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The role of direct taxes in fiscal decentralization[1]

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Abstract

The aim of the paper is to review the economic theory of tax assignment across levels of government and the international experience in the use of direct taxes – personal income taxes and taxes on profits and on business value added – for fiscal decentralization. We highlight that as for other options of local taxation there are merits but also drawbacks in the use of direct taxes as a source of financing for sub-central governments and so the final choice about their use or not is a matter of judgment and depends on the political priority to be attached to different objectives, such as efficiency, equity, accountability, tax competition, administrative feasibility and revenue adequacy.

Keywords: *direct taxes, fiscal decentralization, tax assignment*
Jel Classification: *H24, H25, H71, H73*

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1. Introduction and main conclusions

The aim of the paper – which is part of a wider research project on “The Role of Taxes in Fiscal Decentralization” carried out with M. Marè and D. Piacentino for the “OECD Network on Fiscal Relations across Levels of Government” - is to review the economic theory of tax assignment across levels of government and the international experience in the use of direct taxes – personal income taxes and taxes on profits and on business value added – for fiscal decentralization.

We highlight that as for other options of local taxation there are merits but also drawbacks in the use of direct taxes as a source of financing for sub-central governments and so the final choice about their use or not is a matter of judgment and depends on the political priority to be attached to different objectives, such as efficiency, equity, accountability, tax competition, administrative feasibility and revenue adequacy.

Personal income taxes at sub-central levels of government play a very variable role in the OECD countries, both federal and unitary. They represent the main source of sub-national tax revenues in countries like those of the North Europe (Norway, Finland, Sweden and Denmark), while personal income taxation is completely absent at sub-national level in one federal country – Australia - and in some unitary countries like France, United Kingdom and New Zealand.

As for other options of local taxation there are merits but also drawbacks in the use of this tax instrument as a source of financing for sub-central governments (SCGs) and so the final choice about its use or not is a matter of judgment and depends on the political priority to be attached to different objectives, such as efficiency, equity, accountability, administrative feasibility and revenue adequacy.

On the one side, the taxation of personal income at sub-national level raises efficiency and distributional drawbacks, especially if the tax is judged on the basis of the normative approach of the traditional literature on tax assignment, according to which the taxation of personal income with progressive rates should be primarily in the competence of the central government, where the functions of redistribution and macro-economic stabilization are traditionally allocated.

For the purpose of accountability the local income tax – applied as a surcharge of the central income tax - can have lower visibility and perceptibility than other options of local taxation, such as the property tax, especially when the local surcharge, as commonly in practice, is deducted at the source together with the central income tax.

On the other side, if we look at the general requirements of a "good" local tax (i.e. administrative feasibility, economic efficiency, equity, revenue adequacy and accountability), the local personal income tax scores highly in some of them. The tax is attractive in terms of tax revenues; thus it is suitable to be assigned to SCGs especially in those countries where the degree of decentralisation is high. In addition, taxes based on income have generally better equity profiles than other options of local taxation, for instance sales taxes.

Moreover, there are a number of obstacles in the exclusive use of the "benefit approach" at local level compared to the "ability-to-pay approach". This explains why for many local services frequently provided at local level (such as education, health care, etc.) the personal income tax is traditionally the main source of financing, where income is used as a measure of people's ability-to-pay. The best example of this tax arrangement is offered by the Nordic model of local finance, where the local sector is responsible for welfare services (schooling, health care and care for the elderly) with

strong redistributive characteristics and the revenues from the personal income tax are the main source of financing.

The OECD countries show wide variation in the way they allocate taxing powers across levels of government and specifically in the field of personal income taxation. The taxation of personal income is exclusively in the competence of the central government and so local income taxes are absent in the majority of the OECD countries. In other OECD countries the taxation of personal income is also in the competence of SCGs, with different degrees of tax autonomy depending on the tax model followed (surcharge/surtax and independent tax). More frequently the local income tax is levied as a surcharge of the central income tax. In general, the local income taxes are levied at a flat, locally established, rate on the same tax base as the national income tax and are collected by the central government. This is the model followed in some countries in the North Europe, but also in Italy, Mexico and Spain.

As far as the use of direct taxes on profits or on business valued added at sub-central level of government a large variety of sub-central taxes on business can be found in most OECD countries: corporate income taxes, value-added taxes, capital taxes, various forms of "industry and commerce" tax, and also payroll taxes to the extent they are not shifted to workers. Their role is growing around the world, and in some instances they constitute the most rapidly expanding element of sub-central revenue systems.

The widespread use of these tax instruments does not itself imply that they are in accordance with the principles of good taxation. In general terms, most local business taxes that can be found around the world do not appear to score well on many traditional criteria of good taxation at local level. In fact, from an economic point of view taxing business at sub-central level has many important drawbacks mainly on the grounds of economic efficiency, revenue volatility and administration. If production is relatively mobile, these taxes, applied at different rates, are likely to distort the location of

economic activities. Additional inefficiencies can arise because of the possible exportation of the tax burden. In addition, given that generally the tax base is unevenly distributed, these taxes tend to accentuate fiscal disparities between local jurisdictions. Generally the volatility of revenues from business taxation is higher compared with other tax instruments such as taxes on consumption and on property. Finally, sub-national business taxes are economically costly to be administered, for different reasons: because of international and intra-national mobility of the tax base; because of the ease with which firms can shift income across local jurisdictions; and because of the difficulty that small local governments have in enforcing these taxes.

This explains why the traditional normative prescription is not to assign corporate taxes based on profits to sub-central levels of government. Also the OCED has recommended reducing sub-national government reliance on this form of business taxation in a number of countries.

However this does not imply that other models of direct taxation on business can't be explored successfully at sub-national level. In this perspective the approach of "benefit taxation" can offer some rationales to the taxation of businesses at sub-central level. Governments provide the business community with both general services (such as a legal framework or public safety) and specific services that allow businesses to produce more efficiently. According to the benefit principle, to the extent that public activities benefit directly and indirectly particular firms, these firms should be charged for the cost of providing these benefits. Consequently, specific and general taxes on business should be applied for beneficiary firms, thus ensuring that businesses pay the costs of the inputs they use, both private and public, in the production process.

The main problem with the implementation in practice of the benefit approach to taxation is that it is often difficult to identify, directly or indirectly, the benefits that businesses receive from pub-

lic services, that is it is difficult to have objective measures of the use of public services by different business entities. In principle, whenever possible, specific public services benefiting specific business enterprises should be paid for by appropriate user charges; this approach is particularly appropriate for smaller, lower level sub-national governments. But, for larger, higher level governments – such as regions – and when it is not feasible to recoup the marginal cost of cost-reducing public sector outlays through user charges, alternative taxes have to be explored. In this perspective, the conventional view is that taxing businesses on their income tends to weaken the correspondence principle and so corporate income tax fails to satisfy the criteria of benefit taxation.

Many of the problems arising from the existing taxes may be resolved by the adoption of a form of business taxation that best satisfies that economic case. Consequently, some forms of broad-based general levy on business activity may well be warranted. Such a "business value tax", compared with a business tax based on profits, such as the traditional corporate income tax, and with other forms of sub-national business taxes, such as capital taxes or non-residential property taxes, can have a number of economic advantages. First, it implements the benefit principle: any company using local public services should pay the business tax, whether or not it makes profits. Second, also in accordance with the benefit approach to taxation, if the tax rate is set to match roughly the benefits-received basis, the tax would eliminate inefficient spillovers and encourage more responsible and accountable sub-national governments. Third, the tax base of a business value tax is larger than alternative tax bases and this allows the application of lower tax rates; this in turn makes the tax more neutral in business investment and financing decisions and less susceptible to base erosion and tax avoidance.

2. Personal Income Taxes

2.1 Introduction

Personal income taxes at sub-national levels of government play a very variable role in the OECD countries, both federal and unitary. They represent the main source of sub-national tax revenues in countries like those of the North Europe (Norway, Finland, Sweden and Denmark), while personal income taxation is completely absent at sub-national level in one federal country – Australia - and in some unitary countries like France, United Kingdom and New Zealand.

As for other options of local taxation there are merits but also drawbacks in the use of this tax instrument as a source of financing for sub-central governments (Ridge and Smith, 1991; King and Watt, 2005; Isaac, 1992) and so the final choice about its use or not is a matter of judgment and depends on the political priority to be attached to different objectives, such as efficiency, equity, accountability, administrative feasibility and revenue adequacy.

On the one side, the taxation of personal income at sub-national level raises efficiency and distributional drawbacks, especially if the tax is judged on the basis of the normative approach of the traditional literature on tax assignment[2]. According to this literature,

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2 It is well known that there is no generally accepted framework in which to discuss the optimal tax assignment (McLure, 1983a; 1990; 1994; 1997; 1998; 2001). The view about the appropriate tax assignment - and thus the choice of local taxes and evaluation of individual tax instruments - depends on the normative approach that is adopted. In this context there are two extreme positions: the traditional "normative approach" on the one side and the "public choice approach" on the other side. However both approaches provide poor explanation of the tax assignments that are in place in the real world. Some more explanations come from the "positive approach" that tries to explain the tax assignments existing in practice (Bordignon and Ambrosanio, 2005; McLure, 2001). As noted by Bird (1999) "the tax assignment that actually prevails in any country reflects

the taxation of personal income with progressive rates should be primarily in the competence of the central government, where the functions of redistribution and macro-economic stabilization are traditionally allocated[3]. In this view, personal taxes with progressive rates should be assigned to the central government where a global base of taxation can be implemented most efficiently; sub-central governments would be unable to pursue re-distributional objectives in the presence of inter-jurisdictional mobility of tax bases; moreover the mobility of individuals – especially high income ones - would create economic distortions and thus welfare losses; finally, the decentralization of the personal income tax would deprive the central government of one of the main instrument for macro-economic stabilization (Dahlby, 2001).

On the other side, if we look at the general requirements of a "good" local tax (i.e. administrative feasibility, economic efficiency, equity, revenue adequacy and accountability), the local personal income tax scores highly in some of them (Ridge and Smith, 1991; Isaac, 1992). For instance, the tax is attractive in terms of tax revenues; thus it is suitable to be assigned to sub-national governments especially in those countries where the degree of decentralization is high; in addition, taxes based on income have generally better equity profiles than other options of local taxation, for instance sales taxes. Finally, contrary to the traditional normative approach to tax assignment, in certain conditions even sub-national governments can pursue own distributional goals through the taxation of personal income (Tresch, 2002; Bird, 1999).

In what follows we review some issues in the theory and practice of sub-national personal income taxes, starting from an evaluation

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more the outcome of political bargaining in a particular historical situation than the consistent application of any normative principles".

3 In the traditional normative approach the optimal tax assignment is strictly linked to the optimal assignment of expenditure powers: macro-economic stabilization; redistribution; and resource allocation (Musgrave, 1959 and 1983).

of merits and drawbacks of these tax instruments along three main economic dimensions: equity, efficiency and revenue stability. Then we discuss how sub-national personal income taxation can be designed and administered in practice. Finally, we overview the main models of local income taxation in place in the OECD countries and their role in terms of tax revenues.

2.2 Equity

Both at central and at sub-central level of government there are two basic approaches to deciding how the tax burden should be shared between members of society: the "ability-to-pay" approach and the "benefit" approach. Broadly speaking the benefit approach sees taxes as being analogous to prices charged for using a service or buying a good; as a consequence those who receive more benefit from local public services should pay more taxes. On the contrary in the ability-to-pay approach individuals pay taxes on the basis of the resources they possess and independently on the public benefits they receive.

It is argued that taxes based on the benefit principle ("benefit taxes") can play an efficient role in the public sector analogous to the role of prices in the private sector. They can also promote efficiency in political decision-making as individuals pay for the services they receive. As far as the distribution of the tax burden, they can be regarded as "equitable" as individuals pay taxes in accordance with the benefits they receive from public services.

In the benefit approach to local taxation the implicit assumption is that the existing distribution of income is socially acceptable, while taxes based on the ability-to-pay principle can be used not only to finance public expenditures, but also as an instrument of income redistribution.

At local level traditionally the "benefit approach" is evocated for local taxation more than the "ability-to-pay" approach (Musgrave,

1959; 1983). The conventional view is that, while the function of resource allocation can be decentralized, the function of income distribution should be primary in the responsibility of the central government and so the main instrument for income redistribution – the personal income tax applied with progressive rates – should be assigned to the same level of government.

The theoretical reason is that, if productive factors are mobile across local jurisdictions, policies targeted to redistribute income may have the main effect to attract poor people and to drive-out high-income individuals. Local progressive taxes would create incentives to migration of high income taxpayers who may be able to reduce their tax burden by moving to areas where the tax rates are lower (Oates, 1972). This in turn would tend to accentuate differences in tax rates between jurisdictions, since the low-tax rate jurisdiction would benefit from higher tax base and *vice versa*: "… mobility would thus not only introduce allocative inefficiencies but would also largely frustrate the attempt to attain a more desirable incidence of local taxes" (Oates, 1972).

Given the conventional assumption that the function of income redistribution is in the primary competence of the central government, allowing local governments to tax personal income could weaken the objective of maintaining a redistributive role of the personal income tax (Joumard and Kongsrud, 2003), other than reducing the linkage between spending and taxation at local level.

The conventional view to local taxation would seem to leave no significant role to sub-central governments in the taxation of personal incomes. However, as noted by Bird (1999), in the conventional approach to tax assignment, central, and not sub-central, government are presumed to be entitled to impose their distributive policies, but "this assumption is by definition incorrect in a 'truly federal' country", where sub-central governments can have own distributional preferences (Tresch, 2002). In the experience of many OECD countries sub-national governments play a non mar-

ginal role in income distribution though their spending and taxation choices.

Moreover, there are a number of obstacles in the exclusive use of the benefit approach at local level:

(i) the first is the traditional argument that many public services provided by local governments produce generalized benefit than cannot be closely related to taxes on beneficiaries and so it is often difficult to identify the direct benefits that each individual receives from public services;

(ii) the second obstacle is that benefit taxes may be viewed as inequitable and cannot be used to finance local expenditures that are explicitly intended to be redistributive. So a tax assignment that only provides sub-central governments with highly regressive taxes (like generally benefit taxes) would not be optimal (Dahlby, 2001);

(iii) generally the costs of administering benefit taxes are unreasonably high, compared with other options;

(iv) finally, benefit taxes are generally unable to provide sufficient resources, especially when in a country the degree of decentralization is high.

In the presence of these obstacles, it becomes necessary to rely also on taxes – such as the tax on personal incomes - which are based on the ability-to-pay principle. As the effective possibility of using benefit taxes depends on the nature of the services provided and on the degree of decentralization, the final choice between the benefit approach and the ability-to-pay approach depends in each country mainly on the decisions concerning the allocation of competences across levels of governments.

As said above, the conventional view assigns progressive income taxation to the central government. However, even if local progressive income taxes are not suitable for local governments, there are

arguments towards some positive relationship between local taxation and each household's "ability to pay", measured through income. Taxes more linked to income may have better equity profiles than other options of local taxation. For instance, Ridge and Smith (1991) have shown for the UK that a revenue neutral reform replacing the Community charge with a new local income tax would have made the local tax system more progressive (see also Smith, 1991). On the same ground a local income tax would be more progressive than a local sales tax (Hall and Smith, 1995).

Other empirical work has investigated whether sub-national governments are able to redistribute income through the taxation of personal income with progressive rates. For instance, Goodspeed (1989) shows that, contrary to the orthodox assertion that local governments should abstain from using ability to pay taxes because migration of individuals would result in a misallocation of resources and would nullify any attempt to redistribute income, local governments can use income taxation without substantially misallocating resources and some redistribution results from the use of local income taxes[4]. On the contrary, Feldstein and Vaillant Wrobel (1998), with reference to the state governments in the United States, support the theoretical presumption that sub-central governments cannot redistribute income because the mobility of individuals (both rich and poor) will cause gross-of-tax wages to adjust until the resulting net-of-tax wages is equal to those available elsewhere. Therefore in equilibrium the real after tax incomes would be independent of the state tax structure. While no redistribution of income will occur, a change in the tax progressivity in a state will cause economic distortions; this is because the change will lead to higher gross wages for highly skilled individuals and lower gross wages for less skilled ones; firms will be induced to reduce the

4 The analysis of Goodspeed is based on a general equilibrium model of a metropolitan area in order to examine the efficiency and redistributive properties of local income taxation relative to local head taxes.

number of higher paying jobs and to increase the number of lower paying jobs. At the end a more redistributive state tax structure will reduce economic efficiency without changing the income distribution.

The limits of the benefit approach to local taxation explain why for many local services frequently provided at local level (such as education, health care, etc.) the personal income tax is traditionally the main source of financing, where income is used as a measure of people's ability-to-pay. The best example of this tax arrangement is offered by the Nordic model of local finance, where the local sector is responsible for welfare services (schooling, health care and care for the elderly) with strong redistributive characteristics and the revenues from the personal income tax are the main source of financing (Rattso, 2005).

In these circumstances, the main issue is whether the local income tax should be applied with flat or progressive rates. As said above, the conventional view is that the progressive income tax should be assigned to the central government because the function of redistributing income is traditionally reserved to the central government and because with highly progressive rates the trade-off between equity and efficiency would be accentuated. Also Bird (2001) suggests to use flat rates – rather than progressive rates - in order to reduce economic distortions, and also for administrative reasons. Similarly, McLure (1998) argue that whereas the central government may appropriately use a progressive income tax for stabilization and redistribution, sub-national governments more properly should employ a flat-rate income tax simply to pay for the generalized benefits of public services. Inclusion of a tax exempt threshold in the income tax of sub-national governments is also likely to be conceptually inconsistent with the benefit principle, since low-income households, as well as those with high incomes, consume public services. In theory, transfer payments could be used to offset the burden of taxes on low-income households.

These arguments may explain why few countries have made it possible for local governments to apply progressive rates. For instance, in the Nordic countries sub-national authorities are allowed only to set a flat tax rate on personal income, sometimes (as in Norway and Iceland) subjected to band limits set by the central government.

Even if the use of the personal income tax at sub-central level is mainly in line with the ability-to-pay principle, also the theory of benefit taxation can play a role. For example, if the public benefits of public services – benefits that cannot be financed by fees, charges and taxes closely related to benefits – are more closely related to where people live than to where they work, a residence - based income tax would be preferable to a source-based income tax (McLure, 2000)[5]. This can be seen broadly in line with the benefit principle as core public services (education, health care and social assistance) are provided by local governments in favor of resident individuals (Joumard and Kongsrud, 2003).

Other than on the ground of inter-personal equity, the use of the personal income tax at sub-central level has to be evaluated on the ground of inter-jurisdictional equity. The distribution of tax revenue across local governments is crucial in the choice of local taxes, in particular when local governments provide welfare services.

Many arguments support the choice of local taxes evenly distributed:

(i) the most obvious argument is equity (horizontal equity) since an uneven distribution of the tax base is a source of differences in service standards across local governments (Rattso, 2005). The consequence is that

5 As noted by McLure, at a conceptual level, sub-central taxes on personal income are better assigned to the jurisdiction of residence than to the jurisdiction of employment. Even so, there is a place for the use of payroll taxes to pay for costs of public services related to the place of employment, instead of residence (McLure, 2000).

individuals who are perceived to be identical at national level (because for instance they have the same income level or the same level of consumption) might receive different tax treatments for the same basket of local public services (or different baskets of services at the same level of taxation) just because they happen to live in different jurisdictions (Bordigon and Ambrosanio, 2005; Bordignon and Peragine, 2005);

(ii) a second argument is that, if these inequities are perceived as unacceptable, differences in local tax endowments should be reduced through equalization transfers from the central government. As the dimension of these equalization transfers increases with the dimension of differences in endowments (Ambrosanio and Bordignon, 2005), an ambitious tax equalization program would weaken the link between the local tax base and local government revenue;

(iii) finally, an even distribution of the tax base can also be defended on the ground of economic efficiency, since it reduces the incentives for fiscally induced migration. Generally, higher disparities in tax bases between jurisdictions are associated with lower tax rates on mobile bases (Oates, 1972, Goodspeed, 1989 and 1995).

The degree of inequality in the distribution of each tax base (income, consumption, profits, property, etc.) is extremely variable across countries. But generally, the income tax base is more evenly distributed than other tax bases (for instance, the profit tax base) and less than other ones (like consumption). Thus from the perspective of inter-jurisdictional equity the local personal income tax is generally preferable to the corporate income tax, but inferior to other options such as the consumption taxes.

2.3 Efficiency

A "good" tax, both central and local, should not distort the economic activities and should be able to promote the efficiency in the public decision-making process. In relation to local income taxes the issue of efficiency may be evaluated along three main economic dimensions:

(i) distortions in the location decisions of economic agents which are mobile across jurisdictions;

(ii) interdependences of tax policies between governments at the same level (horizontal externalities) or at different levels (vertical externalities);

(iii) accountability of local authorities over their fiscal decisions.

As far as the first point at sub-national levels of government distortions can arise when productive factors, firms and households are mobile across jurisdictions and taxes can create incentives to mobility. In principle, this occurs when local taxes are based on the ability-to-pay principle - and not on the benefit principle – so that taxes may make local services seem costly to those on high incomes and cheap or even free to those on low incomes (King and Watt, 2005). As said above, in this perspective the normative prescription is that sub-national governments should make only limited use of progressive individual income taxes. Otherwise, in the presence of inter-jurisdictional mobility of individuals, income redistribution at local level would be ineffective and would create economic distortions and welfare losses: "sub-national attempts to redistribute income through the personal income tax, applied with progressive rates, are likely to be counterproductive, driving out capital and high-income individuals" (McLure, 2000).

However, how much a local income tax can create allocative inefficiencies due to mobility and thus how much fiscal migration induced by differences in income tax rates can be a constraint in the choices of local taxes is mainly an empirical issue (Bakija and

Slemrod, 2004). Firstly, a certain degree of inefficiencies is common to any option of local tax, other than pure benefit taxes; secondly, mobility is not inexpensive and the result depends on how much location choices of households are influenced by other factors besides local levels of taxation; moreover, in practice population mobility in response to local fiscal factors is unlikely to be high when the geographical dimension of local jurisdictions is large enough. Finally, there are solutions in the design of the tax equalization systems and in the design of the local income tax that can reduce the negative effects of fiscal migration. For instance a common solution to reduce the incentives for migration of high-income individuals is to set some upper limit on the level of income that local governments could levy taxes on (King and Watt, 2005).

When several levels of government share the same tax base as in the case of the personal income tax, there can be interactions both between higher and lower levels of government (vertical externalities) and among lower level government (horizontal externalities). The final results of these effects are largely ambiguous and therefore have to be evaluated empirically (Goodspeed, 2000).

Horizontal externalities are present when the taxing choices of one local government are influenced by the choices made by another government at the same level. This interaction may happen because of horizontal tax competition, where mobility of income tax bases tends to lead to lower tax rates, or because of yardstick competition (Besley and Case, 1995), where citizens compare the tax-expenditures package in their jurisdiction with those of other similar jurisdictions.

The basic lesson of the literature on horizontal tax competition is that if local politicians are benevolent, and so they pursue the objective of maximizing citizens' welfare, tax competition will produce inefficiencies by lowering tax rates under the optimal level (Smith, 1991). The result is that if local jurisdictions are not large enough and the mobility of individuals is high, the personal income

tax is inferior to other options of local taxation and the central government should set band limits of local income tax rates[6].

On the contrary, tax competition may be beneficial if local politicians are non benevolent or Leviathans, because it will reduce the income tax rates in equilibrium (Dahlby, 2001). In this view, there can be a role for the local income taxation even if tax bases are mobile between jurisdictions. Also yardstick competition is potentially beneficial, because it will increase the responsibility and accountability of local politicians and this will tend to lower rates of income tax in all jurisdictions. The condition is that the local income tax be designed so as to maximize its visibility and transparency.

A growing empirical literature, mainly related to the experiences of federal countries, has tried to investigate the extent of horizontal tax externalities (Goodspeed, 2000). With reference to Canada, Esteller-Morè and Solè-Ollè (2001b) find empirical evidence of the horizontal externalities, showing that a change in the tax rates of the competing provinces forces a change in the tax rate of one province. Taxes are able to influence the residence of individuals? Feld and Kirchgassner (2001) find evidence of tax competition between cantons and between cities in Switzerland, and especially they find a strong negative relationship between the tax rate and the share of rich households. Similarly, Schmidheiny (2004) investigates whether income tax differentials across municipalities in Switzerland affect the households location decisions, showing that rich households are significantly more likely to move to low-tax municipalities than poor households. Additional evidence on the negative impact of progressive state taxes on the location of rich households is given by Bakija and Slemrod (2004) for the United States.

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6 The problem has been an important cause of concern in Denmark and Sweden where there is no ceiling on local personal income tax rates (Joumard and Konsgrud, 2003).

With regards to vertical externalities, as long as tax bases are negatively related to the central income tax rate, a rise in the central tax rate will decrease the tax revenues of sub-central government, requiring an increase in the local tax rate to maintain the same tax revenues. Therefore, the level of combined taxation will be higher than the level that would have been established by a unitary government. But if local governments set their tax rates to minimize the combined central and sub-central excess burden of taxation, the reaction of local governments to higher central tax rates will be a reduction in the local tax rate.

Goodspeed (2000) using a panel of data from 10 OECD countries during the period 1975-84 finds evidence of a negative relationship between central and sub-central tax rates on personal income, as local governments tend to decrease their income tax rates in reaction to a higher central income tax rate. Esteller-Morè and Solè-Ollè (2001a) find empirical evidence of a positive reaction of state personal income taxes to the increase in federal tax rate in the United States. They find also evidence that the deductibility of the sub-central income taxes from the central one tends to lead to higher sub-central tax rates. Similar effects are found by the same authors for the personal income tax in Canada (Esteller-Morè and Solè-Ollè, 2001b). Scott and Triest (1993) find also evidence of the relationship between the federal and the state individual income tax progressivity in the US, when as in the US the state income tax can be deducted from the federal income tax[7].

Finally, as far as the efficiency in the public decision-making process the local income tax, even if supplementary (or “piggy-backed”), can be regarded as sufficiently visible and so it may satisfy the criteria of political responsibility and accountability (Bird,

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7 Ceteris paribus, when the state income tax can be deducted from the federal one, the value of the tax deductions increases with income; this results in a reduction in the effective degree of state tax progressivity compared with the statutory tax progressivity.

2001), even if at a lower degree compared with other options of local taxation (like the property tax). Moreover, the local income tax is able to promote efficient spending at local level, as the tax burden falls almost entirely on residents and thus tax exporting is absent (Bordignon and Ambrosanio, 2005).

Summing-up, it can be argued that in terms of efficiency the local personal income tax in the form of flat surcharge on the central income tax may have several advantages, even if in conflict with benefit taxation and the redistributing role of taxation. The degree in the mobility of the tax base on the one side does not create large distortions and on the other side might restrain the choices of non benevolent politicians. However from this point of view the local income tax – applied as a surcharge of the central income tax - can have lower visibility and perceptibility than other options of local taxation, such as the property tax, especially when the local surcharge, as commonly in practice, is deducted at the source together with the central income tax (King and Watt, 2005).

2.4 Revenue stability

Additional requirements of a good local tax are traditionally the adequacy of the tax yield and its stability, i.e. a local tax can be regarded as appropriate if it is able to generate sufficient revenues to meet the expenditure needs and to generate yields on a stable basis. Even in this respect, personal income taxes show some merits and some drawbacks (Ridge and Smith, 1991; Isaac, 1992).

As said above, the revenue that can be raised from benefit taxes is generally not sufficient to meet the revenue need of local governments, when the degree of decentralization is high. Accordingly, alternative tax instruments have to be exploited to generate sufficient revenues, even if they can be regarded as less efficient than benefit taxes. In this perspective, compared with the revenue-raising capacity of other local taxes, such as the property taxes or fees and user charges, the local income tax scores better, reducing

the importance of central grants and allowing for larger local autonomy (Kay and Smith, 1988).

In the experience of many OECD countries the local tax on personal income has been introduced as a way of supplementing local revenues, mainly coming from the local property tax, in order to expand local service provision and make local governments more self-reliant. As noted by Bird (2001), this can explain why the best-known examples of local income taxes are in those countries (European Nordic countries) where sub-national governments have large expenditure roles and are largely fiscally autonomous (Bird, 2001).

If the local personal income tax can satisfy the requirement of adequacy in the tax yield, its ability to raise revenue on a stable basis is questionable. It is well known that the personal income tax with progressive rates and the corporate income tax are the instruments with the most powerful stabilizing effects. This is because profits fluctuate more than the economic conditions and the progressive rates have a stabilizing effect, taking a percentage of income that rises with income. Once again the traditional view about the allocation of public functions and tax assignment across levels of government is that the function of macro-economic stabilization should be centralized and so the main instruments, the personal income tax and the corporate income tax.

Otherwise, highly redistributive taxes would likely generate an unstable basis for sub-national finance (Oates, 1972). The reason is that sub-national governments' expenditure is frequently unresponsive to the economic cycle, like in the case of education, or tends to increase during recessions, as in the case of social assistance. From this point of view income taxes (both personal and corporate income taxes) are less appropriate for local governments than taxes on consumption and on property (Joumard and Kongsrud, 2003). In the United States there is evidence that the volatility in personal in-

come tax receipts, that represent the second source of state financing, has led to acute problems in state budgeting (Laubach, 2005).

However, there are still arguments in favor of taxing personal incomes at sub-national levels. Firstly, as said above, even if highly redistributive taxes should be primary in the competence of the central government, this does not imply that local government should be prohibited to apply flat taxes on the income of individuals. Secondly, the argument that tax decentralization would make it harder to have successful macro-economic stabilization is seen weak both in theory and in practice (Dahlby, 2001; King and Watt, 2005). From an empirical point of view King and Ma (1999) find evidence of positive correlation between decentralization and macro-economic performance in OECD countries. Finally, the local income tax (like the local sales tax) compared with the local property tax has not the disadvantage of low buoyancy (King and Watt, 2005). While for the property tax, the tax base tends to remain static if some form of annual revaluation is not provided, the tax base of the local income tax tends to follow economic growth, so that at the same tax rate the tax revenue increases with income.

2.5 Design

There are different models of personal income taxation at sub-central level (Isaac, 1992; Smith, 1991). The literature suggests three fundamental methods:

(i) own local income tax: the tax acts independently from the central personal income tax. The degree of tax autonomy is the highest as local governments can choose to levy or not the tax, can determine the tax base and set the tax rates; they can also have responsibility for tax administration and enforcement;

(ii) local surcharge/surtax on the central government income tax: the degree of tax autonomy is lower as the local tax is levied on a tax base defined by the central

government and the taxing power of sub-central governments is confined to the choice of tax rates, sometimes within limits decided by the central government;

(iii) tax sharing of the revenue from the central government income tax: local tax autonomy is absent because local governments have no power in determining tax bases/ tax rates and so they don't have control over the level of their tax revenues. They are just entitled to a share of the revenues - from the central income tax - arising in their jurisdiction.

Each option has some merits and some drawbacks (Bordignon and Ambrosanio, 2005). When the local income tax is independent, maximum degree of sub-central autonomy is achieved. Each jurisdiction chooses to levy or not the tax, determines the tax base, sets the tax rates and administers the tax. This is the approach followed in the United States; subject only to very general constitutional limitations and almost no federal statutory limitations, the states can do virtually anything they want (Herd and Bronchi, 2001). Sub-central governments can predict with an high degree of certainty their revenues and the decision of the central government concerning tax bases and tax rates does not interfere with the local income tax. Also in terms of visibility, transparency and accountability the independent income tax should be preferable. However, allowing powers also on tax bases could create complex tax systems and make more difficult for local citizens to compare outcomes of different local jurisdictions (Bordignon and Ambrosanio, 2005).

The main disadvantage of this approach is that it can be vulnerable to inconsistency, duplication of effort, and excessive complexity of compliance and administration; different jurisdictions may define their tax bases in different ways, or administer the same taxes in different ways. Inequities and economic distortions can also occur if the tax systems of various sub-central governments do not

match, resulting in gaps or overlaps in taxation. One way to reduce the complexity of independent legislation, while maintaining the merits of sub-central control over tax administration in terms of accountability, is for local governments to agree on their income tax bases, but retain responsibility for setting tax rates and for administration.

In the case of surcharges and surtaxes, higher level of government defines the tax base and generally collects both its own tax and local taxes. Surcharges and surtaxes differ in the way the tax base is determined: in the case of local surcharge, the tax base is the same as the central government's income tax base, while in the case of local surtax (also called "tax-on-tax") the tax base is the tax of the central government income tax, net or gross the available tax credits. When the local income tax is linked to the central one, any decision of the central government concerning the income tax rates will affect the revenues of the local surtax, while decisions concerning tax bases will affect the tax revenues of both the local surcharge and the local surtax.

The multiple use of the same tax base is often recommended because of its efficiency; McLure (1998) notes as a general point that there is no reason to assign taxes just to one level of government, as long as the assignment to more than one level does not create inefficiencies, distortions and compliance costs. Also Musgrave (1983) notes that "multiple use, if properly coordinated, does in fact simplify administration and reduces cost".

However when the tax base is shared by several levels of government, none has incentives to take into account the effects of own tax policies on the other governments. Sub-central governments may not fully take into account the national externalities resulting from their autonomous rate setting. An increase in local income tax rates may lower incentives to work, save and seek education and thus affect the national growth potential. It can further result in lower tax revenues and higher spending for the central government.

The result would be higher taxes than optimal (Bordignon and Ambrosanio, 2005). Quite limited or non-existent tax autonomy can serve to prevent sub-central governments setting personal income tax "too high".

In this model of local taxation (surcharge/surtax) the degree of local tax autonomy is lower. Generally the local autonomy is confined to the choice of tax rates, sometimes within minimum and maximum limits set by the central government. However, compliance costs and cost of administration are generally lower. This method of local income taxation avoids the problems that occur when different local jurisdictions define the tax base in conflicting ways or administer the tax in different ways. As they promote local autonomy and accountability with low compliance costs, in many countries local surcharges and surtaxes are considered to be the most appropriate means of providing local governments with their own marginal revenues. The main practical problem in the use of local surcharges/surtaxes is that they have to be levied according to the residence principle which at local level could be difficult to implement (McLure, 1998).

In the presence of drawbacks and constraints on the use of the income tax at local level, some countries allow sub-national authorities to share tax revenues while having no discretion over tax rates at all. Austria and Germany are the best known examples of tax sharing of the central personal income tax, where the revenue is apportioned between sub-national authorities in proportion to the amount of tax raised in each authority.

2.6 Administration

Also on the administrative ground there can be different systems of local income taxation. The local income tax can be integrated entirely within the national tax system, or alternatively the administration and collection responsibilities can be shared between the central and the local government or local governments can be al-

lowed to administer and collect their local income tax independently of the national tax system (McLure, 1998). This alternative is likely to be the most perceptible model of local income tax; however it is clearly a more expensive option. Generally personal income taxes are better managed at the central level because of high skills levels required (Bordignon and Ambrosanio, 2005).

Mikesell (2003) and Martinez Vazquez (2005) report on some international experiences in the application of the personal income tax at sub-national level. In the Nordic countries local governments supplement the central tax with a piggybacked personal income tax that is administered by the central government. For example, the Swedish National Tax Board administers local taxes based on the central personal income tax base. The rates are proportional but vary between municipalities, with the lowest rates in well-to-do suburbs of large cities and highest rates in the rural north and in municipalities suffering industrial decline. Similar arrangements for income taxes apply in Denmark, Finland, and Iceland.

Some local governments in the United States levy supplements to state individual income taxes. The state tax department administers the local taxes in the same collection flow as applies for its own taxes. The same administrative structure – withholding, return processing, audit, enforcement – is applied to both state and local taxes. The local tax is commonly satisfied through a single line on the larger state tax return.

In Switzerland a combination of local own income tax and surcharge on the central income tax is used. Each of the twenty-six cantons has its own tax system and local governments are entitled to levy taxes to the extent authorized by the canton. A federal law requires cantons to harmonize their income tax concept and deductions with the federal base, but they may set the amount of deductions and their rate schedules. Each of the cantons has a separate administrative body for collection of its taxes. Local governments levy supplements to canton individual income taxes. The commu-

nal tax is levied as a percentage or multiple of the basic canton tax rate. The communal tax is piggybacked on the canton tax and federal tax is reported on the canton return. Thus, the canton is responsible for assessing and collecting federal, canton, and communal income tax.

The level of local tax discretion can be different. On the one side tax discretion increases local accountability and help local governments take full responsibility for the services they provide. On the other side central governments make use of controls over local tax discretion in order to regulate the level of local tax revenues (and expenditures) and in order to avoid undesirable tax competition. The most frequent instrument of control is to set maximum and minimum limits to tax rates. Experience from the countries which use the local income tax suggests that while surcharges can vary from region to region, the rates should be subject to minimum and maximum ceilings in order to minimize the distortion effects of large variations in rates across regions, while retaining a degree of discretion for local governments.

In the OECD countries there are many experiences of controls by the central governments. For instance in the Nordic countries local governments have wide discretion to set the tax rate of the income tax; however in Denmark tax discretion takes place within national agreements between the central and the local governments; moreover, at present there is a "tax stop" as the average tax rates are not allowed to increase (Rattso, 2005). A similar tax stop has been imposed recently by the central government in Sweden (Loughlin and Martin, 2004). Similarly, in Italy from some years regions are not allowed to use their taxing powers on personal income, except if they have to cover deficits in the health care sector.

2.7 An overview of the OECD countries

The OECD countries show wide variation in the way they allocate taxing powers across levels of government and specifically in the field of personal income taxation[8].

The taxation of personal income is exclusively in the competence of the central government and so local income taxes are absent in the majority of the OECD countries: Australia, Austria, Czech Republic, Germany, Greece, Hungary, Ireland, Luxembourg, Netherlands, New Zealand, Poland, Portugal, Slovak Republic, Turkey and the UK.

In some of them, like Austria, Germany, Luxembourg and also in some of the new EU member states, like the Czech Republic, Hungary, Poland and the Slovak Republic (Bernardi, Chandler, Gandullia, 2005), revenue sharing systems are in place.

In the other OECD countries the taxation of personal income is also in the competence of sub-national governments, with different degrees of tax autonomy depending on the tax model followed (surcharge/surtax and independent tax).

The model of local surtax was used in most Canadian Provinces[9] and is now in place in Belgium and Korea where the local income tax is levied as a percentage of the national tax liability. Also in Switzerland local governments can apply a surcharge on the cantonal income taxes.

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8 In developing countries outside the OECD local income taxes are generally less common, also because central governments have low experience in the administration of the national income tax (Bird, 2001; Shome, 1999). The possibility of imposing regional (and perhaps in some instances even local) surcharges on personal taxes has been recommended, but as a medium term option (Bird, Wallich, and Peteri, 1995; Zimmerman, 1998).

9 In Canada the previous "tax-on-tax" system of local taxation has been replaced by a "*tax-on-base" system* (Hale, 2000).

More frequently the local income tax is levied as a surcharge of the central income tax. In general, the local income taxes are levied at a flat, locally established, rate on the same tax base as the national income tax and are collected by the central government. This is the model followed in some countries in the North Europe (Denmark, Norway and Sweden) and in Italy, Mexico and Spain.

The Nordic European countries, which have local governments with a high level of fiscal autonomy, policy discretion and an important role in service provision, use the local surcharge as the main or, in the case of Sweden, the only source of locally-raised revenue (Loughlin and Martin, 2004)[10]. In the Nordic countries model the tax base for the local income tax is a broad measure of income including salaries, capital income and pensions. The income tax is designed by the central government (definition of tax base, tax rules like deductions) and shared between local and central governments[11].

Finally, some countries, both federal and unitary, adopt the model of independent local income tax (Canada, Finland, Iceland, Japan, Switzerland and the United States), where local autonomy is generally larger. For instance, in the US each state can choose to levy or not the income tax, determines the tax base, sets the tax rates and administers the tax. However in practice, in order to reduce compliance costs and inefficiencies the structures of State income taxes are related to the federal tax structure by the use of similar definitions of taxable income, with some appropriate adjustments concerning deductions and exemptions[12]. For the same reasons in

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10 In Denmark originally the local income tax was also on corporate income, whereas nowadays it is only on personal income (Lotz, 1999).

11 According to Rattso (2005) the income tax works as a revenue-sharing arrangement, where the local share is determined by a flat tax rate, but the revenue generated by this tax rate is affected by the central government design.

12 In the US the linkage between federal and state tax structures of the income tax is not a legal requirement, but a practical convention. The economic

Switzerland since 1990 there has been a process of harmonization of tax bases at sub-national levels (Cantons and Communes). The harmonization does not extend to the setting of scales, rates and exemptions which remain prerogatives of the Cantons (OECD, 2004a).

Concerning the autonomy of tax rate setting, international comparison shows that there are no clear patterns. There are large federal countries with a sub-central income tax and autonomous rate setting (USA, Canada, and Mexico) and other large federal countries which do not apply this (Germany). However, smaller federal countries (Belgium, Switzerland) or unitary countries with strong sub-central structures (Italy, Spain, Nordic countries) apply autonomous rate setting for the income tax. Also, unitary and large countries (Japan) apply a local income tax while others do not (France, UK).

All local governments in all Nordic countries have discretion in determining the tax rate for the local part of the income tax revenue. Norway and Iceland have discretion only within an interval, while the others have full discretion. In Norway and Iceland central government determines minimum and maximum income tax rates. In Norway all local and county governments apply the maximum rate. In Iceland, 67 out of 104 local governments apply the maximum rate and 5 apply the minimum rate. The difference between minimum and maximum is about 2 percentage points. In Finland

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effect is that there are interdependencies in federal and state tax policies concerning personal income taxation. The broadening of the tax bases during the 1986 tax reform produced windfall gains for most states, while the opposite occurred in more recent years with the narrowing of the federal tax base (Laubach, 2005). Another source of interdependencies is given by the deductibility of state income taxes from the federal taxable base. This deductibility can create distortions in state choices, by inducing states to set higher tax rates and by reducing the marginal costs of additional revenues.

the difference between lowest and highest is 4.5 percentage points, in Sweden 5.2 percentage points, and in Denmark the difference is 5.1 percentage points. For country and local governments combined the difference between top and bottom can be substantial.

The local income tax is generally applied with flat rates. However, at certain conditions sub-central governments may apply progressive tax rates in Belgium, Italy, Spain, Canada, Japan, Switzerland and the United States. Belgian regions after the 2001 reform have greater flexibility to determine personal income tax, but are not entitled to institute surtaxes or rebates which would diminish the progressivity of the federal personal income tax (OECD, 2004a). In Spain, the recently reformed personal income tax system provides more flexibility to sub-central governments but still requires the Spanish regions to impose a progressive (though loosely defined) rate structure. The difficulties in maintaining a progressive income tax at a local level has been recognized in the Nordic countries where sub-central governments are allowed only to set a flat tax rate on personal income. In the United States, states have much more freedom in setting the personal income tax base and rate structure. Nine states levy only limited or no individual income taxes and six apply a flat rate. The degree of progressivity of state income taxes is generally quite small (Laubach, 2005).

In Finland, like in other Nordic countries, the local income tax is applied with flat rates; however, given that the tax base does not include capital income, the tax could be regressive with respect to total income (OECD, 2003; Lundsga, 2005).

In Austria, Czech Republic, Germany and Slovak Republic, sub-central governments have no autonomy to set the personal income tax base and rates though part of the personal income tax revenues collected within sub-central government boundaries accrues to them (OECD, 2005a and 2005b; Bernardi, Chandler, Gandullia, 2005).

The attribution to sub-national governments of taxing powers in the filed of personal income taxation does not imply that they make use of them in practice (Joumard and Kongsrud, 2003). For instance in Belgium no regional and local government has still applied the income tax. In Korea all local government apply the standard rate and do not apply higher rates, mainly because of the risk to receive a lower level of central transfers (OECD, 2005c). In Norway all local governments apply the maximum tax rate. The taxing power is not exercised in Japan and almost all local governments apply the standard tax rate for similar reasons as in Korea; however, recent reforms should have the effect of inducing more extensive use of local taxing powers (Joumard and Yokoyama, 2005). In Spain after the 2001 reform that extended the regional taxing powers regions have only marginally used their discretionary powers; no region has varied statutory tax rates; most regions have introduced or increased family allowances, but with marginal revenue impact. One reason is that accurate data on regional tax bases are not available to regions; moreover the present tax arrangement is under rising criticism and it is perceived to be reformed in the next future (Joumard and Giorno, 2005). In several countries (like some Nordic countries and Italy) there have been experiences in the use of local taxing power, but it has been temporary frozen as an instrument of intergovernmental fiscal discipline.

Finally, in many countries (like Austria, Germany and the Slovak Republic) where local governments are financed through tax sharing on the central personal income tax, the introduction of a local income tax is not in the political agenda (OECD, 2004a; 2005a and 2005b). On the contrary, in the United Kingdom where local income taxation is absent the introduction of a tax sharing system based on the central personal income tax or of a pure local income tax is under discussion since many years (Kay and Smith, 1988;

Ridge and Smith, 1991; Isaac; Balance of Funding ODPM, 2004; Local Government Association, 2005)[13].

Table 1.1 reports more detailed information on sub-central personal income taxes in the OECD countries.

Table 1.1

2.8 The role of local personal income taxes in the OECD countries

Income taxes are by far the most significant revenue source of the central level of government across all OECD countries (on average 9.1% of GDP in federal countries and 10.5% in unitary countries; OECD, 2009). The personal income tax is the main central tax both in relation to GDP and in terms of contribution to central tax revenues. It represents on average the 40.9 per cent of total tax revenues of central government in federal countries and the 25.1 per cent in unitary countries.

At the sub-central level the personal income tax is a source of revenues for local governments in many unitary countries. On the contrary, it is absent in Greece, Ireland, Netherlands, United Kingdom, New Zealand, Luxembourg and France. These countries, with the exception of Luxembourg and France, appear to be those with lowest degree of fiscal decentralization among the OECD unitary countries (see Table 1.2)[14].

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13 In the UK the proposal of the local government association (LGA, 2005) is to introduce a local income tax, administered by the Inland Revenue, together with a reform of the property tax and the re-localization of existing business rates.

14 The degree of fiscal decentralization is here measured as the share of sub-central governments tax revenues as a percentage of general government tax revenues. These figures give an indication of the size of own resources at the different levels of government, but they neither measure the fiscal autonomy nor give indication of how fiscal policy-making powers are divided between the var-

Looking at the composition of local tax revenues, the role of the personal income tax, even if still predominant both in federal and unitary countries, appears to be decreasing during recent years. In federal countries, revenues of the personal income tax represents on average the 47.1 per cent of total tax revenues of state government and 44.5 per cent of tax revenues of local governments. In unitary countries the role is lower (31.6 per cent of total tax revenues of local governments).

In general terms, linking the degree of fiscal decentralization and the role of the personal income at sub-central level, international comparison shows that there is no clear pattern. In some of the most decentralized countries (Denmark, Sweden, Iceland and Finland) the revenues of personal income tax is by far the main source of financing. However, in other decentralized countries, like Korea, Japan and Spain, the role is much lower.

Table 1.2

Among the federal countries, the personal income tax is completely absent at sub-federal level in Mexico and Australia, and at local level in Canada. Across levels of government within the same country the role of the personal income tax appears to be more important at local level than at State level in Germany, Belgium and

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ious levels of government. However, they do account for certain automatic transfers of tax revenues between levels of government, assigning revenues to the recipient level government. Taxes that are collected by the central government and automatically transferred to the local and state governments (e.g. as part of a tax revenue sharing scheme) are registered as if they were collected directly by the local or state government, even in cases where the sub-central level of government has no power to vary the rate or base of those taxes. Figures do not account for the actual taxing power of sub-national governments, as they consider together different tax instruments, tax sharing and own taxes (OECD, 1999; Joumard and Kongsrud, 2003).

Switzerland, while the revenue from the income tax at local level is marginal in the United States and null in Canada.

Almost in all federal countries where the local income tax is present at sub-federal level, its importance in relation to the other tax revenues appear to be decreasing both at State and at local level.

Table 1.3

3. Taxes on Profits and on Business Value Added

3.1 Introduction

A large variety of sub-central taxes on business can be found in most OECD countries: corporate income taxes, value-added taxes, capital taxes, nonresidential property taxes, various forms of "industry and commerce" tax, and also payroll taxes to the extent they are not shifted to workers. Their role is growing around the world, and in some instances they constitute the most rapidly expanding element of sub-central revenue systems.

The widespread use of these tax instruments does not itself imply that they are in accordance with the principles of good taxation (Oakland, 1992; Ridge and Smith, 1991). In general terms, as noted by Richard Bird (2003), most local business taxes that can be found around the world do not appear to score well on many traditional criteria of good taxation at local level. In fact, from an economic point of view taxing business at sub-central level has many important drawbacks mainly on the grounds of economic efficiency, revenue volatility and administration (McLure, 1983); in addition, given that generally the tax base is unevenly distributed, these taxes tend to accentuate fiscal disparities between local jurisdictions. This explains why the traditional normative prescription is not to assign corporate taxes based on profits to sub-central levels of government (Musgrave, 1983; McLure, 2000).

However this does not imply that other models of direct taxation on business, such as business taxes on valued-added, which can be coherent with the approach of benefit taxation, can't be explored successfully at sub-national level (Bird, 2003). In addition, as noted by Bird (1999) and Oakland (1992), even if local business taxes can create distortions and compliance costs, they can provide substantial "own" revenue for sub-national governments.

Whether or not there is an economic rationale for sub-central business taxes, the political realities of governing in a democratic society are such that virtually any sub-central government will in any case wish to impose such a tax (Bennet and Krebs, 1988; Pola, 1991).

In what follows we review some issues in the theory and practice of sub-national direct taxation on business, starting from an evaluation of its merits and drawbacks[15]. Then we discuss how the taxation on business at sub-national level can be designed and administered in practice. Finally, we overview the main models of direct taxation on business in place in OECD countries and their role in terms of tax revenues.

3.2 Rationale for local business taxation

A number of possible rationales for sub-central business taxation have been suggested or can be inferred from current practice. But two main approaches can be used in order to justify the taxation on businesses: the "ability-to-pay" approach and the "benefit" approach (Oakland, 1992). The benefit approach sees taxes as being analogous to prices charged for using a service or buying a good; as a consequence those who receive more benefit from local public services should pay more taxes. On the contrary in the ability-to-

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15 The focus of the analysis is on direct taxes on business, that is taxes on profits (like the corporate income tax) and taxes levied on broad bases (like the business value added tax).

pay approach firms should pay taxes on the basis of the resources they possess and independently on public benefits they receive.

Following the ability-to-pay approach the taxation of businesses, both at central and sub-central level of government, could be justified as a mean to redistribute income. However this rationale can be criticized for two reasons. The first is that any attempt to redistribute income through the taxation of businesses at sub-national level is likely to be counterproductive, driving out capital and thus generating inefficiencies (McLure, 2000). The second reason is that in order to pursue redistributive purposes the final incidence of the business tax should be known, but the issue is very controversial. If the tax burden is borne partly by shareholders in the form of lower profits, the biggest impacts would tend to fall on those who have generally the highest ability-to-pay; in this perspective the taxation of businesses could be used, together with other tax instruments, to improve the redistributive role of the tax system[16]. But this is not true if the business tax is shifted into higher prices or lower wages and so the tax burden is borne by employees or by customers (Oakland and Testa, 1996; King and Watt, 2005).

On the contrary, the approach of benefit taxation can offer better rationales to the taxation of businesses at sub-central level. Its is well known that taxes based on the benefit principle play an efficient role in the public sector analogous to the role of prices in the private sector. As far as the distribution of the tax burden they can be regarded as “equitable” in the sense that taxpayers pay taxes in accordance with the benefits they receive from public services.

In this perspective, governments provide the business community with both general services (such as a legal framework or public safety) and specific services that allow businesses to produce more

16 Frequently, even if the incidence of the business tax is uncertain, the argument of redistribution is used in the political debate in order to justify tax increases on businesses, while increases in taxes on households would encounter relatively higher opposition (Oakland and Testa, 1996; Bird, 1999).

efficiently. According to the benefit principle, to the extent that public activities benefit directly and indirectly particular firms, these firms should be charged for the cost of providing these benefits. Consequently, specific and general taxes on business should be applied for beneficiary firms (Bird, 2003), thus ensuring that businesses pay the costs of the inputs they use, both private and public, in the production process (Zodrow, 1999).

Moreover, while taxes based on the ability-to-pay principle are difficult to implement at sub-national level because of capital mobility, if all jurisdictions apply the same approach to taxation of firms, business taxes based on the benefit principle are neutral with respect to economic development and so don't create economic distortions (Oakland and Testa, 1996). They place each jurisdiction at neither a competitive advantage nor disadvantage *per se*. Levying sub-national taxes on the basis that benefiting businesses should pay for the benefits they receive from local public services would minimize both horizontal and vertical spillovers.

The benefit approach can also promote efficiency in political decision-making as taxpayers –both businesses and households - pay for the services they receive and so are able to make a more accurate assessment of the true costs of public services rendered directly to them. In this perspective the benefit approach to taxation supplies some guidance on the question of the balance between taxes on household and taxes on business. It is arguable that the total yield of taxes on business should relate to the benefits received by businesses (King and Watt, 2005)[17].

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17 In this perspective some studies have tried to estimate the benefits of public spending received by the business sector. One of the main critical elements in these calculations is the treatment of education and health, the most important sub-national expenditures in many countries. For instance Oakland and Testa (1996) have estimated the business-related share of combined state and local expenditures in the United States to be about 13 percent. In the UK, Jackman (1987) calculated the proportion of benefits received by the business sector in

3.2.1 The choice of the tax base: income and value added

The main problem with the implementation in practice of the benefit approach to taxation is that it is often difficult to identify, directly or indirectly, the benefits that businesses receive from public services, that is it is difficult to have objective measures of the use of public services by different business entities.

In principle, whenever possible, specific public services benefiting specific business enterprises should be paid for by appropriate user charges; this approach is particularly appropriate for smaller, lower level sub-national governments (Bird and Tsiopoulos, 1997). But, for larger, higher level governments – such as regions – and when it is not feasible to recoup the marginal cost of cost-reducing public sector outlays through user charges, alternative taxes have to be explored. In this perspective, the conventional view is that taxing businesses on their income tends to weaken the correspondence principle (Bird, 2003) and so corporate income tax fails to satisfy the criteria of benefit taxation. As noted by McLure (2000) the corporation income tax does not accord with any reasonable interpretation of the benefit principle of taxation: "*There is no reason to believe that corporations benefit from public services, but unincorporated business do not, or that the benefits corporations receive vary with their profits*". The best rationale for the existence of the corporation income tax is the need to protect the base of the individual income tax, as if corporate income were not subject to tax, individuals could use the corporate form to avoid tax. For this reason, the corporate income tax should be integrated with the personal income tax; however, this integration is difficult to achieve when

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1986 as approximately 15 per cent. The argument that the business sector, compared with domestic taxpayers, was paying a larger share of local taxes while receiving a lower share of benefits had been one of the reasons of replacement of local business taxation in the UK (Ridge and Smith, 1992).

both the central and the sub-central governments tax personal income (McLure, 2000)[18].

Bird (1999) argues that not only is there a good economic case for sub-national taxation of business but that many of the problems arising from the existing taxes may be resolved by the adoption of a form of business taxation that best satisfies that economic case: "*the economic case for sub-national business taxation is simply as a form of generalized benefit tax*". Consequently, some forms of broad-based general levy on business activity may well be warranted (Bird, 2003).

It is difficult to find any support along these lines for taxing any one input, whether labor (payroll tax) or capital (capital tax or corporate income tax). Instead, a broad-based levy neutral to factor mix should be imposed, such as a tax on value-added (Bird, 2003). Similarly, Oakland and Testa (1996) argue that the size of the firm can be an indirect measure of the benefit, that is larger firms utilize more services than smaller firms, and as a measure of the size of firms or the size of the output they suggest using the value added.

The original conception of this form of value added tax (Adams, 1918 and Studenski, 1940) was as a business benefit tax. Allan (1971) and Meade (1978)[19] suggested a "value-added income tax" or a value added tax levied on the basis of income (production, origin) rather than consumption (destination).

As illustrated by Bird (1999), such a "business value tax" (so called by Bird and Mintz, 2000) has three important distinguishing features compared to a conventional value added tax. First, it is le-

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18 In this perspective, in order to eliminate the incentives to convert individual income to corporate income, the central corporate tax should be levied at a rate that takes into account taxes on individual income levied by both the central and the sub-central governments (McLure, 2000).

19 Allan (1971) suggests that the CIT be replaced by a flat tax on "factor cost." Meade (1978)'s proposal excluded investment goods and was thus for a consumption-type VAT on an origin basis.

vied on income and not on consumption: that is, it is imposed on the sum of profits and wages, or to put it another way, on investment as well as on consumption. Second, it is imposed on production and not on consumption: that is, it is imposed on an origin and not destination basis and hence exports are taxed and not imports. Third, it is assessed by the subtraction (or alternately addition) method on the basis of annual accounts, like the income tax, rather than on a transaction or invoice-credit method (Bird and McKenzie, 2001).

Compared with a business tax based on profits, such as the traditional corporate income tax, and with other forms of sub-national business taxes, such as capital taxes or nonresidential property taxes, a business value tax levied at sub-national level of government can have a number of economic advantages. First, it implements the benefit principle: any company using local public services should pay the business tax, whether or not it makes profits. Second, also in accordance with the benefit approach to taxation, if the tax rate is set to match roughly the benefits-received basis, the tax would eliminate inefficient spillovers and encourage more responsible and accountable sub-national governments. Third, the tax base of a business value tax is larger than alternative tax bases and this allows the application of lower tax rates; this in turn makes the tax more neutral in business investment and financing decisions and less susceptible to base erosion and tax avoidance.

As said above, such a form of business taxation is considered more appropriate for intermediate levels of government than for local governments. However, as discussed by Bird (2003), it should be perfectly feasible to impose a business value tax also at the local level when the tax is already in place at the intermediate level, while a business tax exclusively applied at local level could be feasible only for larger municipalities. Such a local business tax imposed as a surcharge of the regional/State business tax would seem to be a

considerably more desirable form of local business taxation than any other now available (Bird, 2003).

3.3 Efficiency

There are different non-neutralities that can arise when direct taxes on businesses are levied at sub-national levels of government. The first potential source of inefficiency is linked to the mobility of tax bases across local jurisdictions. In a spatial setting, where the owners of tax bases may seek out jurisdictions where they can obtain more favourable tax treatment, taxing businesses can generating inefficiencies by distorting the location of economic activities or by creating incentives to tax avoidance and tax base erosion.

When tax bases are mobile across jurisdictions, local governments can enter competition in attracting business tax bases. This process can be regarded as beneficial when politicians are Leviathans or when they are benevolent but unable to commit (Bordignon and Ambrosanio, 2005); this "efficient" tax competition creates pressure for taxes to be no higher than justified by the benefits of public spending. But the process can be seen as undesirable if the final result is the redistribution of the tax burden from mobile tax bases to less mobile ones.

In the literature on tax assignment the possibility of inter-jurisdictional mobility of tax bases is regarded as a constraint in the choice of taxes to be assigned to lower levels of government. On the one hand, sub-national governments need the ability to vary tax rates, in order to exercise fiscal autonomy and engage in healthy tax competition. On the other hand, it may be difficult to vary many of the most important tax rates, without inducing taxpayers to take steps that would artificially minimize their tax burdens, at the expense of revenues in the high-tax jurisdiction.

If the final result of tax competition is considered as not desirable, the suggestion is to solve the problem ex ante by an appropriate tax assignment, rather than to solve it ex post through complex

systems of intergovernmental transfers (Bordignon and Ambrosanio, 2005).

How much the mobility of tax bases and thus tax competition can be a constraint in the choice of local taxes is mainly a matter of degree[20]. On the one hand it is hard to find tax bases that are totally immobile across jurisdictions; on the other hand some tax bases (like income from financial capital) are clearly inappropriate to be assigned. Some mobility of tax bases might not be too harmful; excessive competition can be reduced through the imposition of minimum rates by the central government.

In this perspective the conventional view is that taxes on profits are not suitable to be assigned to local jurisdictions, since, if production is relatively mobile, these taxes, applied at different rates, are likely to distort the location of economic activities. Profit tax might be assigned at sub-national level only in the rare case where investment is specific to the locality so that a firm cannot easily relocate (Bordignon and Ambrosanio 2005). On the contrary other forms of broad-based business taxation (like taxes on business value added) can be efficiently used (Bird, 1999), as they can be linked closely to the benefits of public services (Oakland and Testa, 1996).

Also King and Watt (2005) argue that the incentives firms face in migration towards other jurisdictions, and so possible distortions, depend on the balance between taxes to be paid and services received from the local authorities. High local taxes on business does not create incentives to migration if they are balanced by high levels of services provided to local businesses. Their main conclusion is that it might be unwise to make business taxes cover more than the benefits of local services provided for businesses.

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20 In the UK the removal in 1990 of the local authorities' ability to vary business rates was mainly justified by the argument that differentiated tax rates had distorted business decisions concerning investment, employment and location (Bennett, 1986; Bennett and Krebs, 1988; Ridge and Smith, 1991).

The experience in OECD countries supports the conclusion that competition between governments at the same level (horizontal competition) exists and can in some instances constitute a real constraint. However, the intensity and form of tax competition vary significantly across countries and tax bases, largely reflecting differences in the mobility of citizens and companies, but also in the degree of discretionary powers over taxes granted to local governments.

For instance in the United States there is evidence that states have expanded in recent years their tax incentives in order to attract direct investment from other states (OECD, 2000; Herd and Bronchi, 2001). The state revenues from the corporate income tax have been declining and this has been offset by an increase in revenues from the state personal income tax (Tannenwald, 2002). Similar patterns can be found in other federal countries, like Canada and Switzerland (Joumard and Kongsrud, 2003). In Switzerland, while corporate income tax bases have been harmonized across cantons since 2001, some of them reportedly negotiate special tax rebates and the overall tax burden on companies has tended to decline while those on individuals has increased over the past 15 years (OECD, 2004a).

Competition to attract companies has also been at play in some countries where local governments have no taxing power in the business sector but receive a share of the national tax revenues from the corporate income tax. For instance in Finland, where local taxes on business are absent, there is evidence that local authorities engage in competition by providing services for businesses (Joumard and Suyker, 2002).

In other countries the degree of tax competition is lower than expected. For instance in Japan (Joumard and Yokoyama, 2005) local governments tend to apply tax rates that are above the standard level. There are different reasons that can explain this result. Local authorities may be reluctant to enter into aggressive tax competition; tax competition is frequently confined to tax allowances and ex-

emptions and not on tax rates; the local tax is deductible from the national corporate income tax. (so an increase in local rate is partly offset by lower central government taxes)[21].

When a local business tax is in place, additional inefficiencies can arise because of the possible exportation of the tax burden that occurs when the tax is shifted into prices and goods are sold outside the jurisdiction or if the local jurisdiction is able to tax profits of non-resident shareholders (Bordignon and Ambrosanio, 2005). In general the ability of a jurisdiction to export taxes is higher when the jurisdiction has some competitive advantage (Oakland and Testa, 1996; McLure 1981a). Through tax exporting some of the costs of local government are transferred to residents of other jurisdictions. This can promote efficiency in the public decision-making process to the extent that non residents benefit from services provided by the local government. Otherwise the result is regarded as undesirable as it can encourage overspending and undetermine accountability of local governments.

Whether the local business tax is exported or not depends on the final incidence of this tax (Watt and King, 2005). Unfortunately this point is controversial both in theory and in practice. Given that the final burden of the local business tax tends to fall partly on shareholders, employees and customers, the tax is partly exported in other jurisdictions. However, at the same time the non-residents who bear the tax burden also get some benefits from the services that the local authority provides to businesses. So tax exporting of local business taxes can represent a serious problem only if a disproportionately large or small shares of the tax were exported.

In the past experience of non-domestic rates in the UK there is evidence that tax exporting occurred, because non-domestic taxpayers were paying the larger share of tax revenues. The result was

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21 Moreover, the Japanese tax equalization schemes tends to create incentives for local tax effort, thus penalizing the reduction in tax rates.

that the costs of local spending were kept artificially low by the contribution made at the margin by non-resident business tax payers, encouraging overspending and undermining accountability (Ridge and Smith 1991).

Another source of tax exporting is the existence of vertical tax externalities (Keen, 1998) that occur when the same tax base is shared by several levels of government and none has an incentive to take into account the effects of own tax choices on the other level of government (Bordignon and Ambrosanio, 2005). How much this form of tax exporting can be a serious problem in practice is mainly a matter of degree. Some evidence is available for Canada (Hayashi and Boadway, 2001), concerning a negative relationship between federal and provincial business tax rates, that is provinces tend to react by reducing their tax rates when the federal government increases its tax rates. Such interdependencies in tax policies can be reduced through an appropriate tax assignment. For instance, independent sub-central business taxes – such as the Italian IRAP – seem more appropriate than local surcharges on the central corporate income tax.

3.4 Revenue adequacy

As noted by Bird (1999) and Oakland (1992), even if local business taxes can create distortions and compliance costs, they can provide substantial "own" marginal revenue for sub-national governments. This can explain the popularity of sub-national business taxes than can be found in the OECD countries.

Compared with the revenue-raising capacity of other local taxes, such as the property taxes or fees and user charges, a local business tax on a broad tax base – profits or value added - scores generally better. However, tax bases and so tax revenues from a local business tax are generally distributed less evenly than alternative op-

tions such as revenues from income or consumption[22]. The assignment to local governments of the business tax can thus aggravate horizontal fiscal disparities and can increase incentives for fiscal migration. The problem can be partly reduced through an appropriate tax assignment where preference should be given to broad tax bases, such as value added rather than profits. In the case of the corporate income tax, fiscal disparities can be reduced if the tax base is apportioned not only on the basis of origin-related factors such as payrolls and property, but also on the basis of destination-based factors such as sales (McLure, 2000).

If the local business tax can generally satisfy the requirement of adequacy in the tax yield, it is more questionable in its ability to raise revenue on a stable basis. The tax revenues from a local business tax on income/value added are likely to be reasonably buoyant, as they tend to rise in line with income and prices (King and Watt, 2005). But generally the volatility of revenues from business taxation is higher compared with other tax instruments such as taxes on consumption and on property. However, a business tax based on a broad basis – such as a business value added tax – is more stable than a corporate income tax in revenue terms (Bird, 2003; Dahlby, 2001).

For this reasons, in contrast to a business value added tax, the use of corporate income taxes at sub-central level is generally considered inappropriate (McLure, 1998) and the OCED has recommended reducing sub-national government reliance on this form of business taxation in a number of countries (Joumard and Kongsrud, 2003; Joumard and Yokoyama, 2005; Laubach, 2005).

22 See evidences for Japan in Joumard and Yokoyama (2005), for the UK in King and Watt (2005) and for Italy in MEF (2003).

3.5 Design

As for other taxes (for instance personal income taxes) there are three fundamental methods of tax assignment of the business tax (on profits or on other tax bases like the value added): own taxes (with independent legislation and administration); surcharges ("tax-on-base" system)/surtaxes ("tax-on-tax" system); and tax sharing.

Maximum degree of sub-national tax autonomy occurs with own taxes, where sub-central authorities decide to levy or not the tax, choose the tax rate and define the tax bases, and are responsible for tax administration. This option, even if superior in terms of accountability and autonomy, can create high compliance costs for firms operating in many jurisdictions and can produce inefficiencies and inequities. Among OECD countries sub-central own taxes on business can be found, with different degree of autonomy, in Canada, Germany, Hungary, Italy, Japan, Luxembourg, Switzerland and United States. Among these countries, some of them (Germany, Hungary, Italy, Japan and some states in the US) make use of business taxes levied on tax bases different from profits.

Other countries make use of sub-central surcharges or surtaxes on the central business tax, mainly the tax on corporate income (Korea, Portugal and Luxembourg). In these cases, the central government determines the tax base, uses a single formula to divide the base between sub-national jurisdictions, and generally collects surcharges/surtaxes established by sub-national governments. Consequently, the taxing power of local governments is lower than in the case of own taxes, being generally restricted to the choice of local tax rates (frequently within limits stated by the central government). Moreover, the revenues of the sub-central government depend also on the decisions of the central government concerning both tax rates and tax bases. However, this option is preferable to own taxes in terms of efficiency and compliance costs, especially for countries with low administrative capabilities. It has been argued (Bird, 2003) that such a system of surcharges/surtaxes pro-

vides most of the fiscal autonomy of independent legislation and implementation, without generating problems in terms of efficiency and compliance costs.

Finally, there are countries (like Norway) that make use of tax-sharing systems, granting local authorities a share of the central revenue from the corporate income tax. In this case the local government has no direct control over the level of its own tax revenues. Thus this option is distinctly inferior, as it does not provide discretionary revenues to the sub-national government.

When independent business taxes or surcharges are in place, it is generally recommended for the central government to set rate limits, even if this may reduce the degree of local tax autonomy. Rate limits should be imposed in order to prevent excessive locational distortion and un-desirable tax competition between local governments or to prevent possible over-taxation of businesses when governments are seen as not benevolent. In most OECD countries that tax business at sub-national level rate limits are present (for instance in Korea, Germany, Italy, Japan, Switzerland), while they are absent in countries like Canada and the United States.

In the design of a sub-national business tax it is questioned whether the local tax should be allowed as a deduction in determining the tax liabilities to the central government. Deductibility for lower-level taxes amounts to a subsidy from the higher-level government. McLure (1998) argues that the deduction should not be allowed for benefit-related taxes paid to lower-level governments in calculating income tax liabilities of higher-level governments, except in the case of taxes that constitute costs of doing business.

This is the approach followed for instance in Italy, where the regional tax on business (IRAP) is not deductible from the central (personal or corporate) income tax. This approach assures that the central and the regional governments are autonomous in their tax policy decisions. A different approach is followed in Germany, where the “gewerbesteuer” is allowed as a deduction from the cen-

tral corporate income tax, and in the US where state and local corporate income taxes can be deducted from the central income tax.

3.6 Administration

Generally, sub-national business taxes are economically costly to be administered, for different reasons: because of international and intra-national mobility of the tax base; because of the ease with which firms can shift income across local jurisdictions; and because of the difficulty that small local governments have in enforcing these taxes (Bird, 2003). The compliance and administrative costs of sub-central business taxes are even higher if local governments use different definitions of taxable base or use different systems to allocate tax bases between jurisdictions.

In the international experience there are different approaches that are followed and different results that are achieved in the administration of sub-national business taxes (Mickesell, 2003; Martinez Vazquez, 2005). For instance, on the one hand there are experiences of countries – like Canada - where compliance and administrative costs have been significantly reduced through the harmonization of business tax bases and the use of a common tax administration (Dahlby, 2001). On the other hand in some countries – like Japan - the use of multiple, not-coordinated local taxes on business and the proliferation of deductions and exemptions has increased complexities and inequities of local tax systems (Joumard and Yokoyama, 2005).

The main administrative problem in taxing business at sub-national level derives from the firms operating in many jurisdictions (Joumard and Kongsrud, 2003). As explained by Charles McLure (1980; 1983; 1984a; 1984b; 1998) it is generally difficult to isolate precisely the source of income of a firm doing business in two or more jurisdictions, for almost two reasons: (i) first, pervasive economic interdependence between different units of the same firm or between different firms of the same group is inherent in the

nature of the modern firm; (ii) secondly, it is common for substantial amounts of goods and services to pass between members of a group of affiliated firms (e.g., between a parent and its subsidiaries or between subsidiaries); in these circumstances, companies commonly make use of "transfer prices" to value these transactions; but frequently for many transactions there is no "arms length price", that is the price that would prevail in transactions between unrelated parties, in order to judge whether transfer prices are reasonable; thus companies maintain some discretionary powers in the allocation of profits across local jurisdictions and transfer prices can be manipulated to minimize the whole tax burden.

Due to the difficulties of determining the geographic source of corporate profits, it is common to use a formula to divide the nation-wide profits of a corporation among sub-national jurisdictions. This, in effect, converts the tax into a tax on whatever appears in the apportionment formula (commonly some combination of payroll, property, and sales), levied at effective tax rates that depend on the nation-wide profitability of the firm, relative to the various components of the formula, as well as the statutory tax rate (McLure, 1980, 1981b).

In principle, if the purpose of using an apportionment formula is to approximate the geographic source of corporate income, origin-based factors such as payroll, property, and sales at origin are presumably the most appropriate elements to include in the formula. By comparison, in the United States the formulas of all states include sales at destination, in order to give some recognition to the role of markets, by channeling some of the revenues from the corporate tax to market states. This is probably better interpreted as the result of political compromise than an economically defensible solution. In Canada the apportionment formula assigns equal weight to payroll and sales.

The use of formula-based allocation of profits can be unfair and create distortions in the allocation of resources among jurisdictions.

It could be more transparent and more rational simply to impose taxes directly on (some or all of) the components of the formula, at rates that are uniform across firms (McLure, 1980; 1998). In fact, in some countries sub-national corporation income taxes apportioned on the basis of formulas co-exist with taxes on factors in the apportionment formula (e.g., payrolls, property, and sales).

Even when the allocation of incomes across jurisdictions is reasonably possible through some criteria, like apportionment formula, in principle these criteria should be coordinated and agreed. The use of the same apportionment formula within a country, as among the Canadian provinces or the Italian regions, has been recommended by the OECD (Joumard and Konsgrud, 2003).

However, there are countries such as the United States where there is no co-ordination in the apportionment formula. In the US in determining corporate income tax on the profit earned by a company in a given state, states have long used a formula that accords equal weight to three factors: payroll, property and sales. Recently, individual states have increased the weight of the sales factor and reduced the weight on payroll and property, resulting in a de facto partial transformation of the corporate income tax into a quasi sales tax. This is partly paid by companies and households from other jurisdictions and represents an attempt to generate economic development at the expense of other states and, in particular, the hope of attracting new employment (OECD, 2000). It has been shown that on average, the States that have lowered the payroll weight have increased employment, with aggregate employment effects across the whole country close to zero (Goolsbee and Maydew, 2000). As a result, there is substantial inconsistency in legislation and practice in state taxation of corporate income (Laubach, 2005). The results include excessive costs of compliance and administration, litigation, and uncertainty, as well as inequities and distortions of economic behavior (Herd and Bronchi, 2001).

By comparison, in Canada the provinces, that either employ surcharges on the tax base of the national government or employ a tax base that is quite similar to the national base, make use of the same apportionment formula. In other countries there are different systems of tax base allocation. In Germany revenues are shared between municipalities according to the wage sum of each operating site, while in Finland the number of employees in each of them is applied. In Italy, as far as the regional tax on productive activities (IRAP), the tax base is allocated among local jurisdictions following different criteria depending on the economic sector; for instance, the tax base is allocated in proportion to the location of bank deposits for the banking sector or in proportion to the premiums collected for the insurance sector or to payroll for the industrial sector. In Japan, for the local enterprise tax purposes tax revenues are shared across local governments on the basis of the number of employees and the value of fixed capital.

3.7 Overview of the OECD countries

Sub-national taxes on business activity are numerous and varied in the OECD countries: corporate income taxes, value-added taxes, capital taxes, nonresidential property taxes, various forms of "industry and commerce" tax, and also payroll taxes to the extent they are not shifted to workers.

As far as direct taxes on business, they are based on profits in Canada, Luxembourg, Korea, Portugal, Switzerland and United States. They are based on a different tax base (like value added) in Italy, Hungary and the states of Michigan and New Hampshire in the US. They are based on multiple factors in Japan (value added and capital assets), France (capital assets and until 2003 wages and salaries) and Germany (profits and capital assets).

In most countries where taxes on business at sub-national level are in place, the tax can be regarded as own or independent (Canada, France, Germany, Hungary, Italy, Switzerland and the US), as

in these countries sub-national governments have large discretionary powers concerning tax rates and administration, while only in some countries (Switzerland and the US) taxing powers are also extended to the definition of the tax base.

Korea makes use of surtaxes on the central corporate income tax, while Luxembourg and Portugal apply a local surcharge. In Japan there are multiple taxes on business, partly independent and partly surtaxes on the central corporate income tax.

In the European Nordic countries there are no local taxes on business income. However, in Denmark, Finland and Norway tax revenue sharing systems are in place, granting local authorities with a share of the central revenue from the corporate income tax. In particular, Danish local governments receive a fixed share of the central government corporate tax, that is related to salaries paid. Finland has a similar revenue sharing system, where a share of the revenue from the corporate income tax accrues to municipalities and is distributed in proportion to the number of employees; the municipal share has been reduced gradually in recent years from 45% in 1997 to about 19% in 2004 (Rattso 2005). In Norway, a revenue-sharing system of the corporate income tax revenue, that was abolished in 1999, has been re-introduce in 2005. Under this revenue sharing arrangement, revenue equal to 4.25 percentage points of the overall corporate tax rate of 28 per cent are allocated to a sub-central government tax fund and distributed to local governments based on certain criteria (mainly based on the local share of employment), while the remaining share (23.75 percentage points) is allocated to the central government.

Sub-national business taxes are in place both at local and at intermediate level of government. For instance, the Italian IRAP is in the competence of regional governments, while the German gewerbesteuer or the French Taxe professionnelle are levied at local level. The sub-central corporate income tax is applied exclusively at intermediate level in Canada and both at intermediate and local

levels in Switzerland and the US, where however the role of the taxes levied at intermediate level is predominant.

Countries differ also in the way sub-central governments can define business tax bases, especially for firms operating in many jurisdictions. There are fundamentally two approaches: in the first that is followed by Switzerland and the US sub-national governments are free to define and allocate tax bases; in the second approach (followed for instance by Germany, Italy, Canada and Japan) the rules for determining tax bases and allocate them between local jurisdictions are set by the central government or are agreed by sub-central governments.

In Canada for instance Provinces define tax bases broadly in the same way as the federal government; moreover, there is an agreed uniform formula for apportioning tax bases between Provinces. On the contrary in the US there are substantial differences in the definition of the taxable corporate base in different states (Herd and Bronchi, 2001; McIntyre, 2002) and the state tax is based on an apportionment formula by which companies allocate their national income across state tax jurisdictions.

In Germany, Italy and Japan sub-national governments have no power to define business tax bases and the criteria for apportioning them between jurisdictions are set by the central government.

Table 2.1

The present systems of sub-national business taxation in the OECD countries is far from being stable and reforms have been under discussion for many years (Pola, 2005; Joumard and Giorno, 2005). It is argued that even if the local taxation of business can be coherent with the principle of benefit taxation these taxes tend to impose economic costs by distorting business decisions and by creating barriers to the expansion of new and small firms.

In those countries that have been applying sub-national business taxes on value added, these forms of business taxes have also raised a number of concerns and several countries are reducing, or abolishing, them (Bird, 2003; Pola, 2005). First, they have often been seen as discouraging economic dynamism (employment creation, business investment and R&D) by imposing a heavy burden on newly created companies with little or no profits and on labor intensive companies. Second, these taxes do not properly account for cyclical developments and may exacerbate failures in downturn episodes, as the cyclical risk is transferred from local governments to companies. Several countries (in particular Germany and Italy) have recently tended to reduce sub-national governments reliance on this tax base.

Some other countries, like France and Spain, that made use in the past of local business applied on multiple bases, mainly assets and wages, have recently reformed them. In France the taxable base of the local business tax (*Taxe professionnelle*), that has long been made of the company rental value of equipment and buildings and the wage bill, has been narrowed substantially over the past decade, with the complete removal of the wage component from 2003 (Pola, 2005). In Spain, as from 2003 small businesses have been exempted from the local business tax (*Impuesto sobre las Actividades Economicas*) and the wage component has been abolished (Laborda and Escudero, 2005; Joumard and Giorno, 2005).

In contrast, Japan is envisaging to move further from local taxes on profits to taxes on company assets and value added; the 2004 reform of the enterprise tax is expected to reduce the volatility of local tax revenues by lowering the income component and introducing an asset component (Joumard and Yokoyama, 2005).

Even in those countries where there are no local taxes on business, but local governments receive a share of the central corporate income tax revenue, reforms are under discussion. For instance, in Finland (OECD, 2003) the revenue share allocated to local gov-

ernments has been reduced gradually in recent years. This occurred because the volatility of local tax revenues has been particularly high as a result of both the fluctuations in corporate profitability and the location decisions of large firms. Thus it has been recommended to shift the corporate tax revenues completely to the central government (Lundsga, 2005).

3.8 The role of direct business taxes in the OECD countries

According to the last available OECD data (2009) tax revenues from business income (profits and not) represent a substantial source of financing for sub-national governments in many federal and unitary countries, like Austria, Germany, Poland, Switzerland, Canada, Portugal, Luxembourg, Czech Republic, Italy, France, Turkey and Japan.

The role of sub-national taxes on business income in terms of tax revenues is much lower in other countries, like United States, Korea, Finland, Spain and Denmark. Finally, these taxes are completely absent in countries like Australia, Greece, Iceland, Ireland, Netherlands, New Zealand, Sweden and the UK.

Looking at the composition of local tax revenues (Table 3.2 and 3.3), on average the role of business taxes appears to be stable during recent years. In federal countries, revenues from business income taxation represents on average 8,4 per cent of total tax revenues of state government and 8.1 per cent of tax revenues of local governments. In unitary countries the role is higher (about 11,7 per cent of total tax revenues of local governments in 2007).

The highest yield for business income taxation is 8.5 and 26.9 per cent in Germany, respectively for state and local governments. Among unitary countries, the highest yield is 90.2 per cent in Luxembourg, followed by Turkey (32 per cent) and by Czech Republic (29.7 per cent).

However, taking into consideration also the tax revenues from "other taxes" on business (Table 3.4), also France and Italy show significant yields (respectively 30.7 and 40.7 of total sub-national tax revenues).

In general terms, linking the degree of fiscal decentralization and the role of business income taxation at sub-central level, international comparison shows that there are no clear patterns. However, frequently local business taxes appear to be more important in countries where the degree of fiscal decentralization is lower (for instance Portugal and Luxembourg), and *viceversa* (Sweden, Denmark and Spain).

Among the federal countries, the corporate income tax is completely absent at sub-federal level in Mexico, Australia and Belgium, and at local level in Canada. Across levels of government within the same country the role of the corporate income tax is more important at local level than at State level in Germany, while the opposite occurs in Austria, United States and Switzerland.

Table 2.2 and 2.3

Finally, Table 2.4 shows that some countries, both federal and unitary, have "other taxes" on business with significant yields[23]. Other taxes are mainly represented in Italy by the regional business tax (IRAP), introduced in 1998 and in France by the local *Taxe professionnelle*. Differently from France, in Italy the role of the regional business tax in terms of tax revenues appears to be increasing in recent years.

Table 2.4

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23 In the OECD classifications "other taxes" include not only taxes on business. In Table 4.4 the data refer almost exclusively to those taxes that are levied on business.

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Table 1.1: Sub-central personal income taxes in OECD countries (2009)

Country	Levels of taxation (and rate structure)	Tax base	Representative sub-central rate	Minimum sub-central rate	Maximum sub-central rate
Surtax:					
Belgium	L(F)	CT	7,40	0,00	-
	S(F/P)	CT	-	0,00	0,00
Korea	L(F)	CT	10,00	5,00	15,00
Surcharge:					
Denmark	L(F)	TY	25,55	22,7	27,8
Finland	L(F)	TYI	18,59	16,5	21
Italy	L(F)	TY	1,9	0,90	1,90
Norway	S(F)/L(F)	TY	15,45	0,00	15,45
Spain	S(P)	TY	-	8,34	15,87
Sweden	L(F)	TY	31,52	28,89	34,17
Own tax:					
Canada	S(P)	TYs	17,20	10,00	24,00
Iceland	L(F)	TYs	13,28	11,24	13,28
Japan	L(F)	Tys	10,00	4,00	n.a.
Switzerland	S (P)/S(F)/L(F)		28,47	-	-
	S(P)	TYs	13,00	n.a.	n.a.
	S(F)	STp	100,00	n.a.	n.a.
	L(F)	STp	119,00	n.a.	n.a.
United States	S(P/F)/L(P/F)				
	S(P/F)	TYs	n.a.	0,00	n.a.
	L(P/F)	TYs	n.a.	0,00	n.a.

Sources: own calculations mainly based on OECD Tax database (2009) and OECD *Taxing Wages* (2009).

Key to abbreviations: n.a.: non available; S: State (state, provincial, regional, cantonal) taxation applies; L: Local (local, municipal) taxation applies; P: Progressive rate structure; F: Flat rate structure. Example of combined terms: L(F): Local/municipal taxation applies at flat rate; S(F)/L(F): State and local taxation apply at flat rates; CT: Central government tax net of (central government) tax credits; CTg: Central government tax gross of tax credits; TY: Taxable income for central government tax purposes; TYs: Taxable income modified for state government tax purposes; STp: Amount of tax paid at the state (cantonal) level through the progressive rate structure; TYl: Taxable income modified for local government tax purposes.

Table 1.2. Degree of fiscal decentralization and the role of the personal income tax (1975-2007), countries arranged in order of fiscal decentralization. Federal countries

	Degree of fiscal decentralization (1)	Role of the personal income tax (2)											
		State						Local government					
		1975	1980	1990	1995	2003	2007	1975	1980	1990	1995	2003	2007
Austria	18,3	42,7	45,1	42,2	42,1	39,3	37,9	33,8	34,4	31,3	28,6	26,6	23,0
Belgium	21,2	-	-	42,5	50,2	46,2	67,3	63,6	69,8	66,3	69,7	68,8	71,3
Germany	31,3	55,2	52,7	51,2	48,1	44,7	43,3	58,3	64,1	65,6	66,6	54,6	53,0
United States	33,7	-	26,9	32,2	31,6	33,3	35,6	-	5,0	4,7	4,9	4,0	4,7
Switzerland	42,1	63,6	64,8	63,5	65,5	64,1	61,3	73,2	75,6	74,4	75,5	73,1	70,4
Canada	47,0	32,4	36,0	44,2	40,4	33,8	37,3	-	-	-	-	-	-
Unweighted average	32,3	48,5	45,1	46,0	46,3	43,6	47,1	57,2	49,8	48,5	49,1	45,4	44,5

Source: OECD (2009)

Notes:
(1) Attribution of tax revenues to the sectors of State and local government as percentage of total tax revenue (2007)
(2) Tax revenues from the State and local personal income taxes as percentage of total tax revenues of these levels of governments.

Table 1.3. Degree of fiscal decentralization and the role of the personal income tax (1975-2007), countries arranged in order of fiscal decentralization. Unitary countries

Country	Degree of fiscal decentralization (1)	Role of the personal income tax (2)			
		1975	1985	2003	2007
Netherlands	0,6	15,4	-	-	-
Greece	0,7	11,0	9,5	-	-
Portugal	6,1	-	-	7,7	7,7
Hungary	6,2	-	-	0,4	0,0
Turkey	8,4	-	30,6	21,5	32,0
Slovak Republic	10,9	-	-	42,7	73,0
Norway	12,5	86,3	85,9	89,2	87,5
Poland	13,4	-	-	43,5	48,1
Czech Republic	14,7	-	-	29,4	26,0
Italy	16,3	48,0	16,0	19,9	19,1
Korea	16,8	-	-	7,1	9,8
Finland	21,3	89,9	91,1	87,5	85,3
Denmark	24,3	84,8	91,0	91,1	87,6
Iceland	25,0	62,0	55,3	78,1	73,6
Japan	27,6	26,3	28,9	25,5	31,1
Spain	29,9	43,0	14,4	22,5	15,0
Sweden	32,4	91,5	98,3	100,0	100,0
Unweighted average	*13,8*	*32,8*	*32,6*	*30,3*	*31,6*

Source: OECD (2009)

Notes:
(1) Attribution of tax revenues to the sector of local government as percentage of total tax revenue (2007)
(2) Tax revenues from the local personal income tax as percentage of total tax revenues of Local governments.

Table 2.1: Sub-central direct business taxes in the OECD countries (2010)

Country	Levels of taxation and rate structure	Tax base	% deductible	Representative Sub-central rate	Minimum sub-central rate	Maximum sub-central rate
Surtax:						
Korea	L(F)	CT	-	10,00	5,00	15,00
Surcharge:						
Luxembourg	L(F)	TYI	-	6,75	6,75	12
Portugal	L(F)	TYI	-	1,50	0,00	1,50
Own tax:						
Canada	S(F)	TYs	-	11,52	10,00	16,00
Germany	L(F)	TYl	0	14,35	7,00	17,15
Hungary	L(F)	TYs	-	2,00	0,00	2,00
Italy	L(F)	TYI	-	3,90	2,90	4,90
Switzerland	S (P)/S(F)/L(F)			14,47	5,24	17,8
	S(P)	TYs	-	8,00	6,00	10,00
	S(F)	STp	-	100,00	100	189,5
	L(F)	STp	-	129,53	0,00	45,5
United States	S(P/F)/L(P/F)					
	S(P/F)	TYs	100	6,47	0,00	9,99
	L(P/F)	TYl	100	n.a.	0,00	6,45
Japan	L(F)/L(P			11,55	n.a.	n.a.
	L(F)	CT	0	17,30	n.a.	n.a.
	L(P)	TY	100	2,90	n.a.	n.a.
	L(F)	LTp	100	4.28	4,28 - 7,68	5,14 - 9,22

Source: OECD tax database (2010); KPMG (2010).

Key to abbreviations: n.a.: Data not provided; S: State (state, provincial, regional, cantonal) taxation applies; L: Local (local, municipal) taxation applies; P: Progressive rate structure; F: Flat rate structure. Example of combined terms: L(F): Local/municipal taxation applies at flat rate; S(F)/L(F): State and local taxation apply at flat rates.

CT: Central government tax net of (central government) tax credits; CTg: Central government tax gross of tax credits; TY: Taxable income for central government tax purposes; TYs: Taxable income modified for state government tax purposes; STp: Amount of tax paid at the state (cantonal) level through the progressive rate structure; TYl: Taxable income modified for local government tax purposes; LTp: Amount of tax paid at the local level through the progressive rate structure.

Table 2.2. Degree of fiscal decentralization and the role of the corporate income tax (1975-2007), countries arranged in order of fiscal decentralization. Federal countries

	Degree of fiscal decentralization (1)	Role of the corporate income tax (2)											
		State						Local government					
		1975	1980	1990	1995	2003	2007	1975	1980	1990	1995	2003	2007
Austria	18,3	1,6	1,5	2,9	1,4	9,2	9,5	5,0	4,5	7,1	1,0	5,1	6,2
Belgium	21,2	-	-	0,1	0,2	0,2	-	0,7	-	-	-	-	-
Germany	31,3	7,5	9,3	8,3	3,8	5,3	8,5	11,1	13,8	14,6	12,9	20,1	26,9
United States	33,7	-	9,7	6,6	7,2	5,5	7,2	-	0,7	1,0	0,9	0,8	1,1
Switzerland	42,1	14,2	11,0	13,2	11,0	11,8	16,3	13,4	10,1	11,7	9,7	10,2	14,2
Canada	47,0	11,2	9,9	6,1	8,3	9,6	9,0	-	-	-	-	-	-
Unweighted average	32,3	5,75	6,9	6,2	5,3	6,9	8,4	5,0	4,8	5,7	4,1	6,0	8,1

Source: OECD (2009)

Notes:
(1) Attribution of tax revenues to the sectors of State and local government as percentage of total tax revenue (2007); (2) Tax revenues from the State and local personal income taxes as percentage of total tax revenues of these levels of governments.

Table 2.3. Degree of fiscal decentralization and the role of the corporate income tax (1975-2007), countries arranged in order of fiscal decentralization. Unitary countries

Country	Degree of fiscal decentralization (1)	Role of the corporate income tax (2)			
		1975	1985	2003	2007
Luxembourg	4,5	74,6	83,4	93,5	90,2
Portugal	6,1			14,8	16,2
Turkey	8,4	-	11,8	10,9	32,0
Slovak Republic	10,9			9,0	
Norway	12,5	5,7	7,0	-	-
Poland	13,4			3,5	13,9
Czech Republic	14,7			27,1	29,7
Italy	16,3	32,0	10,7	2,2	2,4
Korea	16,8	-		6,6	7,2
Finland	21,3	9,9	7,9	7,4	9,4
Denmark	24,3	1,6	2,6	1,9	2,8
Iceland	25,0	3,1	8,2	-	-
Japan	27,6	28,5	29,2	19,7	24,4
Spain	29,9	-	2,5	1,7	6,2
Sweden	32,4	8,2	1,4	-	-
Unweighted average	*17,6*	9,6	10,3	9,0	11,7

Source: OECD (2009)

Notes:
(1) Attribution of tax revenues to the sector of local government as percentage of total tax revenue (2007);
(2) Tax revenues from the local corporate income tax as percentage of total tax revenues of Local governments.

Table 2.4. The role of "other taxes" on business (1975-2007). Federal and unitary countries

		1975	1985	2003	2007
Federal countries					
Mexico					
	State	-	22,9	3,9	4,2
	Local	-	9,8	13,9	9,8
Austria					
	State	2,2	2,8	5,6	6,8
	Local	3,7	4,5	5,2	4,7
Germany					
	State	-	-	-	-
	Local	0,4	0,2	0,3	0,1
Belgium					
	State	-	-	0,2	0,4
	Local	2,5	3,6	0,2	0,3
Canada					
	State	-	-	6,3	7,0
	Local	9,2	13,6	4,2	3,4
Unweighted average					
	State	2,2	12,8	4,0	4,6
	Local	4,0	6,3	4,8	3,7
Unitary countries					
France		46,0	39,7	35,2	30,7
Italy		0,0	22,7	39,9	40,7
Iceland		11,7	15,7	-	0,0
Japan		0,2	1,0	1,0	0,9
Unweighted average		5,8	8,6	4,8	6,1

Source: OECD (2009). Note: these data include mainly taxes on business, but also residual taxes.

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