

# INTERNATIONAL COMPARISONS OF TAX LEVELS: PITFALLS AND INSIGHTS

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## INTRODUCTION

The tax data base on which this note comments has been published annually since 1973 in the OECD publication *Revenue Statistics of OECD Member Countries*. This series was established in response to Member government demands for more disaggregated and reliable data than those previously available', to throw light on such questions as: how do countries' tax burdens compare; what are the economic effects of different tax levels; what is the relative reliance on different sources of revenue; what, if any, is the significance of such differences for economic performance. Data on tax levels and structures can also provide insights into the scope for tax reform in any particular country.

The OECD classification first distinguishes between taxes and non-tax revenues such as user charges, capital sales and fees, and then classifies the taxes according to the base upon which they are levied – income and profits, payroll, property, goods and services, other – and, in some cases, according to who pays the tax – households, companies, institutions. With the exception of social security contributions – a separate heading in the OECD list – "earmarking", i.e. the purpose for which the tax is levied, does not affect classification. To ensure international comparability, detailed guidelines are laid down as to what counts as a tax, and where revenues from specific taxes should be classified. Before the results are published, the country submissions are verified to ensure that country returns conform to the guidelines.

Part I of this note concentrates on the pitfalls inevitably associated with the collection of such statistical data. Certain insights into the tax policy of governments over time are provided in Part II.

### I. CONCEPTUAL AND PRACTICAL PROBLEMS

#### A. What is a tax?

##### 1. *Definition problems*

Unlike elephants, which are easy to recognise but difficult to define, taxes are difficult both to define and to identify. The OECD interpretative guide defines a tax as

follows: "the term 'taxes' is **confined to compulsory, unrequited** payments to **general government**". To formulate these criteria took many hours of debate among statisticians and tax specialists. Even if the amounts of revenue (and hence international comparability) is not greatly affected in most of the borderline cases encountered, fundamental points of principle are involved. Each of the underlined words in this definition of "tax", poses problems:

- a) "**Confined to**": there may be levies which are compulsory, unrequited payments to general government, but which it is preferred not to regard as taxes. One example is compulsory loans to government which have occurred in some countries.
- b) "**Compulsory**" is not without ambiguity, as can be seen by examining the following three areas:

**Contributions paid to social security funds.** For the most part, social security contributions are compulsory in the everyday sense that the payers have no choice as to whether or not they contribute. In practice, however, it can be difficult to distinguish between compulsory and quasi-compulsory contributions. For example:

- Under certain social security schemes (e.g. Dutch health insurance) contributions are compulsory up to a certain income level and then become optional. In this case, the contributions paid by the taxpayers below the ceiling are treated as taxes, but those paid above the ceiling are considered to be voluntary and are not treated as taxes;
- In some countries (e.g. the United Kingdom) employers have the choice of contributing to a public pension scheme or setting up a private scheme which provides at least the same level of benefits. Contributions to the public schemes are regarded as compulsory, but represent a borderline case.

Even where conceptually the treatment of these contributions may seem fairly self-evident, there remains the problem that it is not always easy to identify what amounts are in practice compulsory and what voluntary.

**Levies paid to the church.** A number of North European countries have levies which are earmarked for the church. Where these levies are paid by nearly all citizens and the church is part of general government, they are treated as taxes. In most cases, however, these levies are compulsory only for those citizens who belong to the church, though the

presumption is that everybody is a church-member unless they expressly opt out. And opting out can involve the citizen in a lot of effort.

**Fees which are paid for certain services provided by government.** Problems arise as to whether or not certain fees are compulsory. A fee paid to obtain a passport, for example, is compulsory only for those who intend to travel abroad, which is a "voluntary" decision. In practice fees of this kind seem generally designed broadly to cover administrative costs rather than to raise revenue, and are generally regarded in the OECD classification as not being taxes. In a few countries (e.g. Portugal), where there is a deliberate revenue-raising element, usually by way of a surcharge on the passport fee, they are taken to be taxes.

- c) **"Unrequited"** is used in the sense that benefits provided by government to a taxpayer are not in proportion to the payments made by that taxpayer. Many borderline cases arise with regard for example to passport fees, driving licences, radio and television licences if public authorities provide the service, where it is difficult to decide whether they should be treated as taxes or as non-tax revenues. An attempt to make this distinction has been made in the interpretative guide to the OECD Revenue Statistics and the amounts of revenues affected by any remaining incomparabilities are likely to be slight. In the national accounts these fees are treated as taxes when paid by enterprises and as non-tax revenues when paid by households. Tax administrations tend to take the view that such fees are generally not intended to raise revenue but to cover costs and so should not be regarded as taxes. For the most part the OECD treatment follows the latter point of view, borderline cases being resolved by reference to the general practice of tax administrations.
- d) **"General government"** also provides problems. In the OECD classification general government consists of supra-national authorities (in practice, the Commission of the European Communities), the central administration and the agencies whose operations are under its effective control, state and local governments and their administrations, social security schemes and autonomous governmental entities, excluding public enterprises. One problem is that in some countries (e.g. Finland) the church is considered as part of government and performs certain services for government, such as registration of marriages. Yet it is questionable whether the church is "effectively under the control" of government. A second problem arises with separate social security agencies. For the most part, separate social

security funds are clearly within general government but some funds are regulated by government though administered by the private sector. Some countries have separate funds for certain professions (e.g. Italy for doctors) where the control effectively rests with the profession, though the funds have to operate within the framework established by legislation. In practice separate social security agencies of this kind are treated as part of general government.

## **2. Should social security contributions be regarded as taxes?**

The problems discussed above raise important conceptual issues, but chosen solutions do not greatly affect international comparability of tax revenues. The treatment of social security contributions is much more important in this regard.

Examples have already been cited where certain types of social security contributions fit uneasily with the definition of taxes because they are not really compulsory or not unrequited or not paid to general government. They have also special features which make them arguably non-tax revenues:

- They are the only *major* source of revenue which is earmarked for a particular purpose;
- Contributions provide an entitlement to benefits and could therefore be considered as required;
- Because of the insurance analogy, they may be perceived differently from other revenues by governments, politicians, employers and employees;

Nevertheless, it would be inappropriate to exclude compulsory social security contributions in international comparisons of tax levels, because countries rely to very differing degrees on them to finance similar kinds of social benefits. For example, in France, Italy, Netherlands and Spain social security contributions amount to more than 40 per cent of tax revenues, whereas they are less than 3 per cent in Denmark and zero in Australia and New Zealand. Moreover, there exists the borderline case in the Nordic countries (other than Sweden) of levies on employees which could be regarded as either an income tax earmarked for social security contributions (to be classified as an income tax) or as social security contributions levied on an income tax base (to be classified as social security contributions). As noted in Table 2, the OECD has classified such levies as income taxes.

## **3. The borderline between tax provisions and direct government expenditures**

There are two areas where it is difficult to distinguish between tax provisions and direct government expenditures and where, because the amounts of revenue

are considerable, the choice made would significantly affect countries' ranking order in tax level comparisons. One is the case of investment and savings premiums. These are subsidy programmes administered by the tax authorities and which can, under certain conditions, be subtracted from tax due, such as the investment premiums in Austria, Germany and the Netherlands. Discussions are currently going on at OECD to decide whether these provisions should be treated as tax provisions (the current practice in Germany), thereby reducing tax levels, or whether they should be regarded as expenditure provisions (the current practice in Austria and the Netherlands).

The second difficult area is the treatment of "non-wastable" tax credits. In most countries tax credits are "wastable" in the sense that any excess over the liability is not refunded to the taxpayer. These credits are treated as tax provisions since they affect the flow of receipts to governments and are an integral part of the tax assessment process. In a few countries (e.g. Canada, New Zealand, France, the United States) there are non-wastable tax credit which can be offset against tax liability and any excess of the credit over tax liability is paid out to the taxpayer. The question arises of how should the payments of the excess credit be treated. After discussion in the OECD it was decided that the amount of credit offset against tax should be treated as a tax provision, thus reducing tax receipts, but that payments made by governments should be regarded as a direct government expenditure provision and so would not affect tax receipts. However, arguments can be put forward for treating non-wastable tax credits, both as entirely tax provisions and as entirely government expenditure.

## **B. Difficulties in interpreting the data**

This section argues that tax-to-GDP ratios cannot provide an unequivocal guide either to the level of government intervention in the economy or to the level of compulsory transfers from the private to the public sector.

### **1. Various means of government intervention**

In OECD countries, governments intervene in the economy in the following ways:

- Direct government expenditures, which may be financed by taxes, non-tax revenues or by borrowing;
- Tax expenditures. As discussed below, these are subsidy programmes implemented via the tax system which have the effect of reducing tax revenues below what they would otherwise have been;

- Government loan guarantees. These reduce the cost of borrowing below what it would otherwise be;
- An obligation on the private sector to collect compulsory levies for the provision of certain social security benefits (Table 1 shows that amounts represent between 4 to 6 per cent of GDP in Finland, the Netherlands and Switzerland);
- Other government regulatory activities which increase the costs of the private sector (e.g. environmental controls);
- There are various means by which a government can extract revenue from a particular activity. If, for example, the government wishes to obtain more revenue from the activity of gambling it can do so either through the tax route (a tax on the betting stake or the net profits or gross turnover of the gambling enterprise) or the non-tax route of a State lottery: if it wishes to raise extra money from electricity consumption it can do so by an indirect tax or by the non-tax route of increasing the price of goods supplied by a nationalised industry and requiring that industry transfer part of the increased revenue to general government.

## **2. *Relative reliance on tax expenditures and direct expenditures***

Perhaps the most important area in quantitative terms in interpreting published tax burden comparisons is that one country may place a heavy reliance on tax expenditures – subsidies paid out via the tax system – whilst another may rely predominantly on direct expenditures to achieve its policy goals. Other things being equal, the tax level of a country in the first category will be lower than that of a country in the second category, even if in the two cases, the level of government intervention in the economy and the resource cost are similar. A conceptual complication is that there is room for disagreement on whether particular provisions, such as tax allowances for parents, or lower rates of value-added tax, should be regarded as a tax expenditure which is a substitute for a direct expenditure or as an integral part of the tax structure. In any event, only about half of OECD countries can provide data on these tax expenditures and the data available are unlikely to be fully comparable on an international basis<sup>2</sup>.

## **3. *Taxes paid by government to itself***

Taxes paid by government to itself constitute a relatively large and varying proportion of government receipts, taking the form either of payments from one level of government, to another, for example local property taxes paid by central

Table 1. One possible adjustment of tax levels: some quantitative examples  
1982

Billions of national currency and as percentage of GDP

Country	Tax levels as defined by OECD	ompulsory social security contributions paid to private schemes	Fees, fines and sales as defined by IMF	Total (1) + (2) + (3)	Social security contributions & payroll taxes paid by government	Column (4) minus column (5)
	(1)	(2)	(3)	(4)	(5)	(6)
Canada	127.3 (33.8)	--	1.4* (0.4)	128.7(34.2)	7.1 (1.9)	121.6 (32.3)
Finland	86.7(35.4)	10.9(4.4)	2.1* (0.8)	99.7 (40.7)	..	1 532.2 (43.0)
France	1 561.9 (43.8)	--	36.9 (1.0)	1 598.8 (44.8)	66.6 (1.8)	1 532.2 (43.0)
Germany	598.1 (37.4)	--	47.6 (2.9)	645.7 (40.3)		
Italy	17 682.9 (37.5)	--	420.0** (0.9)	18 102.9 (38.4)		
Japan	7 257.2 (27.1)	--	134.0* (0.1)	7 270.6 (27.2)	..	
Netherlands	167.5 (45.4)	16.3(4.4)	2.9* (0.8)	186.7(50.8)	3.8 (1.0)	182.9 (49.7)
Sweden	31 3.3(49.9)	--	4.7 (0.7)	31 8.0 (50.7)	29.2(4.7)	288.8 (46.0)
Switzerland	60.8 (31.0)	11.1 (5.7)	8.9 (4.5)	80.8(41.2)	0.9(0.4)	79.9 (40.8)
United Kingdom	108.2 (39.2)	--	5.2 (1.9)	113.4 (41.1)	2.6(0.9)	1 10.8 (40.1)
United States	923.2(30.5)	--	54.0 (1.8)	977.2(32.3)		
Source: OECD (1985)	Table 3	Tables 61-83	Tables 149-171		Tables 84-106	

*Note:* The figures in parentheses are national currencies expressed as a percentage of GDP.

\* Central government only.

\*\* 1981.

.. Not available



government, or of payments by the same level of government to itself, such as VAT payments on purchases by central government. Two questions arise:

- Can the amounts of revenue in question be isolated and what is their relative importance?
- If identifiable, should they be included or excluded from tax statistics?

With regard to the first question, it seems that the most important of these levies are social security contributions paid by government in their capacity as employers and the amounts involved can usually be identified. These can be very sizeable, amounting in the extreme case of Sweden to nearly 5 per cent of GDP (see Table 1). Few governments can identify the amounts of property or consumption taxes they pay to themselves: extrapolating from those that can the amounts seem relatively slight in comparison to payments of social security contributions.

Opinions vary as to whether identifiable amounts of taxes paid by government to itself should be eliminated from tax receipts. OECD has decided against elimination and IMF for elimination<sup>3</sup> (and this constitutes the only conceptual difference between the data provided by the two Organisations). The argument for elimination is that if the intent is to provide data on the flow of cash payments to the government sector from the rest of the economy, then tax payments between different units of the same level of government and between different levels of government should be eliminated in the consolidation of the tax accounts of general government. This treatment also has the advantage that differing country practices as regards the exemption from tax of similar government activities does not distort inter-country comparisons. On the other hand, if the aim of recording tax flows is to provide an insight into the value of government output in the context of the economy as a whole, then the appropriate treatment is to take into account payments by government. This treatment ensures that the different resource flows of an economy, including the valuation of the output of government, are measured consistently. Consistency would also require that imputed tax payments are calculated when a government activity is exempt from a tax that would have applied if the activity was carried out in the private sector. Another argument against elimination is that it is anyway in practice impossible to eliminate all such payments by government to itself and that the proportion of such payments which cannot be eliminated will vary from country to country.

#### **4. The hidden economy**

Activities carried out in the hidden economy will largely be taken into account in GDP figures, but incomes from such activities will by definition not generate direct tax revenues. Though estimates of the size of the hidden economy remain unreliable,

it is probable that it varies considerably from country to country. This provides yet another reason why tax to GDP ratios cannot provide an unequivocal guide to relative tax burdens.

## **C. Quantitative aspects**

### **1. Choice of denominator**

Various arguments have been advanced for preferring GDP or GNP and factor costs or market prices. In practice this choice does not have a large influence on relative tax ratios and this issue is accordingly not discussed here. The comparisons in this note use GDP at market prices as the denominator<sup>4</sup>.

### **2. Revisions to GDP figures**

One problem in interpreting changes in tax to GDP ratios is that they reflect movements in both tax receipts and GDP. In some cases, a large change in this ratio could be due to the fact that the GDP figure may be subject to a large revision, particularly as regards more recent years.

### **3. A rough quantification of some of the pitfalls**

Table 1 provides a rough quantitative evaluation of some of the limitations referred to above. Not all of these incomparabilities can be quantified and in some cases (e.g. compulsory contributions to the private sector and taxes paid by government) the data are either incomplete or have been constructed in a slightly different way from the main tax series. The table suggests that:

- The relative reliance on compulsory social security contributions to the private sector and on fees, fines and sales revenue differs significantly between countries;
- The importance of social security contributions and payroll taxes paid by government to itself also varies, reflecting the size of the public sector and the rates of employers' contributions;
- The adjustment of tax ratios for these variables would significantly change the ranking order of some countries. For example, the Netherlands and Switzerland would move up, whereas Canada and Sweden would move down, if the various factors referred to in Table 1 were taken into account.

## II. INSIGHTS AND INTERPRETATIONS

### A. Summary of some results

Table 2 gives a number of results<sup>5</sup>. In describing them we use, to facilitate drafting, the abbreviations total tax ratio, income tax ratio, social security ratio, etc. for the ratio of receipts from total taxes, income taxes, social security contributions to GDP at market prices. Also excises is used as an abbreviation for taxes on specific goods and services (5120 in the annexed OECD classification).

Despite all the reservations made in Part I, a glance at Table 2 already provides a number of interesting insights into tax levels and structures in OECD Member countries. For example:

- a) **Major sources of revenue.** Though most countries levy many different kinds of taxes, over the last three decades around 85 per cent of revenues usually come from three sources – personal income taxes, social security contributions and consumption taxes. A few countries, however, have a relatively high reliance on corporation income taxes and property taxes which, if added to the three taxes referred to above, brings the average overall share of total tax revenues to over 96 per cent in all OECD countries except Australia and Austria where there are relatively high unearmarked payroll taxes. Where the money has been coming from in the past is of evident relevance to what is likely to happen in the future.
- b) **Trends in total tax ratios.** There are fluctuations from year to year in the ratio of total tax revenues to GDP in most countries, but in all countries it was higher in 1983 than in 1965, the earliest year for which data are available on an internationally comparable basis. The total tax ratio had reached its highest ever level in 1983 in eleven countries and in 1981 or 1982, in another nine. Exceptions are Finland (1976) and Germany and Turkey (1977). Latest information reproduced in Annex 2 for 1984 and estimates for 1985 show that for most countries this upward trend continues.
- c) **Timing of increases in total tax ratios.** Table 2 shows that the extent and timing of increases in total tax ratios varies greatly from country to country, as discussed below for fifteen countries in greater detail<sup>6</sup>.
- d) **Total tax ratios and GDP per capita.** There may be an *a priori* expectation that most countries with high total tax ratios have a high GDP *per capita*, and conversely. For a majority of countries this is true, but there are important exceptions. Australia, Japan, Switzerland and the

Table 2. Receipts from main taxes as percentage of GDP at market prices  
1965, 1974 and 1983<sup>a</sup>

	Total taxes			Personal income tax: (1100) <sup>b</sup>			Corporation income tax: (1200) <sup>b</sup>			Employees' social sec. (2100) <sup>b</sup>			Employers' social security (2200) <sup>b</sup>			General consumption (5110) <sup>b</sup>			Excises, etc. (5120) <sup>b</sup>			
	1965	1974	1983	1965	1974	1983	1965	1974	1983	1965	1974	1983	1965	1979	1983	1965	1974	1983	1965	1974	1983	
	Sweden <sup>f</sup>	36	43	50	17	19	20	2	1	2	1	1	-	3	7	1	3	4	6	7	7	5
Netherlands <sup>c</sup>	34	42	47	9	12	10	3	3	3	5	7	9	4	8	8	4	6	1	5	3	3	
Norway <sup>c,e</sup>	33	45	47	13	14	12	1	1	7	-		2	3	3	8	7	9	8	6	7	8	
Denmark <sup>c,e</sup>	30	44	46	12	25	24	1	1	1	1	0	1	0	0	1	3	8	10	9	6	6	
Belgium <sup>c</sup>	31	38	45	6	11	16	2	3	3	3	3	5	6	8	8	6	1	8	4	3	4	
France <sup>c</sup>	35	36	45	4	4	6	2	3	2	2	3	5	9	1	0	1	3	8	9	9	5	3
Luxembourg <sup>c</sup>	32	32	42	8	9	12	3	7	7	4	4	5	6	5	5	4	4	5	3	2	5	
Austria <sup>c</sup>	35	38	41	7	9	9	2	2	1	4	4	5	4	5	7	6	7	9	6	6	4	
Italy <sup>c</sup>	27	28	41	3	4	11	2	2	4	..	2	3	..	9	10	4	5	6	7	4	4	
Ireland <sup>c</sup>	26	32	39	4	7	12	2	2	1	1	2	2	1	2	4	1	5	8	11	9	9	
United Kingdom <sup>c</sup>	31	35	38	9	12	10	2	3	4	2	2	3	2	3	3	2	3	5	8	6	5	
Germany <sup>c</sup>	32	36	37	8	12	11	2	2	2	4	5	6	5	6	7	5	5	6	5	4	3	
Finland <sup>e</sup>	30	33	35	11	16	16	2	2	2	-	-	-	1	3	3	6	7	7	7	5	7	
Canada	26	34	33	6	11	12	4	4	2	1	1	2	1	2	3	5	5	4	4	5	5	
Portugal <sup>d</sup>	18	22	33	..	..	..	..	..	..	2	2	3	2	4	5	1	3	5	4	6	5	
Greece	21	24	33	1	3	4	0	1	1	..	..	5	..	..	5	2	3	5	7	6	7	
New Zealand	25	30	32	10	17	19	5	4	2	-	-	-	-	-	-	2	2	4	8	7	9	
Switzerland	21	27	32	6	9	11	1	2	2	1	3	3	2	3	3	2	2	3	4	3	3	
Australia	24	29	32	8	12	13	4	4	3	-	-	-	-	-	-	2	2	2	5	5	6	
United States	26	30	30	8	10	11	4	3	2	2	3	3	2	4	5	1	2	2	4	3	2	
Japan	18	23	28	4	5	7	4	6	5	1	2	3	2	1	4	-	-	-	5	3	4	
Spain	15	18	21	2	2	6	1	1	1	1	2	2	3	7	9	3	3	3	3	2	3	
Turkey	15	18	19	4	6	8	1	1	2	0	1	0	0	1	-	-	-	-	8	1	6	
OECD average <sup>1</sup>	27	32	37	7	10	12	2	2	3	2	2	3	3	4	5	3	5	5	6	5	5	

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.. Not available.

- No such tax is levied.

0 Less than 0.5 per cent.

a) Countries ranking order by 1983 total tax to GDP ratios.

b) For number references see annexed OECD classification.

c) Countries with a value-added tax as at January 1983.

d) Receipts cannot be broken down as between personal and corporation income taxes. For the two combined they are 5, 5, 7 for 1965, 1974, 1983 respectively.

e) In these countries employees' social security contributions are levied on an income tax base and are shown as 1 100.

f) Excluding Portugal for 1 100 and 1 200 and Greece and Italy for 2 100 and 2 200.

Source: OECD (1985). 1974 figures taken from Revenue Statistics of OECD Member Countries 1965-1983 (1984).

United States are countries with high GDP per capita and low total tax ratios and Ireland and Italy have recently exemplified the converse situation.

- e) Total tax ratios and form of government. For the most part, among industrialised countries, federal countries tend to have the lowest total tax ratios (Australia, Switzerland, the United States) and they tend to increase the least (Germany, the United States). Of the eleven countries that currently have the highest total tax ratio, none has a federal form of government.

## **B. Possible explanatory factors**

The main explanation for relative tax ratios and changes in these ratios is probably the relative demand for government expenditure, especially on social welfare. In other words, it seems probable that expenditure levels are the determinant of tax levels rather than the other way around. However, the rest of this note is concerned only with the revenue side.

At a general level two kinds of possible explanations can be identified for changes in countries' tax ratios: what would happen if governments did nothing; the various factors which might influence governments to intervene or not to intervene.

If governments refrained from changing rates, allowances, introducing indexation provisions, etc., particular tax ratios will be affected by such factors as demographic changes in the taxpaying population, changes in income distribution and above all by changes in price inflation and real growth, which will have the following effects on the automatic elasticities of tax receipts:

Personal income tax yields will increase with inflation and real growth. Because of the progressivity of tax schedules, taxpayers will move into higher rate brackets and those with incomes previously too low to pay tax will be brought into the tax net. Also the real value of allowances will be eroded by inflation. These effects are variously called fiscal drag, bracket creep or the built-in flexibility or high elasticity of the personal income tax;

Social security yields will decrease with inflation. In most countries there is a ceiling on the earnings subject to contributions. Once this ceiling is passed the marginal rate of contributions is zero and the average rate begins to fall. If government does not increase these ceilings in line with inflation, their yield will fall in real terms. However, ceilings tend to be above average earnings, so that the automatic decrease is likely to be limited;

**General consumption tax yields** will remain broadly unaffected by inflation since they are based on the value of goods and services, but increased growth could have a positive effect through greater consumption;

**Excise yields** will decrease with inflation. Because they are levied mostly on the weight of tobacco, strength of alcohol, volume of petrol, etc., it needs an increase in the rate to maintain this ratio in times of inflation.

There are a variety of reasons why governments may wish to offset or reinforce these automatic effects, such as the following:

**Political preferences.** Political attitudes will influence government views on the size of government, the desired level of taxation and the taxes preferred. For example, certain right-wing governments have tended to favour smaller government, lower taxes and consumption taxes rather than income taxes, whereas certain social democratic governments have tended to favour increasing the size of government, accepting that this may require higher taxes and especially higher income taxation.

**Composition of the labour force.** The lower the percentage of employees compared to the percentage of self-employed such as farmers, artisans, liberal professions, the more difficult it will be to raise large amounts of revenue from a broad-based income tax, and countries like France, Greece and Portugal, and until recently Ireland, Italy and Spain, have accepted a low personal income tax ratio.

**Constitutional set-up.** As observed earlier, federal states tend to have lower tax ratios perhaps because each level of government has access to a more limited range of taxes and find it more difficult to raise the taxes under their control. This constraint may be reinforced by separation of powers as between the executive and legislature (United States). Of relevance, too, is the relative strength of the executive and legislature, the size and cohesion of the parliamentary majority, and the (likely) period between parliamentary elections.

**The inertia factor.** Tax changes imply winners and losers. Since the latter are more likely to be resentful of changes than the former grateful, losers are more likely to form pressure groups. In addition, governments have many things to occupy them and in the absence of pressures for tax change may be content to avoid major tax reforms. This seems to have happened in most OECD countries during the last two decades, although tax reform is currently on the political agenda of a number of countries.

**Avoidance of uncertainty.** Some governments may avoid frequent changes because of the importance they attach to maintaining a stable fiscal environment for business.

**Economic conditions.** The difference in the development of tax ratios between 1965 and 1974 and between 1974 and 1983, as shown by Table 2, can be explained in part by the different economic conditions, particularly in the more industrialised countries. Between 1965 and 1974 economic conditions were generally buoyant, but afterwards high inflation was followed by a period of low growth and high unemployment. In recent years with real incomes declining, it has become particularly difficult to increase personal income tax ratios<sup>7</sup>.

**Subjective perceptions.** Voters' attitudes to particular kinds of taxes and their preferences as between lower taxes and higher benefits are also likely to be explanatory factors. Perceptions about levies earmarked for social security are especially relevant here. In addition, to have a high tax ratio in the high growth days may have been regarded as a sign of caring generosity, but nowadays of profligacy.

**Administrative constraints.** Lack of trained personnel and computer facilities may also inhibit tax changes. This applies mainly to the less industrialised countries, but also to the larger countries because of the complications which may follow from major changes in tax law. This could be a reason why the countries with the highest tax ratios and most frequent large changes in the ratios of particular taxes are generally relatively small highly industrialised countries.

As an example of the conflict between presumed political preferences and economic constraints on changes in the total tax ratio, the United Kingdom provides a neat example in its changes between 1965 and 1983. During the buoyant first half of the period expected political preferences were followed, but afterwards they were reversed. Thus the total tax ratio consistently increased between 1964 and 1970 under the two Labour governments and consistently decreased under the 1970-74 Conservative government. Though it started to increase again under the 1974-79 Labour government, since 1975 exactly the reverse has happened: the ratio went consistently down between 1975 and 1979 and consistently up between 1979 and 1982 under the Conservative government though it did fall back in 1983. Thus apparent political preferences have been overridden by other factors since 1975. Between 1976 and 1979 incomes policies were being applied in the United Kingdom in an attempt to moderate inflation and this included government

commitments to limit income tax increases – then by far the most important source of United Kingdom revenue – in return for restraints in wage increases. The **1979** Conservative government had as a priority objective a reduction of the borrowing requirement and in addition to the availability of new sources of revenue from North Sea oil, nearly doubled the rate of value added tax as part of its policy to move from income to consumption taxation and increased the unearmarked payroll tax. Taking changes in total tax ratios in the United Kingdom as a whole during the period **1965-82** (though doubtless there are other explanatory factors), it would seem that political preferences played a major part during the first ten years and economic constraints thereafter.

Taking into account the impact of changing economic conditions on tax revenues and government actions, the following conclusions may be drawn from the last line of Table 2:

- a) **Personal income tax ratios.** Fiscal drag plus the inertia factor has increased this ratio more than any other revenue source since **1965**. In more recent years, however, this increase has greatly slowed down because of general economic conditions and changes in voters' attitude ~ ~ .
- b) **Social security ratios.** These have consistently increased despite their low automatic elasticity. In general, they have risen most in countries where they were already high. It is also relevant to note that in those countries where they are highest, the employers' contribution is invariably much more important than that of the employees. However, doubtless due to increased unemployment, and perhaps a desire on the part of governments to reduce labour costs, this source of revenue has become less buoyant in recent years.
- c) **General consumption tax ratios.** These have generally increased because of rate increases and sometimes a widening of the base, especially in countries with a value added tax.
- d) **Excise ratios.** These have declined in all countries partly due to negative fiscal drag and the inertia factor but also the oil shock, the decline in smoking and pressure group resistance from the smoking, drinking and motoring lobbies. In recent years, however, the decrease has stopped in most countries, perhaps because of the greater difficulty of raising revenue from other sources.



### C. Comparison of tax revenue developments in selected groups of countries

This section looks at tax revenue developments in three groups of countries. The countries in each group have similar economic, institutional and fiscal traditions, the second group being anglophone and the first and third being neighbouring countries. The groups are:

- Five Southern European countries;
- Four non-European OECD countries;
- The five relatively small Northern European countries with the highest total tax ratios in OECD.

Table 3 illustrates the main features of the tax structure in these fourteen countries.

#### 1. *Five Southern European countries:* France, Greece, Italy, Portugal and Spain

Though France and Italy are more industrialised than Greece, Portugal and Spain, they have a number of characteristics in common which is reflected in their tax structures<sup>8</sup>. The relatively large number of people who are self-employed or are in the agricultural sector implies a relatively low reliance on the personal income tax and a relaxed attitude to the traditional vices of smoking and drinking implies a relatively low reliance on excises. As a consequence, revenue comes mostly from social security contributions (especially the employer's share) and general consumption taxes. Another aspect which these five countries have in common is that in contrast to most other OECD countries the big increase in tax ratios has occurred in the last decade, these ratios having remained relatively stable between 1965 and 1974 (see Table 2).

Chart A suggests that the rapid rise in total tax ratios in Greece, Portugal and Spain were due in part to the change to democratic regimes, after the periods marked G, D and B on the charts, especially in view of their stagnancy before this period. A priori one would expect that such changes would accompany a demand for increased social expenditures (entailing increased revenues) and increases in income taxes as a means of providing these revenues in the least regressive way. The trends displayed in Table 2 corroborate this hypothesis.

Table 3 shows that for all years and in all these countries, the personal income tax share is well below average, but since 1974 it has grown considerably in Greece,

**Table 3. Receipts from particular taxes as a percentage of total tax receipts for fourteen selected OECD countries (1965, 1974, 1983)**

OECD Heading in Annex I	(1100)			(1200)			(21001)			(2200)			(4000)			(51101)			(51201)		
	Personal income tax			Corporation income tax			Employees' contributions			Employers' contributions			Property			General consumption			Excises		
	1965	1974	1983	1965	1974	1983	1965	1974	1983	1965	1974	1983	1965	1974	1983	1965	1974	1983	1965	1974	1983
France	11	12	13	5	5	4	7	8	12	25	28	29	4	2	4	23	25	21	14	9	8
Greece	7	12	13	2	5	2	..	..	15	..	..	15	10	9	3	11	19	15	36	22	22
Italy	11	16	28	7	5	9	..	8	7	..	33	26	7	3	3	13	17	15	24	15	10
Portugal	..	..	..	..	..	..	9	11	10	13	19	15	5	4	2	10	11	13	41	27	28
Spain	14	13	21	6	3	5	7	9	9	22	36	33	6	6	4	22	18	9	18	9	12
Australia	34	44	49	14	10	9	-	-	-	-	-	-	12	9	8	7	7	7	22	17	21
Canada	23	33	36	15	13	7	2	3	5	4	5	8	13	9	9	18	14	12	17	14	14
New Zealand	39	55	60	21	14	6	-	-	-	-	-	-	12	8	8	8	8	12	19	13	13
United States	31	34	37	16	11	6	6	9	11	10	13	17	15	13	11	5	6	7	15	10	9
Belgium	21	29	35	6	7	6	9	9	11	21	20	17	4	2	2	21	18	17	13	9	8
Denmark	41	58	52	5	3	3	4	1	2	2	1	2	8	6	5	9	17	21	29	13	13
Netherlands	28	28	21	8	1	6	15	17	20	13	18	18	5	3	3	12	14	15	15	8	7
Norway	40	31	25	4	3	15	0	5	6	10	18	15	3	3	2	22	20	18	18	15	17
Sweden	49	45	39	6	3	3	2	3	-	9	16	26	2	1	2	10	13	14	19	11	10
OECD unweighted average	26 <sup>a</sup>	31 <sup>a</sup>	33 <sup>a</sup>	9 <sup>a</sup>	9 <sup>a</sup>	7	6 <sup>b</sup>	7 <sup>b</sup>	8 <sup>l</sup>	10 <sup>b</sup>	12 <sup>b</sup>	13 <sup>b</sup>	8	6	5	11	13	14	23	15	14

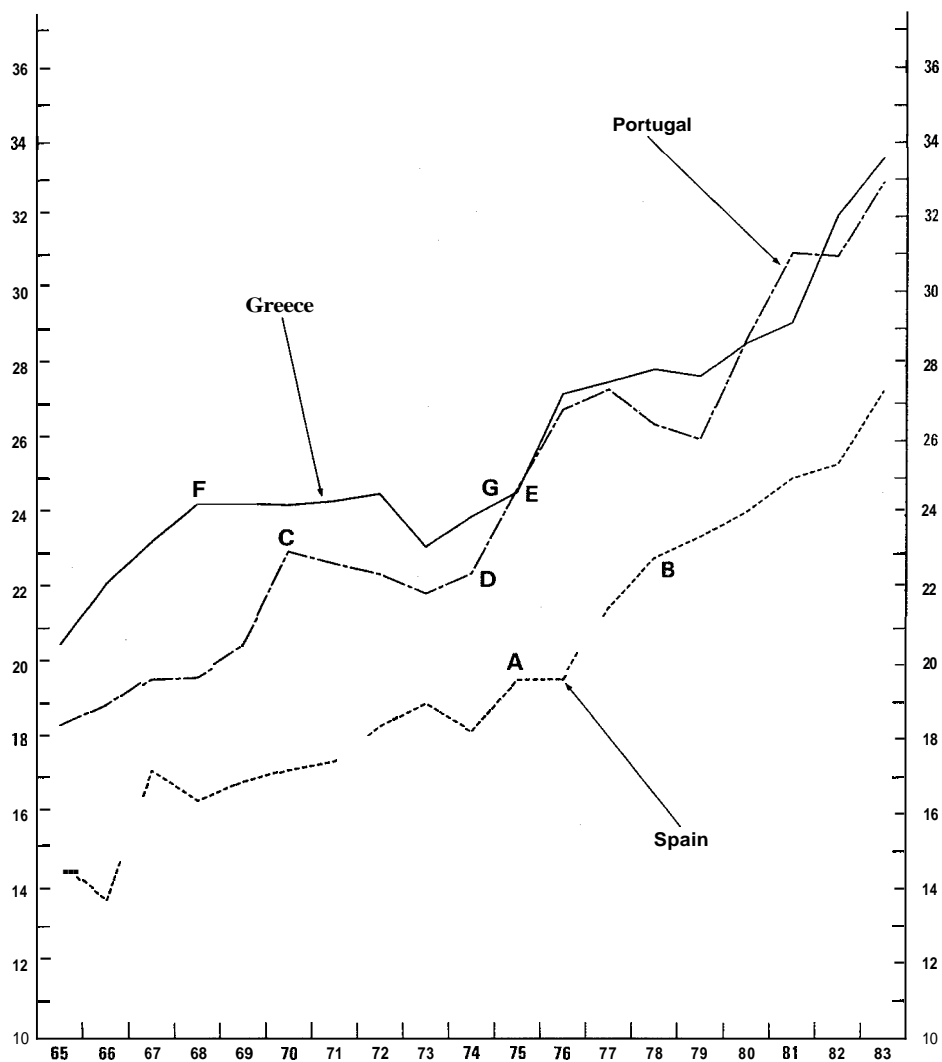
a) Excluding Portugal.

b) Excluding Greece and Italy.

Source: OECD (1985). 1974 figures taken from Revenue Statistics of OECD Member Countries 1965-1983 (1984).

CHART A

### POLITICAL EVENTS AS A PARTIAL EXPLANATION OF CHANGES IN TOTAL TAX RATIOS



- A. Death of Franco (11/75)
- B. Democratic elections in Spain (6/77)
- C. Death of Salazar (2/70)
- D. Revolution of flowers (4/74)
- E. Democratic elections in Portugal (4/76)
- F. Beginning of the Colonel regime (4/67)
- G. Democratic elections in Greece (11/74)

Source: OECD 1985 A.

Italy and Spain and by more than the OECD average. The share of corporation income tax is also well below the OECD average except in Italy. The share of social security contributions and consumption taxes is greater than the OECD average for all these countries except that by 1983 the share of consumption tax in Italy and Spain was below average, reflecting the recent rise in the income tax share. The increase over the period in the social security share was generally larger than the overall trend as was the fall in the share of consumption taxes, the consumption tax share remaining stable only in Portugal. The decline in the share of consumption taxes between 1965 and 1983 in Spain is particularly striking – around 20 percentage points. Table 3 shows that for four of the five countries employers' contributions are much more important than those of employees, Greece providing the exception.

2. **Four non-European OECD countries:** Australia, Canada, New Zealand, the United States

These four countries have had roughly similar total tax ratios over the 1965-83 period. They were all below the OECD average, and in all cases most of the increase occurred in the earlier half of the period<sup>9</sup>. They also have a similar tax structure relying heavily on personal and corporation income taxes and property taxes and, except in the United States in most recent years, much below average reliance on social security contributions which do not even exist in Australia and New Zealand. Reliance on consumption taxes is also much below average, and unlike most other countries, excises raise greater yields than general consumption taxes, Australia being the extreme case where the excise ratio is three times that of the general consumption ratio. In all these respects this group of countries provides a total contrast to the South European countries which rely heavily on social security contributions and general consumption taxes rather than income and property taxes and whose increase in total tax ratios has occurred since 1974 rather than between 1965 and 1974.

Table 2 shows that the increase in total tax ratios between 1965 and 1983 was entirely due to the increase in the personal income tax ratio in Australia and New Zealand and mostly so in Canada and the United States. It seems that the governments were able to take advantage of fiscal drag, especially during the first half of the period when growth was high and stagflation had not yet set in.

Table 3 shows that the share of receipts from the personal income tax (except in Canada in 1965) has always been well above average and except in the United States, this reliance has grown by much more than average.

### **3. The five OECD countries with the highest total tax ratios: Belgium, Denmark, Netherlands, Norway and Sweden**

Since **1973**, five neighbouring, relatively small, Northern European countries have invariably had the five highest total tax ratios among the OECD countries, though their ordering has varied<sup>10</sup>. All this may engender expectation as to similarities between them in timing of changes in tax yields, or relative reliance on various sources of tax revenues. In practice generalisations concerning these five countries with regard to tax revenue sources and timing of increases in them are very difficult to make. Paradoxically, about the nearest one can come to any generalisation about the ratios of particular taxes is that all these countries, except Norway, have a below-average corporation tax ratio and all, except Denmark, a below average property tax ratio: from which one may conclude that in practice a high total tax ratio does not entail high yields from the corporation or property tax<sup>11</sup>.

Between **1965** and **1974** the increase in total tax ratio was very different among these five countries. The average annual growth in this ratio was around **0.7** percentage points, as compared with, around **0.8** percentage points in Belgium and Sweden, one percentage point in the Netherlands, **1½** percentage points in Denmark and Norway. Possibly the greatest increase ever in OECD total tax ratios was that in Denmark between **1965** and **1971** when it changed from **30** per cent to **44** per cent, mainly because of an increase in the income tax ratio. This was due to fiscal drag and a change in collection methods. This large increase was followed by the indexation of the income tax system, the formation and growth of an anti-tax party, and a stabilisation of the total tax ratio. It was not much higher in **1983** than in **1971**.

Between **1974** and **1983** there have been large increases in the total ratio of Belgium and Sweden, moderately large increases in that of the Netherlands, and somewhat less in that of Denmark and Norway. These varying increases in the total tax revenue were due to increases in different sources of revenue:

- In Belgium the increase came almost entirely from the personal income tax ratio, although there were also some increases in the social security ratio;
- In Denmark the increase came from the general consumption tax and social security ratio;
- In the Netherlands it was mostly due to the employees' social security ratio;
- In Norway almost all the increase came from the corporate tax ratio (mainly oil profits);

- In Sweden almost entirely increases in the employers' social security ratio.

By **1983** Denmark had the highest personal income tax and general consumption tax ratios of any OECD country, Norway the highest corporate tax ratio, Netherlands the highest employees' social security ratio and Sweden the highest employers' social security ratio except for that of Italy.

Apart from the Netherlands in recent years, all five countries rely more than the OECD average on personal income taxes, but the share of income tax receipts in total receipts has been recently declining in all these countries, except Belgium. In all these countries, save Denmark, social security contributions now provide an above-average share of tax revenues and the share has been recently growing faster than other revenue sources. Between **1965** and **1982** the share of revenue from consumption taxes has declined in all these countries but since **1974** the decline was very slight and in Denmark it actually increased. Table 3 shows that in all five countries VAT is much more important than excises and the differential is growing except in Norway where it has remained stable.

This brief survey of tax developments in three groups of countries is obviously no substitute for a detailed analysis of the factors influencing developments in any one country, for, by definition, such comparisons can give only an ex post facto account of what has happened, rather than the reasons why it has happened. Yet the comparisons do sometimes provide insights into possible reasons for changes in tax ratios, such as low tax elasticities and political changes in three of the five Southern European countries and the high elasticities of the tax systems and higher growth in the late **1960s** and early **1970s** in four non-European countries. On the other hand the differences in total tax ratios, and reliance on different tax sources among the smaller, highest taxed, \*Northern European countries means that insights have to take the negative form. If you want to have, or avoid, a high total tax ratio there is no obvious way of going about it.

## NOTES

1. Less detailed data are provided by the European Community's Statistical Office and the United Nations.
2. See OECD (1984a) and Owens (1985) for further details.
3. Though OECD data includes identifiable amounts of taxes paid by government in general tax revenues, identifiable amounts are separately shown in a memorandum item.
4. For a discussion of this issue see Bracewell-Milnes (1976). Brown and Jackson (1978) and Uri (1982).
5. For more results and a detailed discussion of them see OECD (1981), Messere (1978, 1983 and 1985) and Rose (1985).
6. As regards the timing of the increase in total ratios in the seven countries not further discussed, the greater part of the increase took place as follows:

Germany before 1975	Turkey before 1977
Luxembourg since 1974	Ireland and Japan since 1975
Finland between 1969 and 1976	Switzerland between 1972 and 1976

In Austria with much fluctuation, the ratio increased over the period 1965-1983.
7. See OECD (1986).
8. Turkey has not been included in this group both because it has a much lower total tax and a very different tax structure. For a more detailed discussion of tax structures in the Mediterranean countries see Owens (1982).
9. Japan and Switzerland have a similar tax structure, but the timing of changes in total tax ratio (see Note 6) are very different. Also Japan has a much lower total tax ratio and much higher reliance on corporation tax than these other countries.
10. In 1970 and 1971 Denmark had the highest total tax ratio. From 1972-75 it was Norway, since when it has always been Sweden (as it was from 1965 to 1969). But for the fact that the total tax ratio of Austria was slightly above that of Belgium in 1971 and 1972, those five countries would have had the five highest total tax ratios since 1971.
11. One generalisation that can be made is that they are all, except Norway, countries with well above average rates of government expenditures to GDP. In 1982 the percentages were Sweden 67, Netherlands 64, Denmark 61, Belgium 57, Norway 49, OECD average 47 (Source: Table 1 of Saunders and Klau, 1985).

*Annex I*

THE OECD CLASSIFICATION OF TAXES

- 1 000 Taxes on income, profits and capital gains**
  - 1 100 Taxes on income, profits and capital gains of individuals
    - 1 110 On income and profits
    - 1 120 On capital gains
  - 1 200 Corporate taxes on income, profits and capital gains
    - 1 210 On income and profits
    - 1 220 On capital gains
  - 1 300 Unallocable as between 1 100 and 1 200
  
- 2 000 Social security contributions**
  - 2 100 Employees
  - 2 200 Employers
  - 2 300 Self-employed or non-employed
  - 2 400 Unallocable as between 2 100, 2 200 and 2 300
  
- 3 000 Taxes on payroll and workforce**
  
- 4 000 Taxes on property**
  - 4 100 Recurrent taxes on immovable property
    - 4 110 Households
    - 4 120 Other
  - 4 200 Recurrent taxes *on* net wealth
    - 4 210 Individual
    - 4 220 Corporate
  - 4 300 Estate, inheritance and gift taxes
    - 4 310 Estate and inheritance taxes
    - 4 320 Gift taxes
  - 4 400 Taxes on financial and capital transactions
  - 4 500 Other non-recurrent taxes on property
    - 4 510 On net wealth
    - 4 520 Other non-recurrent
  - 4 600 Other recurrent taxes on property



- 5 000 **Taxes on goods and services**
  - 5 100 Taxes on production, sale, transfer, leasing and delivery of goods and rendering of services
    - 5 110 General taxes
      - 5 111 Value added taxes
      - 5 112 Sales taxes
      - 5 113 Other general taxes on goods and services
    - 5 120 Taxes on specific goods and services
      - 5 121 Excises
      - 5 122 Profits of fiscal monopolies
      - 5 123 Customs and imports duties
      - 5 124 Taxes on exports
      - 5 125 Taxes on investment goods
      - 5 126 Taxes on specific services
      - 5 127 Other taxes on international trade and transactions
      - 5 128 Other taxes on specific goods and services
    - 5 130 Unallocable as between 5 110 and 5 120
  - 5 200 Taxes on use of goods, or on permission to use goods or perform activities
    - 5 210 Recurrent taxes
      - 5 211 Paid by households in respect of motor vehicles
      - 5 212 Paid by others in respect of motor vehicles
      - 5 213 Other recurrent taxes
    - 5 220 Non-recurrent taxes
  - 5 300 Unallocable as between 5 100 and 5 200
- 6 000 **Other taxes**
  - 6 100 Paid solely by business
  - 6 200 Paid by other than business or unidentifiable

Source: OECD, *Revenue Statistics of OECD Member Countries 1965-1985 (1986)*.

Annex II

TOTAL TAX REVENUE AS PERCENTAGE OF GDP  
AT MARKET PRICES 1980-1985<sup>1</sup>

	1980	1981	1982	1983	1984	1985 <sup>2</sup>
Sweden	49.36	51.06	49.92	50.59	50.46	50.60
Denmark	45.48	45.34	44.48	46.47	48.02	49.40
Belgium	43.71	44.27	45.65	45.55	46.73	
Norway	47.10	48.67	47.92	46.66	46.41	47.80
Netherlands	45.82	45.19	45.43	47.03	45.54	44.78
France	42.53	42.80	43.79	44.57	45.49	45.55
Austria	41.17	42.48	41.09	40.92	41.95	42.30
Luxembourg	42.23	42.72	41.19	42.29	41.43	
Italy	33.21	36.14	38.91	42.10	41.17	40.18
Ireland	34.04	35.27	37.03	38.70	39.48	38.37
United Kingdom	35.33	36.51	39.27	37.91	38.51	38.58
Germany	38.00	37.57	37.44	37.45	37.73	37.97
Finland	33.27	34.91	34.46	34.37	36.00	37.12
Greece	28.62	29.17	32.05	33.59	35.23	22.79
Canada	32.05	34.07	33.74	33.37	33.72	34.18
Switzerland	30.78	30.56	31.00	31.58	32.18	32.04
Portugal	28.72	31.03	30.95	32.93	31.97	31.47
Australia	29.78	30.63	30.59	29.63	31.21	
New Zealand	30.87	32.08	33.40	32.03	31.04	
United States	30.35	30.77	30.55	29.03	28.99	
Spain	24.11	25.00	25.38	27.33	28.39	28.47
Japan	25.45	26.24	26.66	27.20	27.38	
Turkey	19.02	20.44	20.09	18.25	14.43	15.63
<i>Unweighted average:</i>						
OECD total	35.26	36.21	36.56	36.94	37.11	27.71

1. Ranked by 1984 figures.

2. Provisional.

.. Data non available.

Source: OECD, Revenue Statistics of OECD Member Countries 1965-1985 (1986).

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