remote. The reason for this is that such a system would invite a member state government (particularly in the smaller states, with more specialised patterns of production, implying clear divisions between exportables and importables) to raise VAT rates on exportables, or to shift those goods into the upper band for VAT purposes, since this would enable the countries concerned to export their tax revenue requirements without impairing the competitiveness of their export industries. Similarly, where excises are concerned, arrangements are being put in place to prevent competition between high and low tax regimes. These are centred on the retention of the power to base excise liability on sale rather than on production for sale, with the accompanying provisions for bond to bond, bond to distributor and direct personal consumption transactions.

If either because tax competition in the case of taxes on tradeable goods is more effective than appears likely at the moment, or because new directives from the Commission and Council oblige a movement towards greater equality of tax rates across the Community, then net changes in overall revenues in the member states are certain.

A more detailed breakdown of tax dependence by tier of government in the Community than that in Table I is given in Table II. This enables us to establish the relative exposure to VAT revenue changes (more likely to follow a competitive approximation regime than excise yield changes), and/or to moves to shift the burden of tax away from the tradeable to the non-tradeable sectors.
Table III: Transfers from Other Government Tiers as a Percentage of Lower Tier and of Social Security Current Revenues.

<table>
<thead>
<tr>
<th>Country</th>
<th>% of Lower Tier Revenues</th>
<th>% of Social Security Revenues</th>
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</thead>
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<tr>
<td>1. Belgium</td>
<td>40.9</td>
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<tr>
<td>2. Denmark</td>
<td>42.2</td>
<td>48.3</td>
</tr>
<tr>
<td>3. France</td>
<td>36.5</td>
<td>8.4</td>
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<td>4. Germany (Länder)</td>
<td>-4.0</td>
<td>12.0</td>
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<td>5. Germany (Gmd)</td>
<td>29.1</td>
<td>...</td>
</tr>
<tr>
<td>6. Greece</td>
<td>70.4</td>
<td>19.0</td>
</tr>
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<td>7. Ireland</td>
<td>77.3</td>
<td>28.4</td>
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<td>8. Italy</td>
<td>78.7</td>
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<td>9. Luxembourg</td>
<td>1.6</td>
<td>33.7</td>
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<td>11. Portugal</td>
<td>61.0</td>
<td>4.5</td>
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<td>12. Spain</td>
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<tr>
<td>13. United Kingdom</td>
<td>52.0</td>
<td>-1.6</td>
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</table>

Source: OECD Revenue Statistic

To complete the picture, Table III shows the importance of intra-governmental transfers as sources of current revenue for lower tier governments and for the social security administrations for the EC12.

Taking the extreme examples of Germany and Portugal, some interesting answers may be found if we speculatively ask what would be the likely consequences of approximation and increased tax competition resulting in a move to lower the tax burden on the tradeable sector.
For Portugal the principal immediate effect of approximation will be the impact of lowering the VAT on "luxuries". Already there has been a move to increase the range of services liable to the standard rate. For the reasons already outlined, competition effects are unlikely to have much direct effect on excises, which in any case (with the exception of hydrocarbons taxes) are relatively low in Portugal.

This, however, means increasing the effective tax rate on a major tradeable, since the standard rate will now affect goods and services which bulk large in the expenditure of tourists, and tourism is a large and employment intensive sector of the Portuguese economy. Given the directive that excise tax changes must be in the direction of the targets laid down in the (admittedly vague) procedure for approximation, a rise in excise taxes instead of VAT increases could be accommodated in many cases. The same consequences for tourism, however, would result. An obvious alternative for central government would be to raise property related taxes (which account for a mere 0.4% of central government taxes). Property taxes, however, contribute 24% of local tax revenue which in turn comes to about 40% of local spending. Given that central government spending in Portugal is 14 times local spending, an attempt by the central government to increase the degree to which it obtained revenue from property to, say, 2% of its total requirements would mean that property related taxes would have to rise by about 17% of local revenue. The total yield of property related taxes would have to increase by 77%. This would involve substantial inter-tier competition for tax revenues and control of the tax base.

If, on the other hand, the central government attempted to respond to the fall in VAT revenues by reducing its transfers to local governments, the same result would be likely.
Local governments are constrained by considerations of tax competition to a greater degree than central government, and the pattern of local taxes reflects this fact. Property taxes would have to bear the major part of the burden of the reduced transfers.

To summarise: the effects of approximation in the single market context can be considered under the following headings: overall effects on tax revenues; relative effects by tier; competition effects on revenue in response to internal terms of trade responses of government. In the case of Germany, the approximation effects on the overall volume of tax revenue and on its components are likely to be negligible because the targets for approximation are close to existing German rates. It follows that there are likely to be few relative yield effects by tier of government. This is true both for the standard tiers of government and for the Social Security administration. Competition effects are likely to result in a shift from taxing tradeables to other tax sources. Treating property as the obvious target for such a move, we see that this could lead to some inter-tier conflict since property taxes are at the moment mainly in the hands of the States in the German federation. A shift from direct to property taxation would disturb this assignment of taxes since it would reduce federal revenues from direct taxes which would have to be reimbursed by an increase in the federal share of property taxation. That, however, appears to be the only (and longer term) effect.

For Portugal the position is different. Approximation would lower tax revenues overall through changes in VAT. While this could be offset by a rise in excises, it would affect a major export industry. The scale effect would translate into a greater loss of revenue to central government than to local government. This relative effect would directly cause the central
government either to seek compensation either by increasing its share of property taxation or by lowering its transfers to local government, forcing the latter to increase property taxes.

6. Summary and Conclusions

This paper has attempted to analyze the major effects of the Internal Market Programme for fiscal relationships at both inter-state and intra-state levels. The major conclusions can be summarised as follows.

1. It is useful to analyze the process of tax approximation and harmonization from an industrial organisation perspective, by introducing the results of that literature concerning collusion, coalitions and competition in small number industries. Approximation is seen as an incomplete tax coalition, and a predicted consequence of "rational" behaviour by governments interested in revenue maximization under plausible assumptions as to the constraints they face.

2. In the absence of an agreed Community-wide harmonisation policy the major effects of the Internal Market are likely to be realised in terms of a competition driven approximation of some tax rates.

3. The extent to which competition between fiscal authorities leads to a convergence of tax rates between member states will depend on degree to which the internal market liberalises intra-EC trade and factor movements.

4. The Internal Market is likely to intensify the externality effects on non-cooperative tax competition and some tax rates may be driven to levels below those which would prevail in
coordinated environment. Capital taxation may be an area of particular concern if tax incentives are used to attract, or retain, industries to specific locations. This may diminish potential Internal Market gains from greater concentration and scale economies.

5. Although tax approximation is unlikely to have serious consequences for government revenues, there may be localised effects in areas close to existing fiscal frontiers. However, a full assessment of revenue changes requires a prior estimate of consumer responses to tax induced price changes.

6. Given that tax approximation will not result in serious revenue losses, the willingness and ability of central governments to share revenue and transfer resources to subordinate levels is unlikely to be threatened. Hence there is little reason to be concerned with the short run impact on fiscal relations between tiers of government.

7. In the longer run Internal Market can be expected to liberalise intra-EC trade and factor mobility thus leading to an intensification of tax competition. The effects of this process are most likely to be realised in tradeable goods sectors with the consequence that EC governments may shift the tax burden towards non-tradeable sectors such as real property. As taxes on the latter tend to be a major source of intra-state regional finance it is possible that tax competition may eventually create tensions between regional and central tiers of government.