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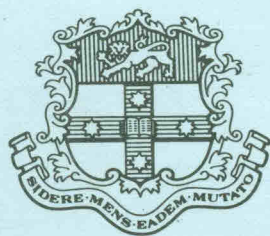
TAXATION AND DECENTRALISATION:
A RECONSIDERATION OF THE COSTS AND BENEFITS
OF A DECENTRALISED TAX SYSTEM

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1. INTRODUCTION

The traditional position in fiscal federalism theory (for example, Musgrave, 1983, McLure, 1983a; King, 1984) has generally supported a set of tax assignment rules for a federal system which results in a largely centralised tax system, in the sense that the national (central) government is assigned the major sources of tax revenue while state (provincial) governments and local governments have the use of only relatively minor tax instruments. The rationale for this high degree of tax centralisation lies in the assignment of redistributive and stabilisation functions to the central government on a near exclusive basis and on the assumed high probability that in the absence of such central assignment of major tax sources, high mobility of tax payers between sub-national jurisdictions would reduce, if not eliminate altogether, the effectiveness of such policies at the sub-national level. At the same time, a strong emphasis on the desirability of neutrality in taxation has placed a premium on tax uniformity either through tax harmonisation at the sub-national level, or, more easy and permanent, through centralised assignment of the major taxes. In addition, a strong but rarely substantiated belief in the economies of scale in tax administration, and the detrimental effects on compliance costs of severe tax duplication or overlapping (both horizontal and vertical), appears to make the case for tax centralisation in a federation even stronger. (Break, 1980a; Netzer, 1974).

The major dilemma inherent in this approach to tax assignment in a federation was clearly summarised by Netzer (1974, pp. 373-4; cf. McLure, 1983a, p. xiii, Penniman, 1987). This dilemma is clearly revealed when a highly centralised tax system is combined with a system of substantial decentralisation in expenditure on goods and services, the allocational ideal on efficiency grounds. The dilemma

is all the more important because it is not only an accurate description of the most likely outcome of the theory but is clearly observable in varying degrees of approximation (see Bird, 1986). Netzer's (1974, pp. 373-4) concise summary of this problem of central tax assignment is worth quoting in full:

It would be an unlikely coincidence if the ideal allocations of expenditure and revenue responsibilities matched precisely - if the appropriate revenue powers of state and local governments were sufficiently productive to finance their expenditure responsibilities, even after spillovers had been accommodated by optimising grants. It has been argued that in reality, the situation is one in which the federal government has ample revenue sources and limited civilian expenditure responsibilities, leading to the necessity for tax reductions (or inter-governmental transfers) for stabilisation goals, while the opposite is true for state-local governments, requiring continual state-local tax rate increases. The result is increasing utilisation of the relatively less attractive tax instruments which the state-local sector has available to it. Moreover, it is argued that state-local use of even these instruments is circumscribed by actual or potential interarea competition for the location of taxable resources.

Reaping the efficiency gains from centralised taxation and decentralised expenditure decision making therefore involves a delicate trade-off, not only in terms of the inefficiencies generally associated in the public finance literature with undue separation of public expenditure benefits from the costs involved in obtaining them, but also from the consequential excessive use of inferior taxes by sub-national governments. For some (for example, Grewal, 1985, pp. 11-12), a way out of this dilemma is to evaluate tax assignment questions always in combination with expenditure function assignment and schemes for revenue sharing between levels of government.

The basis of the traditional theory of fiscal federalism has been challenged from a number of perspectives. One of these involves attempts to shake the foundations for the prevalent view that stabilisation and distributional functions are exclusively national functions and can only be assigned to the central government (see Breton and Scott, 1978). In addition, development of the concept of locational surplus by Grewal and Mathews (1983) potentially lowers the impact of taxpayer mobility on the effectiveness of redistributive policies by pointing to the importance of net aggregate locational advantages including fiscal stimuli as

inducements to migratory shifts. Thirdly, challenges to the theory have been mounted because it pays insufficient attention to the politico-institutional properties of federal systems. When taken into consideration, these may reverse traditional values on good tax systems, for example, with respect to sub-national tax competition. (Brennan and Buchanan, 1980, 1983).

Other aspects of the fundamentals of the theory seem open to challenge, including some of the advantages of tax centralisation. In the first place, the case for sub-national tax harmonisation very much depends on the distortions in localisation decisions with respect to resources and households of a non-harmonised tax system. The strength of the case for tax harmonisation therefore partly depends on the empirical issue of how much migration of people and resources is actually induced from differential tax structures. Secondly, there is relatively little hard evidence on the actual importance of economies of scale in tax administration or, for that matter, to the extent to which compliance costs increase from tax duplication or overlapping. If these factors are relatively unimportant, then again much of the case for tax centralisation disappears. On the other hand, the real possibility of considerable tax exporting, the well documented practice of tax competition, differences in the visibility of particular tax instruments and the spread of tax incidence may drive substantial wedges between the benefits of public expenditure for resident-tax payers in a jurisdiction and the costs in the form of taxes they are asked to bear, hence making the efficiency gains from matching expenditure benefits with costs at the margin less easy to achieve.

This paper reconsiders these issues on tax centralisation/decentralisation from a critical perspective. It therefore examines both the broader critiques of the conventional fiscal federalism theory on tax assignment, as well as more specific arguments favouring tax centralisation based on the benefits for neutrality from tax harmonisation and administrative advantages such as economies of scale in tax assessment and collection. By way of introduction, the concept of tax centralisation is briefly clarified and some facts are presented on vertical fiscal imbalance and the degree of tax centralisation in the six OECD federations. The paper

is essentially critical and shows that issues raised by tax centralisation are far from simple and therefore not easily resolved.

Some additional caveats are in order. The discussion of the paper is largely confined to federal systems even though many of its arguments, to a large extent, apply to unitary systems of government with substantial devolution to local and/or regional government. Secondly, many of the issues are illustrated from recent Australian experience, with which the author is most familiar, though there is heavy reliance on United States empirical evidence which on this, as on many other subjects, is the most readily available. Finally, an aspect of the critical thrust of the paper needs more emphasis. Part of its purpose is to highlight that in fiscal federalism theory as elsewhere, economics is an imprecise science, an imprecision enlarged when the subject matter studied is itself subject to continual change.

2. DEGREES OF TAX CENTRALISATION

Although it is debatable whether decentralisation is an appropriate word in the context of federations (see Frenkel, 1986, pp. 57-8), once a central government is established in a federation, decentralization and even devolution of particular powers, including powers to tax, becomes a practical possibility, as is the inverse of increased centralisation of such powers. In such circumstances it becomes also possible to discuss degrees of centralisation in federations with respect to powers, and attempts to measure such degrees of centralization become plausible (see section 3). In principle, these can, obviously, vary from perfect centralisation to perfect decentralisation. Perfect centralisation of tax powers implies the exclusive and complete control over taxation by the central government; perfect decentralisation of taxation is probably achieved when all jurisdictions have equal access to all forms of taxation, that is, fully concurrent constitutional tax powers.¹ As seems true for all polar cases, neither situations of perfect tax centralisation nor perfect tax decentralisation are ever encountered in practice.

However, as also seems invariably the case when discussing

degrees of difference from the perspective of imagined polar opposites, the intermediate area of actual situations is complex. In the context of tax centralisation, this can be illustrated from a handy classificatory matrix developed by Break (1980a, p. 34). This links a variety of instruments for tax coordination to the degree of State/local involvement and/or control over tax administration, tax base, tax rate and rate structure choice, and determination of total tax revenues. Full revenue independence for State/local government or a high degree of tax decentralisation requires full control over all five aspects of the tax system listed horizontally in this matrix, a situation only achieved under coordinated tax administration. All other instruments of tax coordination imply gradually increasing degrees of tax centralisation by removing one or more of State/local influences and/or controls over the tax system. Break's matrix of tax coordination is reproduced as Table 1.

Coordinated tax administration, the least centralised form of tax coordination, has been used with respect to individual income tax in the United States from the early 1930s and in Australia from the 1920s to 1942, in the latter country with State rather than central administration predominating. Coordinated tax bases are likewise used in the United States - generally confined to State and local income tax bases and close coordination with the federal income tax base in the case of some States. Tax supplements, implying a higher degree of tax centralisation, are more widely used. From 1950 they have been used in the United States by some States to integrate State and local sales taxes; they have also been used with respect to State and local income taxes. Tax supplements are also used as an important instrument in local government finance in Scandinavian and some west European countries. In the form of income tax rebates or surcharges, tax supplementation by States is permitted by Australian central government legislation but has not been used by any State government. Supplements are also widely used in Canadian income tax. Centralised tax administration has been much discussed in the United States, but has nevertheless not been used in income, death and cigarette taxes, where its application would appear to be most appropriate. Finally, tax sharing has been used in many federations. In Canada it was applied to death taxes for a considerable period. In Germany it applies with constitutionally guaranteed proportions to

all major taxes. In Australia, it applied to customs and excise in a constitutionally guaranteed proportion for the first ten years of federation and then, from 1976 to 1984, in centrally determined proportions, first to personal income tax collections and then to total central tax collections. Australia's tax sharing experience indicates the high degree of tax centralisation this tax coordination instrument seems to involve. The West German procedures, providing a constitutionally guaranteed tax share to the States (*lander*) collectively, seem to imply a lower degree of tax centralisation.²

The above acts as a reminder that the notion of tax centralisation/decentralisation is a complex phenomenon involving aspects of control over all parts of a tax system: administration, base, rate structure and rates. It is not only associated with access to tax revenue and should therefore not be confused with the concept of revenue dependence. Revenue dependence, arising from vertical fiscal imbalance between levels of government, can be resolved, and in practice appears to be generally resolved, by systems of tax revenue sharing, often involving a high degree of tax centralisation, which may even approach perfect tax centralisation as here defined. As shown in section 3, tax centralisation/decentralisation is therefore not easily measured by a single indicator, and seems in fact not easy to quantify at all.

3. TAX CENTRALISATION: A QUANTITATIVE OVERVIEW

To illustrate the complexity of measurement and international comparisons, some relevant statistical data are presented on the six developed federations of Austria, Germany, Switzerland, Canada, the United States and Australia. All share the fact that they are high income countries and stable democracies. Three are predominantly German-speaking, three predominantly English speaking. Three are densely populated, neighbouring, central European countries; the other three are large, continent-sized countries of which the United States is relatively far more densely populated than the other two. Germany and Austria are relatively new federations; Switzerland, Canada and Australia are long established federations; while the United States is the original model for modern federal systems from

which Canada, Australia, Germany and Austria in particular have learnt. Canada and Australia have parliamentary systems with little effective state representation at the central government level, the other four ensure regional representation at the central government level in varying degrees. Canada and Switzerland have significant, regionally based, minority language groups, the others are more homogeneous in this respect. In short, any realistic comparison of the fiscal institutions between these six developed federations needs to take into account the enormous variety of physical, demographic, political not to mention economic characteristics.³

Table 2 sets out details of the major characteristics of the public sectors in the six federations with respect to State and local expenditure responsibilities, access to own-revenue and own-tax revenue and reliance on intergovernmental transfers. It also indicates the number of state and local government units in these countries, as one crude index of their degree of decentralisation of government. These data reveal considerable variation between the practices of the six countries compared.

At the state/provincial level, Canadian provinces are clearly the most important fiscally speaking, though Australian states follow closely with respect to expenditure responsibilities. They however, rank last with respect to tax responsibilities, while Austrian *lander* have the least fiscal importance on both expenditure and revenue measures. In relative terms, the importance of the second level of government in Switzerland, Germany and the United States is roughly comparable. With local government the situation is quite different. Local government functions and hence their fiscal importance are highly restricted in Australia⁴, they are particularly important in Switzerland and the United States where political decentralisation is carried furthest. Combining the state/local sectors, Australia and Austria are the most centralised with respect to revenue raising and Canada and Switzerland least centralised; in terms of expenditure Austria is the most centralised with Canada, Switzerland and Australia the least centralised in that order. Finally, and implicit in the above, Austrian and Australian state governments have the highest degree of dependence on inter-governmental transfers while the degree of local government dependence on such transfers is least

in Austria and Switzerland, substantial in Australia and Germany, very substantial though declining in the United States and close to a half of total revenue and grants in Canada.

Vertical fiscal imbalance exists in all these federations in the sense that none of their state and local government systems raise sufficient revenue to match their expenditure responsibilities. Canadian provinces, United States' states, Swiss and Austrian local government units come closest to achieving fiscal balance. The gap between expenditure and revenue is the greatest for Australian states and Canadian local government. Australian and Austrian states (*lander*) are therefore especially dependent on transfers (see also Table 3), as are Canadian and United States municipalities. In the United States, state governments now transfer considerably more revenue to local governments than they receive in federal grants, as shown by their negative net transfers. Table 3 shows the limited variation over time in the state/local sector dependence on central government transfers, especially for Australia, Switzerland and Canada⁵ and the high and growing degree of dependence of local government on central funds in the countries with unitary government systems which make up the remainder of the OECD.

As Bird (1986, p. 10) has pointed out, it is not easy to capture the characteristics of the fiscal systems of diverse federations by a single index. This applies not only to the degree of revenue dependence of particular government levels, it applies even more to the degree of tax centralisation in particular federations. Tables 4 and 5 attempt to present a clearer picture of factors relevant to the degree of tax centralisation in the revenue systems of the six developed federations in the OECD. Table 4 does so by showing the relative importance of state/local taxation on aggregate with respect to total tax revenue and GDP. Table 5 presents the relative importance in terms of GDP of specific groups of tax instruments from the OECD tax classification which are used by sub-national governments, together with the relative access to these taxes by central governments.

In terms of access to aggregate tax revenue, Canada is clearly the country with the least centralised tax system, followed by Switzerland, the United States and Germany while Australia and

Austria are the most centralised with respect to taxation. However, if local government access to tax revenue is weighted more highly in the decentralisation index, then Austria's position as a decentralised tax country changes - particularly in terms of tax revenue relative to GDP where local government access is second only to Switzerland. Australia remains highly centralised on this score as well, well above the degree of tax centralisation in Germany and the United States in this respect.

Australia's highly centralised tax system is also evident from data in Table 5. Only Australia's central government has exclusive access to income taxes, and to general and specific sales taxes (with one, rather insignificant exception in the form of state business franchise taxes). The German-speaking federations tend to share their tax bases most widely. Canada and the United States do so to a less significant extent. Only property taxation in its various forms is a tax base generally available to all levels of government in all federations. The local government property tax in the English speaking federations is the more important form of this highly decentralised tax (an assignment consistent with the normative tax assignment rules of fiscal federalism theory). However, without detailed analysis of the individual taxes included in this table for the six federations, their relative weighting in a hypothetical degree of centralisation scale, and some attempt at aggregation of these indices, it is impossible to come to any simple conclusions about the degree of tax centralisation for the six federations on the basis of the data in these tables.

What the quantitative comparison in this section has demonstrated is the immense variety in the practices of the federal systems of the developed OECD world. No easy conclusions can be drawn about the inability of certain levels of government to derive revenue from particular tax forms. Practice is heterogeneous, partly because of the tax coordination possibilities which allow sharing of tax instruments and which imply various degrees of tax centralisation (see Table 1).

4. TAX IMPLICATIONS FOR TAX CENTRALISATION OF
FUNCTIONAL ASSIGNMENT IN FISCAL FEDERALISM THEORY

Tax assignment rules in traditional fiscal federalism theory are based on widely accepted perspective on the economic operations of federal states. First, they tend to use the layer cake model of federations with its three tiers of central (national or federal), state (*lander* or provincial) and local jurisdictions as separate and separable units. Second, and drawing on the three-fold budget function classification developed by Musgrave (1959), the rules require the assignment of responsibilities for redistributive policies and stabilisation to the central government. Finally, fair entitlement rules based either on the principle of territoriality or that of allegiance (residence) combined with efficiency considerations in trade and factor utilisation, particularly that of neutrality, yield six general principles of tax assignment in a federation. Following Musgrave (1983, p. 11), these principles can be listed as follows:

- (1) taxes suitable for economic stabilization should be central; lower-level taxes should be cyclically stable;
- (2) progressive redistributive taxes should be central;
- (3) personal taxes with progressive rates should be levied by the jurisdictions most capable of implementing a tax on a global base;
- (2) lower-level governments should tax bases with low mobility between jurisdictions;
- (5) tax bases distributed highly unequally between jurisdictions should be centralised; and
- (6) benefit taxes and user charges might be appropriately used at all levels.

In turn, these six principles in combination produce the following specific assignment of categories of tax instruments:

Central level: integrated income tax, expenditure tax, natural resource taxes, user charges;

State level: income tax, destination based product tax,

natural resource tax and user charges;

Local level: property tax, payroll taxes and user charges.

(Musgrave, 1983, p.13)⁶

It need hardly be mentioned that in terms of actual tax systems in federations where income taxes and broad based expenditure taxes are by far the most revenue elastic, this set of rules produces a high degree of revenue dependence on the central government, and generally speaking, a high degree of tax centralisation as well.

With dual assignment of some tax bases (income, natural resources, commodities), Musgrave (1983, p. 14) suggests multiple use with tax coordination rather than separate tax assignment and hence (as implicitly demonstrated in Break's tax coordination matrix of Table 1) a high degree of tax centralisation will be reinforced. Musgrave (1983, p. 15) acknowledges that in specific instances such coordination implies the surrender of freedom of action in choices about the structure and the level of taxation on the part of jurisdiction and in fact reduces the diversity quality of true federalism in the interest of the efficiency and equity consequences of greater tax uniformity. In addition, and drawing here on German, Canadian and Australian practice, the tax centralisation inherent in the six principles and the associated revenue sharing facilitates equalisation of fiscal capacity or other forms of inter-jurisdictional equalisation for the sake of national unity or other philosophical principles (Musgrave, 1983, p. 16).

This approach to the determination of tax assignment rules has a number of problems associated with it arising from the underlying fiscal federalism theory. After mentioning some minor problems in the theory, criticisms which attack the fiscal federalism theory foundations of the tax assignment principles are discussed in more detail. First, in the traditional theory the number of levels (three) and the number of jurisdictions within each level are invariably taken as exogenously given. Clearly, more than three levels of jurisdictions may be appropriate from the efficiency point of view, especially from the spatial perspective of "perfect mapping" of jurisdictions to ensure compatibility between the boundaries of public goods benefits, tax incidence and political boundaries.

Secondly, heterogeneity of size and other factors within levels of government is often ignored in the discussion, apart from its obvious relevance to fiscal equalisation. In practice, city governments of large urban concentrations may dwarf second tier state jurisdictions and this may alter conclusions about administrative efficiency inherent in the tax assignment principles. Although these criticisms are not easily accommodated in the traditional theory, they are not destructive of its major findings, unlike the more fundamental criticisms of the theory which have been mounted.

The first of these criticisms questions the appropriateness of assigning redistribution and stabilization functions exclusively to the central government, the explicit basis for the first and second tax assignment principles (as cited at the start of this section). On redistribution, there is a well-defined literature on redistributive policies as a local public good which unambiguously suggests a local role in redistribution policy. This partly derives from the greater satisfaction for a donor (tax payer) if the object of the redistribution is in closer proximity while this factor of proximity in addition enhances perception of the nature of the problem. Social choice considerations furthermore, suggest varying preferences by citizen-voters for the degree of public redistribution they would like to see adopted. This implies enhanced efficiency if these preferences are catered for at the sub-national level (see Grewal, 1981, pp. 28-30).

In the context of the stabilisation function, Breton and Scott (1978, p. 141) concluded that though this needs to be assigned to one level of government this does not, in their view, necessarily mean central assignment. Organisation costs of stabilisation policy rise with size and thereby favour its assignment to sub-national jurisdictions, and they demonstrate that in principle both micro- and macro-stabilisation policies can be carried out effectively at the sub-national level. Such revisions of the standard assignment rules have not been accepted in the textbook literature (for example, Musgrave and Musgrave 1984, pp. 513-6). These maintain the need for central assignment of redistributive functions largely because high inter-jurisdictional mobility prevents an effective sub-national redistributive policy. Fiscal and monetary stabilisation policies

likewise continue to be seen as essentially central functions because of the implications of the wide diffusion of multiplier effects, fundamental differences in the impact of changes in national as against sub-national public indebtedness, and the intuitive judgement of the ineffectiveness of sub-national monetary policy combined with a fear of its potential irresponsibility. However, changes in attitudes to the nature and role of such policies themselves, irrespective of assignment, together with these types of criticism appear to have weakened the strength of the belief in the need for the central assignment of these functions.⁷

A redistributive role for sub-national government may also be based on the implications of a concept of locational surplus which reduces the impact on inter-jurisdictional migration from fiscal changes of a redistributive nature by placing additional restraints on inter-jurisdictional mobility. The traditional fiscal federalism view restrains mobility in response to fiscal stimuli by hypothetically increasing the size of sub-national jurisdictions until in the limit such mobility is effectively eliminated by merging national with sub-national unit and centralising the distributive function. On the common sense argument that location within a particular jurisdiction gives rise to net benefits other than those from its fiscal system, Grewal and Mathews (1983) have constructed the concept of a locational surplus which aggregates the locational benefits (adjusted for relative locational disadvantages) accruing to residents in their position as consumer and producer. The larger the locational surplus from consumption and production, the greater the potential fiscal disadvantages/advantages have to be to induce interjurisdiction emigration/immigration. The degree by which locational surplus reduces the inter-jurisdictional mobility of its residents determines, *ceteris paribus*, the degree in which sub-national redistributive policies can be effectively implemented at that level. This allows a greater discretion in tax assignment to sub-national jurisdictions for redistributive purposes than the traditional view suggests and in addition the argument about locational surplus has implications for the degree of distortion in trade and factor use associated with non-uniform sub-national tax systems (explored in section 5 below).

A further fundamental critique of the tax assignment principles based on traditional fiscal federalism theory comes from the Brennan-Buchanan public choice perspective on federalism. As Brennan and Buchanan (1980, p. 185) conclude, their "emphasis is on federal assignment as a means of ensuring that individuals have available options as among the separate tax-spending jurisdictions, and on the effect that the potential exercise of these options has on the total fiscal exploitation in the system." Hence spatial properties of public goods are reduced in analytical importance and what are seen as problems or virtues of particular outcomes in the traditional fiscal federalism theory are transformed into virtues and problems in this fiscal constitutional perspective of the benefits of tax limitation. Examples of such transformations include the following. First, in a fiscal constitutional sense insufficient revenue (or vertical fiscal imbalance) for sub-national government may well be efficient because it assists in lowering aggregate government intrusion in the economy. Secondly, tax coordination (for example, central tax administration and collection on behalf of sub-national jurisdictions) is viewed as detrimental tax collusion favourable to the suppliers of public services (including bureaucrats) on the general ground that "tax competition among separate units ... is an objective to be sought in its own right" (Brennan and Buchanan, 1980, pp. 185-6, their emphasis). Thirdly, in a subsequent piece, Brennan and Buchanan (1983, p. 62) argue that the spatial considerations of taxes are at least as important as those of public goods in determining optimal jurisdictional size, hence reinforcing the argument that the case for decentralisation of government "depends for its coherence on the simultaneous decentralisation of taxing and spending powers" (Brennan and Buchanan, 1983, p. 63). This is in part required to ensure regional variety, in part to provide effective constraints on political agents to provide outcomes in accordance with their constituents' preferences. Such a possibility is enhanced when sub-national taxes move with citizen-voters, because then inter-jurisdictional mobility becomes an effective constraint on political behaviour. The more competitive federalism implicit in this model implies a much stronger degree of sub-national tax independence and hence tax decentralisation.

The overall effect of these critical considerations is reduced

emphasis on the efficiency of centralisation in all federal functional assignments apart from the allocation of resources where, depending on the spatial characteristics of the benefits of the service provided, decentralisation has always been preferred. Reinterpretations of the benefits of centralisation of stabilisation and redistributive policies clearly create more tax room at the sub-national level by reducing the impact of the tax assignment rules which assign progressive redistributive and automatic stabilising taxes to the central government. When in addition, there is a tendency to reduce the scope and validity of such policies, as also has been happening over recent decades, this part of a case for tax centralisation is further reduced. However, such conclusions remain debatable, are often dependent on values rather than fact, which reduce their impact on restoring the balance towards tax decentralisation. The political argument on the nature of federations, which views decentralisation as a good in itself because it constrains the rapacious nature of the Leviathan of government is in some respect more potent. If the essentially political view is accepted that small government is good government, then federations with a strong decentralisation bias in taxes and public goods provision have apparently a useful role to play in constraining a growth of government (but cf. Oates, 1985, who finds no empirical support for this conclusion). Despite this lack of empirical support, the constitutional aspect of federalism as a method of tax limitation has had practical applications to issues of tax reform.⁸

5. TAX UNIFORMITY, TAX HARMONISATION, TAX OVERLAPPING AND TAX COMPETITION

Some of the key issues raised in the literature on relatively decentralised tax systems focus on the dangers of tax overlapping and tax competition, the latter because it offends the criterion of tax neutrality by seeking deliberately to influence the locational choices of business and others. In a federation, tax overlapping can be vertical when there is duplication in the use of a tax base at more than one level of government, or horizontal when tax bases are used by different jurisdictions at the same government level, a matter of potential concern to those doing business in more than one

state (*lander* or province). The latter possibility introduces a dimension of administrative inefficiency in the discussion of tax overlapping through the higher compliance costs inflicted on taxpayers from multiple use of a tax base. As Break (1980a, chapter 2) documents in detail, the remedy for the problem of tax overlapping and the distorting influence of tax competition is through tax harmonisation and tax coordination, both procedures (as indicated in Table 1 derived from his work) frequently implying considerably increased degrees of tax centralisation.

The question at issue for this section is not to test the prevalence of tax overlapping and tax competition but to attempt to assess the relative importance of the detrimental efficiency consequences in terms of reduced tax neutrality and increased administrative and compliance costs thereby facilitating assessment of the necessity for the tax centralising remedies of tax harmonisation and tax coordination. If, as King (1984, p. 209), for example, suggests, the quantitative importance of these distorting effects from unharmonised tax structures is exaggerated, the efficiency case for high degrees of tax centralisation is further eroded. This is of course an empirical question, and unfortunately the empirical results on the subject are not nearly as clearcut as is required for an unambiguous set of conclusions.

Netzer's (1974, pp. 399-403) survey of the literature on the locational impact of tax differentials concluded that the literature's general finding for the 1950s and 1960s was that "relatively high business tax levels do not have the disastrous effects often claimed for them" (cited from Due, 1961, p. 171) because State/local taxes are too small an element in business costs including in business costs differentials at alternative locations. More important, Netzer argued, were the intra-regional locational effect of local taxes, since in a specific metropolitan area, for example, other cost differentials would tend to be relatively minor (Campbell, 1958). However, residential locational decisions were apparently not very sensitive to local tax differentials in so far as the then available evidence was concerned, a matter explicable in terms of the Grewal and Mathews locational surplus analysis (discussed in section 4). Netzer makes two additional important

points in this part of his survey. First, tax differentials reflecting differential costs in local public services to business and residents clearly need not be inefficient. Secondly, and irrespective of the empirical evidence, sub-national tax policy makers have a real fear of the potential effects of tax competition, often because tax instruments are frequently the only method at their disposal for influencing locational choices.

Since Netzer wrote, these conclusions have been substantially revised, partly because of different findings in the empirical literature, partly because the extent of state tax differentials appears to have increased. (See Wheaton, 1983, on the United States situation.) In addition, as Shannon (1986) points out, interjurisdictional tax competition is now winning friends in academia (see, for example, section 4 above) who regard this aspect of diversity in a federal system as one of positive importance in a federation; while increased international competition makes locational choices for business from the perspective of domestic costs (including public sector induced costs) more important. A symposium in the *National Tax Journal* on the subject of interjurisdictional tax competition introduced by Shannon's (1986) contribution mentions both the change in the findings of the empirical literature on the subject and the changing perception on the desirability or otherwise of tax competition.

The recent literature shows a strong consensus that contrary to Due's earlier finding (Due, 1961) the empirical evidence no longer supports the conclusion that state/local tax differentials do not greatly affect locational choices of business (McGuire, 1985, 1986; Papke and Papke, 1986; Gyourko, 1987). It also suggests there may be substantial distortions in consumer decision making in border areas with further locational effects (Hamovich, 1966, Fox, 1986). Tax competition therefore seems to be important in influencing decision making, but its efficiency consequences relate to the type of taxes involved and their role in the sub-national jurisdiction's fiscal structure. Tax competition in benefit taxes related to the public service provision of the sub-national jurisdictions, cannot be condemned as inefficient. However, such competition in taxes where burdens can be easily exported and where the bases are more mobile is

considered to be less desirable on allocative efficiency grounds (McLure, 1983b, 1986). However, the generally distorting effects of tax competition, more important than previously thought on recent empirical evidence, are less frequently criticised than previously because of detrimental neutrality effects.

This appears to have arisen from the fact that tax competition in general is now perceived as something beneficial, just as competition among firms is generally regarded as beneficial. Tax competition encourages greater government responsiveness to consumers/voters and has positive effect on cost containment. It then clearly becomes something to be encouraged between sub-national jurisdictions rather than something to be eliminated by tax harmonisation or other forms of tax coordination. This seems to be the impact of some of the new literature on the subject (e.g. McGuire, 1986, p. 373; McLure, 1986, pp. 344-5). This conclusion reverses the efficiency case for tax centralisation because of the beneficial effects of uniformity on tax neutrality.

There remains an administrative case against tax competition at the sub-national level if it implies substantial differentials in base and rate structure of taxes between sub-national jurisdictions. This case is particularly strong with corporate taxes at the sub-national level where a minimum uniformity requirement for administrative efficiency and reduction in compliance appears to be common definition of the tax base. (McLure, 1983b, pp. 112-4). Similarly, in the context of non-uniform stamp duty legislation in Australia, for example, it is argued that this is costly in terms of both time and resources; a matter reflected in the Campbell Inquiry into the Australian Financial System (1981, pp. 258-63) demand for a uniform system of stamp duties to facilitate competitive neutrality in the financial sector (cf. Groenewegen, 1983, p. 309). There seem to be no empirical studies where such costs of tax competition are documented, hence it not easy to assess their quantitative significance.

In general, it can be concluded that views on tax competition have changed. The increased locational impact attributable on empirical grounds, to state/local tax differentials, the allocational distortions of which would have been decried some years

ago, now seem to be more acceptable for a variety of reasons, most important of which seems to be the general argument that this form of competition is as beneficial as competition in other cases. This changed perception of tax competition clearly implies a further weakening of the general case for tax centralisation, because it is seen as reducing the need for tax harmonisation and coordination at the sub-national level.

6. TAX EXPORTING AND INTERJURISDICTIONAL TAX DEDUCTIBILITY

As McLure (1967, p.69) indicated in his classic study of interstate exporting of state and local taxes, the benefits from decentralisation in fiscal affairs are considerably reduced by the potential for non-matching of costs and benefits of publicly provided goods and services from such exporting because this lowers efficiency by distorting choices between public and private goods and services provision, between the means of financing publicly provided goods and services, between alternative publicly provided goods and services and between sites of residence. Tax exporting within a national jurisdiction with its potential for non-matching of costs and benefits of publicly provided goods and services, has therefore considerably bearing on the tax centralisation/decentralisation issue. This is indicated by McLure's discussion of the implications for model tax structures from his empirical analysis of tax exporting in the United States. Most important are his findings that corporation income and franchise taxes should be nationally assigned on efficiency grounds. Similar reasoning is shown to apply to mineral property and severance taxes, taxes on railway and manufacturing property where tax exporting also creates major inefficiencies (McLure, 1967, p.73).⁹

Tax exportation, or the shifting of tax burdens across boundaries, may be direct or indirect. Direct exportation of state or local tax involves tax payments by a non-resident with respect to factor income or the purchase of goods and services (including that by tourists temporarily resident in the taxing jurisdiction). Indirect tax exports arise from the deductibility of many state and

local taxes for federal income tax purposes, which may transfer part of the resident's state/local tax burden to taxpayers in other jurisdictions. If tax exportation by states and local government is admitted to be a possibility, then tax importing is likewise something to be considered as a potential wedge between tax costs and the costs of locally available publicly provided goods and services. Direct net importing occurs when residents' tax liabilities to other jurisdictions exceed the amount of tax their state/local unit can export. More important, at least on the statistical evidence, is the indirect importing potential of states which either have low average state/local tax burdens or which do not use one or more of the important tax instruments deductible for federal tax purposes. The substantial revenue costs of state/local tax deductibility, from which residents of such sub-national jurisdictions benefit relatively little, may raise federal income tax rates, from which such residents' tax liabilities are clearly not immune.¹⁰

Issues raised by direct and indirect tax importation and exportation are complex, and empirical results on the extent of the phenomenon are difficult to interpret because of the different assumptions which underly the particular analyses and the difficulty in making inter-temporal comparisons because tax structures and regional economic structures vary over time (see the survey by Mutti and Morgan, 1986). In the context of tax centralisation, the following conclusions can be drawn from this discussion. First, spatial considerations and interjurisdictional spillovers of taxes are as important as those relating to public good supply, a proposition largely ignored in the fiscal federalism literature until attention was rightly drawn to it in more recent theoretical discussions (see also section 4 above). Secondly, exported state benefit taxes cause no efficiency problems because as long as these taxes are benefit taxes in the strictest sense of the term, they will appropriately allocate related public goods costs to residents and non-residents alike. Hence benefit taxes like motor fuel taxes and charges relating to motorists are good state and local taxes (so long as they are not excessively used for general revenue purposes) while personal income taxes based on residence, payroll taxes at site of occupation and sales taxes on consumption, all relatively good proxies for benefit taxes for state and local provided goods and

services, can likewise be defended as suitable sub-national taxes (McLure, 1967, p. 73). However, those taxes largely unrelated to benefit at the state and local level and generally displaying high exportability - such as corporation taxes, mineral severance taxes and taxes on railway, mineral and manufacturing property - are not good state/local taxes, and on this (and other) grounds, should be centralised (McLure, 1967, p. 73; Zimmerman, 1983, p. 199). However, as Morgan and Mutti (1985, p. 207) point out, "caution should be exercised in developing general conclusions regarding the effects of tax policy in a specific state based on a particular tax or group of taxes or a particular avenue of tax exportation or importation". They also make the important point, which bears repeating in this context, that empirical results are liable to change from structural changes in the regional economy analysed and variations in tax rates and tax structures in the relevant jurisdictions (Mutti and Morgan, 1986, for example, pp. 90,99)

7. ADMINISTRATIVE CONSIDERATIONS IN TAX CENTRALISATION:
ECONOMICS OF SCALE, COMPLIANCE COSTS AND TAX EFFECTIVENESS

In his fiscal federalism literature survey, Netzer (1974, p. 394) paid considerable attention to the administrative capabilities of size and level of government when evaluating the literature on tax assignment among levels of government. Here he argued size rather than level was important, a point of considerable interest when in practice third tier local government units may exceed second tier units in size (which can of course be measured in terms of area and/or population).

It seems to be generally assumed that scale economies apply in tax administration. Netzer (1974, p. 395) regarded this as "obvious" though King (1984, p. 216) more cautiously suggests that "it is possible that collection is subject to economies of scale sustainable in bigger areas." There seems to be very little empirical evidence on this subject. Netzer illustrated his remarks on the subject with data on expenditure for financial administration relative to revenue collection by size of government units (measured in terms of population) for the mid-1960s. These are reproduced as Table 6. His

interpretation of this evidence suggests scale economies for states, cities and countries with roughly homogeneous tax systems (the evidence is more difficult to interpret for the single, central tax collecting agency) while in addition he argued evidence for scale economies becomes even greater when quality of administration is taken into account (Netzer, 1974, p. 396).

On this important matter of the advantages of centralised tax administration, there seems to be even less empirical evidence for other countries. For example, Nowotny (1983, pp. 272-3), after mentioning "the lower costs of central tax administration, and the lower compliance costs for individuals and firms operating on the interregional level", provides no empirical evidence from German and Swiss experience in support of this proposition. For Australia, Mathews (1980, p.56) simply refers to "the administrative economies of reasonably uniform taxation arrangements" clearly taking such economies, including lower compliance costs, for granted. Groenewegen (1981, p. 17) who also accepts the validity of economies of scale in tax administration, laments the lack of "direct empirical evidence to support this contention". For Australia, in fact, it is difficult to obtain reliable evidence on the subject, because state tax administrations rarely publish cost data, unlike Australia's central taxation office which publishes annual data on the collection costs of the specific taxes it administers.

The one Australian attempt at obtaining comparative data on state and central tax administration costs (but without the specific purpose of testing the economies of scale argument) is in the *Report of the Committee of Inquiry into Revenue Raising in Victoria* (1983, chapter 11). It compares central and Victorian tax administration costs with respect to shared taxes (payroll tax, stamp duties), warning that interpretation of these data is not easy (ibid, pp. 640-2). A statistical appendix to this chapter (ibid., pp. 640-2) confirms the difficulty of obtaining reasonable conclusions on the subject from the available data, as is indicated in the reproduced sample of information from this source in Table 7.¹¹

The information on tax administration costs in Table 7 is not easy to interpret with respect to the existence of economies of scale (size of jurisdiction). Economies of size are suggested by low

central costs for the United States as compared with both the United Kingdom and Australia taken separately, but any relationship between size and costs breaks down when the data on these last two countries are compared. Size in terms of population is therefore not necessarily the crucial variable for such cost comparisons; nature and complexity of the administered tax system is clearly of great relevance. At the same time, comparison of Victorian and central tax administration costs show too much annual variation to draw conclusions about economies or diseconomies of size while the much higher central administrative costs for payroll tax and stamp duty collections in the Australian Capital Territory reflect the much smaller revenue base (and number of tax payers) in the central capital territory as compared with Victoria. Economies of scale in tax administration seems to be an area requiring further research, perhaps also because technical progress in computerisation has the potential to substantially alter the cost functions for specific tax administration costs at particular levels and sizes of government.

It is a notorious "fact" that horizontal tax overlapping creates major compliance cost problems for taxpayers doing business in more than one jurisdiction. This proposition is generally accepted (for example, Break, 1980s, pp. 52-71; Nowotny, 1983, pp. 272-3, McLure, 1983b, pp. 112-14), although hard empirical evidence, as on so many aspects of compliance costs, is lacking. For Australia, where horizontal overlapping problems are small as compared with the North American federations, they are nevertheless not insignificant with respect to business compliance costs. A noted consultant on public sector efficiency in Australia argued before the Advisory Committee to the Constitutional Commission (1987, p. 153) that Australia's existing state tax situation was "confusing and costly" and continued:

... I find it an inordinate strain on my time that every single piece of paper that ever crosses my desk goes through months and months of haggling about State stamp duties and the like. I would far prefer that taxation was surrendered to the central government. ...

Tax effectiveness in combatting avoidance and evasion was raised to the status of a major consideration in tax assignment rules

formulation by Mathews (1983). Given the high levels of tax avoidance and evasion experienced by many developed countries from the start of the 1970s, Mathews suggested that taxes should be assigned in such a manner as to reduce to a minimum the potential for avoidance and evasion. The following assignment then follows:

central level: exclusive assignment of progressive annual capital taxes and death duties, customs duties, social security contributions and primary responsibility for the administration of taxes on income, cash flow or broad consumption expenditure;

state level: excise duties, licence fees, liquor taxes, gambling taxes, energy taxes, land taxes, resource revenue and benefit taxes or earmarked charges;

local level: property taxes, direct charges and licence fees.

As Grewal (1985, p.5) notes, this approach, even more than Musgrave's approach to tax assignment (discussed in section 4), centralises tax administration on the overriding ground of federation-wide efficiency though in this case it is combined with the beneficial equity consequences (horizontal and vertical) from the reductions in avoidance and evasion such an assignment is said to produce. Hence, Mathews (1983) explicitly argues that the major taxes (income, cash flow and broad based consumption expenditure) should have their revenue constitutionally shared with the other levels of government combined with additional piggy-back arrangements for the States.

A decade before Mathews (1983) contribution, Netzer (1974, pp. 397-9) had raised differentials in ability to deal with tax avoidance and evasion as an issue of importance in tax assignment by level of government. Some of these differentials were ascribed to economies of scale factors because small jurisdictions cannot employ the range of personnel required for effective administration of some taxes. Netzer also argued "smaller units of government typically levy a tax at the stage in the production-distribution-consumption process which allows more scope for evasion". With sales taxes, retail outlets are the only tax points readily available to small government units, wholesalers and distributors become potential tax points for middle levels of government while manufacturers and importers are only accessible to the central level. For example, cigarette taxes can

only be fully enforced by collection from the producers, that is, central administration, a proposition confirmed by experience with Australian state business franchise taxes on tobacco. Avoidance of consumption taxes is often very easy in border areas, a possibility increased, the smaller the jurisdiction. As indicated earlier (note 8 above), if degrees of avoidance and evasion are associated with the height of tax rates, sub-national assignment of this type of taxes constitutes a form of tax limitation, attractive to supporters of small government.¹²

How strong then is the administrative efficiency case for centralised taxation? On *a priori* grounds, widely held views on the effects on compliance costs of decentralised taxation with horizontal tax overlapping, the real difficulties in ensuring tax effectiveness with respect to evasion/avoidance control by small tax units, and the intuitively sound argument of economies of scale in tax collection make the case seem a strong one. However, especially in the case of the economies of scale aspect of the argument, empirical evidence is lacking while it can be suspected with good reason that what scale economies there were in tax administration are likely to have been substantially reduced by cheaper and more widely acceptable computerisation possibilities.

8. CONCLUSIONS

What conclusions can be derived from this reconsideration of the costs and benefits of tax decentralization? First, the concept and measurement of such decentralisation is not straightforward, hence it is not easy to assess changes in practice of actual federal tax systems. Degree of tax revenue dependence at the sub-national level is not an adequate proxy since tax decentralisation involves sub-national controls over all aspects of tax policy, not easily captured by a single index. Secondly, the traditional normative case for tax centralisation is seriously weakened once central assignment of stabilisation and redistribution functions is questioned and tax decentralisation is seen as equally important with expenditure decentralisation for a stable, efficient and responsible federal system of government. Views on tax competition appear to have

changed. This is partly explained by a more favourable academic perception of all parts of the competitive process, though from the perspective of tax neutrality, the observed increase in locational responsiveness to growing sub-national tax differentials is a less easily defended aspect of more tax competition. The implications of tax export analysis for tax assignment rules are likewise not easy to interpret, partly because the more sophisticated empirical studies now available reveal the high historical relativity of their findings. This, combined with the relative permanence of actual tax assignments, makes the policy applications of tax export studies more limited. Finally, administrative aspects continue to be seen as largely favouring tax centralisation. This follows from the economies of scale assumed for this activity, lower compliance costs from a more uniform tax system with little tax overlapping, and the higher effectiveness of large jurisdictions in preventing avoidance and evasion. However, little empirical evidence is available to support this view while in addition changed technology may have altered its impact in supporting a more centralised tax system.

Given these considerations, how strong does the widely accepted case for tax centralisation remain? In combination it seems that recent research has tended to reduce its validity though it must be noted that this conclusion greatly depends on two rather judgemental factors. These are the greater emphasis on the benefits of tax competition, irrespective of the neutrality losses this may impose with respect to locational choice and other decision making and secondly, shifts in the political perception of federalism which not only strengthen the case for tax decentralisation as a necessary adjunct to decentralised decision making about goods and services but also allow greater subnational government scope in stabilisation and redistributive responsibilities. In addition, the reduced case for tax centralisation involves scepticism about economies of scale in tax administration in the absence of empirical evidence to the contrary.

It is doubtful whether actual practice has adapted to this different academic perspective on tax centralisation. One view of the United States evidence suggests that "State governments are becoming more fiscally prominent as the federal government cuts back

its nonentitlement programs" (Gold, 1983, p.1) but his conclusion is not shared by all analysts of the state and local fiscal scene (Mieszkowski and Stein, 1983). In Australia, official investigation of local government finance has produced little by way of increased decentralisation (cf. Self, 1987) while at the state level decentralisation of taxation from constitutional excise power reform proposed for the 1988 bicentennial year seems unlikely to succeed. Nor does casual observation show increased tax decentralisation in the central European federations. Finally, the British local government finance debate suggests that Thatcher's conservative Whitehall has little real interest in increasing government decentralisation in the United Kingdom (cf. Bennett, 1983; Banham, 1986). This observed lack of enthusiasm for more decentralisation in practice contrasts with the perceived shift in academic opinion on the subject.

Although a small measure of agreement between theory and practice is not unusual in this area (cf. McLure, 1983a, pp. xv-xviii, 1983b, p. 121 n51), it draws attention to the fact that there are still too many areas unexplored before a comprehensive calculation of the costs and benefits of tax decentralisation can be attempted. Partly this emphasises the need for more empirical research, particularly, but not only, in the area of tax administration. However, the historically relative nature of such research, associated with changing tax structure and altered structural features of the economies to which they pertain, makes the development of precise rules on tax assignment more difficult than previously may have been thought. In any case the nature of tax centralisation itself is changing as a result of the enormous growth in interdependence in the world economy, including that of national tax systems. In a world of increasing labour and capital mobility between countries, tax exporting and tax competition take on new meanings. This is indicated by initial international reactions to reform of central taxes in the United States (see Tanzi, 1987, pp. 28-9). When central governments in small, and not so small, open economies, start to lose control over rates and other features of their income taxes as a result of action in their much larger neighbours, tax centralization as here conceived becomes a much smaller ball game for many of the countries concerned. It is hoped

nevertheless that this reconsideration of the costs and benefits of tax decentralisation in developed federal countries has assisted less dogmatic appreciations of tax assignment principles and their consequences and that it will stimulate further research on this important topic if only by emphasising the complexities of the concept and its policy implications.¹³

FOOTNOTES

1. Apart from the exclusive constitutional right of the central government to levy customs and excise duties, this is Australia's constitutional position with the division of tax powers. Subsequent wide interpretation of this exclusive customs and excise power by Australia's High Court combined with very wide conditional grants powers have allowed Australia's central government to virtually eliminate state tax revenue independence thereby producing the most centralised tax system in a federal country. (See Section 3 below and for a historical discussion of this matter, Groenewegen, 1983).

This experience may suggest that concurrent tax powers in themselves may be insufficient to ensure tax decentralisation in a federation. Perhaps this is better achieved by a separation of tax powers, which assigns specific tax powers to particular levels of government in such a way that all levels of government have access to at least some instruments with high inflation and/or income elasticity of tax yield. However, as Break (1980a, pp. 35-6) also demonstrates, this plausible solution in theory is difficult in practice because there may be insufficient instruments with the requisite degree of yield elasticity which are also capable of effective sub-national administration.

2. This paragraph is based on material in Break (1980a, pp. 30-52); King (1984, pp. 237-40); Van Den Driesen and Fayle (1987, pp. 33-4).
3. This and the next three paragraphs draw heavily on Bird (1986, pp. 2-5).
4. Australian local government functions are largely confined to housing and community amenities, culture and recreation and transport (roads) which account for 61.5 per cent of total expenditure (1985-6 preliminary data). Expenditure on public order and safety, health, education and social security by Australian local government is almost non-existent though the last two in particular are growing (Self, 1987). It may be noticed that relative to population Australia is badly represented at the local level. Australia had (in 1981) 7.4 times the number of persons per local government unit than Switzerland, and respectively 5.5, 5.2, 4.8 and 2.3 times the number of persons per local government unit in the United States, Canada, Austria and Germany.
5. For a detailed discussion of the tax assignments and revenue sharing arrangements in five of these federations (Austria is the exception) see the papers by Rubinfeld, Thirsk, Nowotny and Groenewegen in McLure (1983a). It may be noted that prior to the second world war (1938-39), central government transfers relative to state/local expenditure were about 11 per cent in

Australia. The drastic increase in revenue dependence by these sectors in Australia is explained by the effective transfer of income tax to the central government which followed uniform income tax legislation in 1942.

6. In Musgrave and Musgrave (1984, p. 519) this specific instrument assignment is rather different:
Central government: progressive income tax, death duties, natural resources tax; middle (State) level: income tax on residents, income tax to factors abroad but originating within jurisdiction; retail sales tax, origin type product tax as benefit charge; local level: real property tax, payroll tax and benefit taxes. The substantial differences with respect to central assignment of the expenditure tax, the specific addition to a retail sales tax as a middle level tax and the change between origin and destination base of the product tax, together with ambiguities in assigning the use of corporation (business income) taxes between Musgrave (1983) and the textbook discussion are not easily explained, apart from the fact that on the corporate tax assignment issue P.B. differs from R.A. Musgrave.
7. In Australia the requirements of stabilisation policy have long been used as a major reason why the central government should not reduce the high degree of state government revenue dependence which has existed since the second world war. Until the 1970s this line of reasoning was applied with particular vigour to combat arguments about the return of income tax powers to the states (see Nevile, 1974). More recently some have used it to defend the exclusive constitutional excise power for central government (Advisory Committee to the Constitutional Commission, 1987, esp. pp. 161-5). Treasury argument in favour of tax centralisation for economic management reasons now also relies on its necessity to induce reductions in public sector size seen as essential for shifting resources to the tradable goods and services sector in order to lower Australia's external indebtedness via the associated improvement in the current external account balance. (See, for example, Moore, 1986, pp. 6, 20). Central government control over state expenditures in Australia is argued to depend on continuing central control over state revenue via grants, which would be weakened by greater revenue independence for the states.
8. An Australian example may illustrate this. In the debate over introducing comprehensive consumption taxation, the matter of choice of instrument between a value added tax and a retail sales tax was at least in part influenced by considerations of the tax limitation possibilities of a federal system. A retail sales tax, appropriate to the middle level of government on generally accepted tax assignment rules, would, if assigned to the states, greatly reduce the vertical fiscal imbalance of Australia's federation and would be a politically responsible choice because its revenue moves with the citizen voter. A retail sales tax is likewise an effective tax limiting device relative to a value added tax because of its lower effective maximum rate (cf. Crossen, 1983a, p. 336). A retail sales tax is therefore the superior instrument for those seeking to limit

government directly via its lower revenue potential relative to a value added tax; indirectly, when it is used to boost the degree of sub-national fiscal independence in a highly centralised tax system as exists in Australia.

9. See also McLure, 1980, pp. 342-3 esp. and McLure 1983b, which confirms this conclusion on the central nature of the corporation tax on efficiency and other grounds. McLure's tax exporting analysis has been criticised by Mutti and Morgan (1983, 1986) and Morgan and Mutti (1985) because of its simplifying assumptions with respect to tax incidence, time period of the analysis, partial equilibrium nature of the analysis and its unilateral rather than multilateral framework (see especially Mutti and Morgan, 1986, pp. 95-100). For a European perspective on local business taxes, see Zimmermann (1987).
10. For empirical evidence on United States tax importing in this context, see Mutti and Morgan (1986, pp. 100-101). As a result of the 1986 federal income tax reforms which abolished state sales tax deductibility, but which initially contemplated abolition of all state/local tax deductibility, economic analysis of the possible consequences of such a policy for state/local finances greatly increased. See, for example, Noto and Zimmerman (1984), Gramlich (1985) and Feenberg and Rosen (1986). The issue of tax deductibility itself has been a controversial one in the United States public finance literature almost from the beginning of federal income tax. This was partly because of its escalating revenue costs but also from the equity consequences of the policy via its distributional impact on state/local taxes and the federal income tax itself. For a discussion, see Bridges (1965, 1966) and Break (1980b). By contrast, personal income tax deductibility of Australian state and local taxes was confined to land tax and property tax (local rates) from 1942 to 1973. In 1973 their deductibility was converted into a limited tax credit, in turn completely abolished during 1985. Before 1942, when states levied their own personal income taxes, this income tax liability was deductible against federal income tax from its introduction in 1915. As it can do with appropriate federal taxes, business can of course deduct state and local taxes paid for income tax purposes as part of its costs in producing assessable income. Likewise when Australian death duties vertically overlapped, the centrally levied tax permitted deductibility of the state taxes already paid from the value of the estate. Land value taxation, at one stage shared between central, state and local government in Australia, never permitted such offsets (see Groenewegen, 1983, p. 307).
11. It is interesting to note that Victorian tax departments did not apparently always have this information to hand. Sometimes it had to be specially calculated for the Committee from data supplied by the relevant department. Although important for the comparison shown in Table 7, no aggregate information on stamp duty administrative costs was supplied, for example, because Victorian (and other Australian) stamp duties are in fact an amalgam of over twenty duties on transactions ranging

from specific real and personal property transfers to gambling, granting of power of attorney and in Victoria, swine and cattle compensation. (See *Report ... on Revenue Raising in Victoria*, 1983, pp. 606, 613-4, 642).

12. Value added tax, which uses all stages of production in its assessment procedures for anti-evasion reasons seems therefore to be a tax only really suitable for central governments. However, as Cnossen (1983b, pp. 162,164) indicates, developments in tax harmonisation arrangements with respect to value added tax in the EEC may allow the tax to be used by states to a greater extent (by piggy-backing, for example), than is often thought possible.
13. Research assistance from Jack Towe in the compilation of the data in Tables 2 and 3 and literature search is gratefully acknowledged.

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TABLE 1: Degree of State or Local Control of Taxation in Various Coordinated Taxing Schemes

Instrument	Degree of involvement in				
	Tax Admin- istration	Choice of tax base	Choice of tax rate structure	Choice of tax rate levels	Determin- ation of tax revenues
Coordinated tax administration	Full	Full	Full	Full	Full
Coordinated tax bases	Full	Partial or none	Full	Full	Full
Tax Supplements Own rates on higher level base	Full	Partial or none	Full	Full	Partial
Surcharge on higher level tax	Full	None	None	Full	Partial
Centralised tax administration Flexible	None	None	Full or none	Full	Partial
Tax sharing	None	None	None	None	None

Source:

Break (1980a, p.34).

TABLE 2: Public Sector Structures in Advanced Federations (1981 and 1984)

Government Units	Australia		Austria		Canada		Germany		Switzerland		U.S.A.	
	1981	1984	1981	1984	1981	1984	1981	1984	1981	1984	1981	1984
State	7		9		10		11		26		50	
Local	900		2,301		8,000		9,000		3,000		79,913	
State as % of total												
Own revenues ^a	19.9	21.3	9.7	10.0	39.5	41.3	21.8	22.2	25.6	25.2	21.1	23.7
Taxes ^b	15.3	16.6	8.6	8.7	38.9	41.4	21.2	21.8	23.5	23.0	18.4	20.7
Current expenditures ^c	44.0	41.8	14.7	14.5	48.7	48.1	25.9	25.7	32.8	32.2	26.4	24.6
Total expenditures ^d	46.5	44.7	14.8	14.5	48.1	46.7	27.3	27.0	35.7	34.4	26.7	25.0
Local as % of total												
Own revenues ^e	4.7	5.4	16.7	16.4	11.2	11.1	13.3	13.4	22.0	21.4	14.5	16.3
Taxes ^f	3.8	3.9	13.1	12.6	9.4	9.4	7.5	7.7	16.8	16.0	11.4	12.7
Current expenditures ^g	4.4	4.7	16.3	15.4	18.7	17.5	15.7	15.5	23.9	23.2	21.8	21.5
Total expenditures ^h	6.9	7.0	19.5	18.1	21.1	18.4	19.4	18.4	26.8	26.0	23.1	22.5
State-local as % total												
Own revenues ⁱ	24.6	26.7	26.4	26.4	50.7	52.4	35.1	35.6	47.6	46.6	35.6	40.0
Total expenditures ^j	53.4	51.7	34.3	32.6	69.2	65.1	46.7	45.4	62.5	60.4	49.8	47.5
State as % of state-local												
Own revenues ^k	80.9	79.8	36.7	37.9	77.9	78.8	62.1	62.4	53.8	54.1	59.3	59.3
Total expenditures ^l	87.1	86.5	43.2	44.5	69.5	71.7	58.5	59.5	57.1	57.0	53.6	52.6
Own revenue as % of total expenditures												
State level ^m	41.2	42.1	63.1	64.4	79.2	75.2	72.6	78.0	72.7	73.4	77.8	86.7
Local level ⁿ	65.9	68.9	81.7	84.8	51.2	51.6	62.5	69.1	84.1	83.5	61.8	66.1
State-local ^o	44.4	45.7	73.7	75.7	70.7	68.5	68.4	74.4	77.1	77.5	70.4	77.0
Transfers received												
State ^p	56.4	55.3	42.7	41.7	20.3	21.0	18.0	16.3	25.9	25.6	25.1	20.9
Local ^q	22.6	22.9	15.0	14.6	46.9	47.1	30.6	27.9	16.4	16.7	42.9	37.8
Transfers paid												
Central ^r (consolidated)	33.0	31.3	10.3	9.9	19.3	20.1	6.6	5.8	13.1	12.2	12.0	9.5
State ^s	3.8	5.3	6.4	6.0	17.8	16.3	20.9	19.6	17.8	18.4	34.3	32.3
Net transfers												
State ^t	54.5	54.2	38.7	37.9	1.7	1.6	2.0	1.2	11.0	10.4	-8.0	-8.6
Local ^u	21.2	21.5	8.6	8.6	47.2	47.5	27.3	24.0	9.4	9.4	41.8	36.1

Source: International Monetary Fund, *Government Financial Statistics Yearbook*, Volume X, 1986, Washington, D.C.

- Notes:
- IMF tables St. (A) III/V (A) III, own-source current revenue is the sum of tax and nontax revenue excluding capital and grants.
 - From table St. (A) IV/V (A) IV, taxes on goods and services, individuals and property.
 - Table St. (C) III/V (C) III, current expenditure includes goods and services, interest and transfers.
 - Table St. (C) II/V (C) II, total includes the sum of current and other expenditure.
 - Table L (A) III/V (A) III.
 - Table L (A) IV/V (A) IV.
 - Table L (C) III/V (C) III.
 - Table L (C) II/V (C) II.
 - a + e.
 - d + h.
 - a / i.
 - d / j.
 - Table St. (A) III/St. (C) II.
 - Table L (C) III/L (C) II.
 - m + n (d + e).
 - Table St. (A) 18/St. (A) I, transfers received from other levels of national government as a percentage of total revenue and grants.
 - Table L (A) 18/L (A) I.
 - Table T (L2)/C II, the sum of current and capital transfers as a percentage of total expenditures.
 - Table T (L3)/St. (C) II.
 - Table St. (A) VII less (C) 3.3/St. (A) I, transfers received less current transfers as a percentage of the sum of current revenue and grants.
 - Table L (A) VII less (C) 3.3 / L (A) I.

TABLE 3: Central Government Transfer Payments as a Percentage of Non-Central Government Expenditures 1950-1984

Federated Countries	1950	1960	1974	1980	1984	1984 as a % of 1974
Australia	n.a.	51.4*	46.6**	48.6	46.8	100
Austria	4.1	11.1	23.5	23.6	23.7	100
Canada	15.6	20.7	16.2	14.4	16.3	100
Germany	7.9	18.6	9.9	9.0	8.1	82
Switzerland	n.a.	n.a.	13.4	12.2	11.3	84
U.S.A.	9.1	10.6	15.4	17.4	13.5	88
Average	9.2	22.5	20.8	20.9	20.0	96
OECD average	22.2	26.7	29.0	32.2	31.9	110

Notes:

n.a. = not available; * 1963, ** 1975.

Sources:

Columns 1950 and 1960 as derived from W.G. Watson, "Theories of the Growth of Public Expenditures in the Industrialized Countries", Chapter 2, Queen's University, 1983, as cited by Bird (1986) Table 3.

Data for 1974, 1980, 1984 are from tables St., L and T in International Monetary Fund, Government Financial Statistics Yearbook, 1984-1986, Vols. VIII-X, Washington, D.C.

Data for 1974, 1980, 1984 are not strictly comparable with the 1950 and 1960 data.

TABLE 4: Tax Revenue by Levels of Government 1984

	TAX REVENUE					
	As a Percentage of GDP			As a Percentage of Total		
	State %	Local %	State/Local %	State %	Local %	State/Local %
Australia	4.9	1.2	6.1	15.6	3.8	19.4
Austria	4.4	4.5	8.9	10.3	10.8	21.1
Canada	11.7	3.2	14.9	35.7	9.8	45.5
Germany	8.4	3.1	11.5	22.2	8.3	30.5
Switzerland	7.3	5.5	12.8	22.4	16.8	39.1
United States	5.5	3.5	9.0	19.1	12.0	31.1

Source:

OECD Revenue Statistics of OECD member countries 1965 to 1985, Paris, OECD, Tables 3, 119.

TABLE 5: TAX REVENUE BY TYPE OF TAX AND LEVEL OF GOVERNMENT RELATIVE TO GDP - SIX FEDERAL COUNTRIES 1973 AND 1984

		Income and Profit Taxes			Payroll Taxes			Property Taxes			General Consumption Taxes		
		Central	State	Local	Central	State	Local	Central	State	Local	Central	State	Local
		%	%	%	%	%	%	%	%	%	%	%	%
AUSTRALIA	1973	14.34	-	-	0.05	1.43	-	0.17	1.39	1.07	1.85	-	-
	1984	16.84	-	-	0.03	1.71	-	0.12	1.26	1.13	2.37	-	-
AUSTRIA	1973	5.99	1.82	1.90	3.01	-	0.54	0.59	0.08	0.46	5.54	1.10	0.74
	1984	7.12	1.94	1.68	3.57	-	0.50	0.56	0.07	0.51	6.39	1.67	1.06
CANADA	1973	10.17	4.12	-	-	-	-	0.01	0.29	2.94	2.74	2.29	-
	1984	9.32	5.31	-	-	-	-	-	0.48	2.81	1.74	2.32	-
GERMANY	1973	5.42	5.22	2.35	-	-	0.28	0.27	0.54	0.62	3.51	1.89	-
	1984	4.99	5.09	2.47	-	-	-	0.08	0.51	0.64	4.15	2.18	-
SWITZERLAND	1973	1.93	4.63	4.24	-	-	-	0.34	1.03	0.73	2.21	-	-
	1984	3.18	5.52	4.69	-	-	-	0.69	1.10	0.68	3.00	-	-
UNITED STATES	1973	11.17	1.69	0.19	-	-	-	0.40	0.26	3.52	-	1.59	0.26
	1984	10.00	2.09	0.20	-	-	-	0.17	0.21	2.60	-	1.76	0.56

		Specific Sales Taxes			Taxes on Use		Other Taxes		
		Central	State	Local	State	Local	Central	State	Local
		%	%	%	%	%	%	%	%
AUSTRALIA	1973	4.24	0.52	-	0.83	0.03	0.15	-	-
	1984	5.75	0.67	-	1.23	0.05	0.06	-	-
AUSTRIA	1973	4.80	0.57	0.56	0.22	0.05	0.14	0.08	0.13
	1984	3.50	0.29	0.50	0.22	0.07	0.56	0.15	0.21
CANADA	1973	2.12	2.03	-	1.41	0.05	-	-	0.31
	1984	3.01	1.85	-	2.07	0.04	0.01	-	0.45
GERMANY	1973	3.58	0.22	0.04	0.54	0.01	-	-	-
	1984	2.84	0.17	0.01	0.42	0.01	-	-	0.01
SWITZERLAND	1973	3.32	0.02	0.12	0.45	-	-	-	-
	1984	2.50	0.01	0.10	0.47	-	-	-	-
UNITED STATES	1973	1.52	1.42	0.14	0.53	0.12	0.02	-	-
	1984	1.36	0.96	0.16	0.54	0.15	0.01	-	-

Source

OECD, Revenue Statistics of OECD Member Countries 1965-85, Paris, OECD, 1986, Table No. 122.

TABLE 6: Expenditure for Financial Administration as Percentage of Revenue Collected by Central Tax Administration Agencies, by Size of Governmental Unit, Mid-1960s. ^a

Population size group (in millions)	Number of governmental units ^b	Level of Government				
		Federal	State	City	County	All state-local
5 or more	14	0.7	2.0	1.4	6.0	2.0
2-5	22	...	1.9	2.5	2.7	2.0
1-3	17	...	3.0	3.3	5.1	3.3
0.5-1	64	...	2.4	2.6	6.2	3.3
0.3-0.5	63	...	3.5	2.9	5.5	3.8
0.1-0.3	277	...	4.1	2.5	6.2	4.9
less than 0.1	20,636	3.3	7.4	4.3

Source: Netzer (1974), p. 395.

- Notes:
- a) The denominator includes tax revenue plus other forms of revenue usually collected by tax collection agencies. The other forms include payroll taxes for Old Age and Survivors insurance, railroad retirement (federal only), and unemployment insurance (federal and state governments) and water utility revenue (city governments).
 - b) Number of cities and counties in the category in 1960, and states in 1966.
 - c) Combines 1965-66 data for states and cities with 1962 data for countries. Other forms of local government (school and special districts) are not included.

TABLE 7: Collection Costs as a Percentage of Revenue Collected 1979-80 to 1981-82

	1979-80	1980-81	1981-82
	%	%	%
Commonwealth Taxation Office - all taxes	0.92	0.89	0.90
United Kingdom Internal Revenue - all taxes ^a	1.89	1.98	-
United States, Commissioner of Internal Revenue - all taxes ^b	0.46	0.44	0.41
Victorian State Taxation Office - all taxes	0.86	0.90	1.08
Payroll tax, Commonwealth Taxation Office	0.34	0.21	0.38
Payroll Tax, Victorian State Taxation Office	0.19	0.26	0.24
Stamp Duties, Commonwealth Taxation Office	3.91	3.58	2.81
Stamp Duties, Victorian State Taxation Office ^c	0.39	0.44	0.60

Source: Report of the Committee of Inquiry into Revenue Raising in Victoria (1983), Appendix 11, pp. 640-43.

Notes: a) Not available for 1981-82 in Report.

b) Calendar years 1979, 1980, 1981.

c) Estimated weighted average administration cost of 6 stamp duties which in combination raised 78.1 per cent of stamp duty revenue in Victoria in 1980-81.

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