

- knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion'.
- The results have been disappointing: the policy was overambitious, too wide-ranging and with only a limited commitment from MSs that would have to carry out the measures.
 - The LS has not improved the EU's productivity performance.
 - The LS operated from 2000 to 2010; a similar strategy, Europe 2020, has now been introduced for the period 2010–20.
 - It is argued that the LS is misconceived and its objective and methods can be questioned.

Questions and essay topics

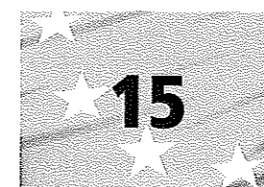
1. What is ICP? What government policy measures does it cover?
2. Why might ICP be necessary if markets are imperfectly competitive?
3. Explain what is meant by network externalities.
4. Explain what is meant by agglomeration economies.
5. Explain what is meant by R&D externalities.
6. Consider how ICP can adjust for these externalities.
7. Explain the idea of government failure in relation to ICP.
8. Why are entrepreneurship and SMEs particularly important for economic performance?
9. What aspects of ICP can be used to increase entrepreneurship and the development of SMEs?
10. What are the main elements of EU state aid policy?
11. Consider how state aid policy has developed since 1958.
12. Why did the financial and economic crisis that began in 2007 pose particular problems for state aid policy?
13. Evaluate how effectively DG COMP responded to this challenge.
14. Examine the case of EU R&D policy.
15. Describe the way in which EU R&D policy has developed.
16. Evaluate the success of EU R&D policy.
17. What was the Lisbon Strategy (LS)?
18. Why was it difficult to get LS measures implemented?
19. Assess the impact of the LS.
20. Do you think Europe 2020 resolves the LS problems?
21. Was the LS appropriate and necessary?

FURTHER READING

- Buigues, P.-A. and Sekkat, K. (2009) *Industrial Policy in Europe, Japan and the USA: Amounts, Mechanism and Effectiveness*, Palgrave Macmillan, Basingstoke.
- Tilford, S. and Whyte, P. (2010) *The Lisbon Scorecard X: The Road to 2020*, Centre for European Reform, London.

NOTES

- 1 As well as the failure of individual companies, illustrated vividly in 2005 by the final demise of Rover, the supposed national champion of the UK motor vehicle industry.
- 2 Innovation is still possible without patent protection because the innovator will enjoy benefits until the innovation is copied. There may also be first-mover advantages.
- 3 Article numbers refer to the latest version of the Consolidated Treaty (CEU 2008a).
- 4 Total aid, excluding agriculture, fisheries, transport and, in 2008, crisis measures.
- 5 Because of the decline in overall aid, even expenditure on horizontal objectives has declined in real terms.
- 6 Although the effect on their real economies was significant and in some cases severe.
- 7 EU research programmes are supplemented by the Eureka (European Research Coordinating Agency) programme launched in 1985, which today encompasses forty European countries which cooperate on research. In the early 1990s Eureka expenditure was almost as large as Framework Programmes, but today Eureka is much smaller than FP. Eureka concentrates on near market research and so is complementary to FP pre-competitive research.
- 8 For 20- to 64-year-olds.
- 9 See Table 14.2, note 1.



Tax harmonization

BRIAN ARDY AND ALI EL-AGRAA

15.1 Introduction

Tax harmonization has been a very thorny issue for the EU: witness the vehement argument in the 1980s when Margaret Thatcher, British prime minister, flatly declared that tax harmonization was not EU business, only to be told by Helmut Kohl, German chancellor, and Jacques Delors, Commission president, that it was indispensable for EU integration. Such a bold statement cannot be treated lightly, since tax harmonization remains one of the few areas where new EU legislation requires unanimity: hence a single EU member state (MS) can frustrate any new initiatives in this domain.

Tax harmonization is the agreement and application of common rules for taxation across the entire EU. This involves three separate aspects: the object of taxation – that is, what is to be taxed; the tax base – that is, agreement on the calculation of what is to be taxed; and harmonization of rates. The first purpose of this chapter is to clarify what they mean. The second is to consider to what extent tax harmonization is necessary for the EU. And the third is to assess the progress the EU has achieved in this respect. The chapter finishes with conclusions.

15.2 Why is tax harmonization necessary?

Tax harmonization is the agreement and application of common rules for taxation across the EU. This involves three separate aspects: first, the object of taxation – what is to be taxed; second, the tax base – agreement on the calculation of what is to be taxed; third, harmonization of rates. Tax harmonization in the EU so far has been very limited, with an agreed base for the Value Added Tax (VAT), and minimum rates for VAT, alcohol,

cigarette and energy taxation, plus some agreements to limit unfavourable interaction between national tax systems.

The government plays a very important role in modern economies: in 2008 tax revenue accounted for 39.3 per cent of EU27 GDP.¹ Normally tax and government expenditure is primarily the responsibility of the highest tier of government, the federal or central government. As is demonstrated in Chapter 19, this is not the case in the EU, since MSs control most tax revenue and are responsible for most government expenditure. This makes the EU unusual because there is a large variation of taxes and government expenditures in a single market.

There are two basic types of taxation: direct and indirect. Direct taxes, such as income and corporation taxes, are levied on wages and salaries (income taxes), or on the profits of business (corporation taxes; CT). Direct taxes are not intended to affect the price of commodities or professional services.² Indirect taxes are levied specifically on consumption and are therefore, in a simplistic model, significant in determining the pricing of commodities.

Taxes can act as non-tariff barriers (NTBs) to international trade (see Chapters 2, 6 and 7), as well as affecting the international movement of factors of production (Bhagwati 1969; Johnson 1965a; and Chapter 8). Therefore, to complete the Single European Market (SEM), and to realize the four freedoms for the movement of goods, services, persons and capital, some degree of tax harmonization is required in the EU.

The other reason for tax harmonization is that the ability of national tax systems to raise revenues, and the efficiency effects that they have, are affected by the tax regimes in the other MSs – for example, the revenue from tobacco taxation will depend on the rates of taxation in neighbouring MSs. Thus there can be positive or negative spillovers/externalities between MSs' tax

systems. The movement of factors of production can be influenced by government tax and expenditure policies. The administrative and compliance costs for the government and taxpayers may be affected, and the ability of national governments to pursue redistributive policies is constrained. Tax harmonization in the EU is the alignment of tax bases, rules and rates to reduce the harmful interactions between different MSs' tax systems.³

15.3 The principles of tax harmonization

Three criteria should inform tax harmonization: *jurisdiction, distortion and enforcement*.

Jurisdiction is the determination of who should receive the revenue from a particular tax. With EU taxation tightly controlled, MSs are the jurisdiction for the overwhelming majority of tax revenue, but this sovereignty has to be pooled for the effective operation of national tax systems in the SEM. Transparency is required, with clear definitions of tax bases and regulations. The operational independence of national tax systems should be possible within agreed rules; cooperation and information exchange should not be part of the day-to-day operation of the tax system. The clearest example of the jurisdictional principle applies to consumption taxes and the choice between the destination and origin principles (see Section 15.4, page 232). Labour taxes are usually paid in the country of *residence*, which is normally the same as the *source* country where the income is earned. Income from capital is taxed at source in the case of CT, but income is also subject to residence-based tax. Where more than one tax jurisdiction is involved, the interaction between national tax systems becomes important.

Distortion concerns the avoidance of tax-induced inefficiency in the operation of the SEM. Spillover/externalities can occur as a result of the operation of tax systems. The most common externality is tax competition, which will tend to lead to lower tax rates, because governments fear the loss of the tax base to countries with lower rates. This will reduce tax revenues overall and increase the marginal cost of public funds.⁴ Tax competition encourages the taxation of less mobile tax bases and may cause lower provision of government services. Whether this is a problem is debatable; it can be argued that tax competition acts as a necessary discipline on government fiscal profligacy.

The extent of the problem of distortion depends on the type and rate of tax. There are particular problems with excises on products such as alcohol and tobacco, with enormous differences in rates. Tax competition is not a significant problem with labour taxation because of the very low degree of international mobility in the EU⁵ (Braunerhjelm *et al.* 2000, pp. 46–59; Chapter 8). High-tax countries would also tend to offer a higher provision of public services, offsetting the higher taxes. The high mobility of capital, especially in an economic and monetary union (EMU), means that capital will tend to move to where taxation is lowest. This process will continue until differences in the return on capital offset differences in taxation and returns on immovable factors, labour and land prices are accordingly depressed in high capital tax countries.

Enforcement is the ability to ensure that the agreed rules apply in practice. Large differences in excise taxes on cigarettes are difficult to enforce in the absence of borders. Taxes on labour are usually withheld by employers at source and so are relatively easy to enforce. CT poses particular enforcement problems. If the tax is based on the source of the income, this requires separate national accounting for each MS, but this is not possible for multinational corporations (MNs), so unsatisfactory, ad hoc arrangements are necessary. The location of profits can also be shifted by the manipulation of transfer prices⁶ and other methods. Taxes based on residence also face problems associated with the need to allow for taxes paid elsewhere.

National tax independence within the EU necessitates a significant degree of tax coordination to ensure the effective operation of tax systems. The analysis now turns to the four principle areas of harmonization: VAT, excise duties, energy taxes and CT (see Table 15.1).

15.4 Value added tax

In the 1957 EEC Treaty tax harmonization is solely concerned with indirect taxes. Harmonization was seen as vital for preventing indirect taxes from acting as NTBs on intra-EU trade. However, the treaty only required the harmonization necessary to ensure the establishment and functioning of a single market. The treaty is rather vague about what it means by harmonization, but this is normal; treaties lay down the objective, while further negotiations lead to detailed legislation.

Table 15.1 EU27 tax structure, 2008 (% of GDP)

| | Personal income tax | Corporation tax | Social contributions | VAT | Excises | Total tax revenue |
|----------------------------------|---------------------|-----------------|----------------------|------------|------------|-------------------|
| Belgium | 12.6 | 3.3 | 13.9 | 7.0 | 2.1 | 44.3 |
| Denmark | 25.3 | 3.4 | 1.0 | 10.1 | 3.2 | 48.2 |
| Germany | 9.6 | 1.1 | 15.1 | 7.0 | 2.5 | 39.3 |
| Greece | 4.7 | 2.5 | 12.2 | 7.1 | 2.3 | 32.6 |
| Spain | 7.5 | 2.9 | 12.3 | 5.3 | 2.1 | 33.1 |
| France | 7.7 | 2.8 | 16.1 | 7.0 | 2.0 | 42.8 |
| Ireland | 8.2 | 2.9 | 5.3 | 7.1 | 2.4 | 29.3 |
| Italy | 11.7 | 3.2 | 13.4 | 5.9 | 1.9 | 42.8 |
| Luxembourg | 7.7 | 5.1 | 10.1 | 6.0 | 3.5 | 35.6 |
| Netherlands | 7.2 | 3.4 | 14.5 | 7.3 | 2.4 | 39.1 |
| Austria | 10.4 | 2.6 | 14.4 | 7.8 | 2.5 | 42.8 |
| Portugal | 5.8 | 3.7 | 11.9 | 8.7 | 2.8 | 36.7 |
| Finland | 13.3 | 3.5 | 12.1 | 8.4 | 3.4 | 43.1 |
| Sweden | 14.2 | 3.0 | 11.3 | 9.4 | 2.8 | 47.1 |
| UK | 10.7 | 3.6 | 6.8 | 6.3 | 3.2 | 37.3 |
| EU15 average¹ | 10.4 | 3.1 | 11.4 | 7.4 | 2.6 | 39.6 |
| Bulgaria | 3.0 | 3.3 | 8.1 | 11.5 | 6.1 | 33.3 |
| Czech Republic | 4.0 | 4.4 | 16.2 | 7.1 | 3.4 | 36.1 |
| Estonia | 6.3 | 1.7 | 11.8 | 8.0 | 3.3 | 32.2 |
| Cyprus | 5.0 | 7.1 | 7.7 | 11.3 | 3.3 | 39.2 |
| Latvia | 6.3 | 3.1 | 8.2 | 6.6 | 3.2 | 28.9 |
| Lithuania | 6.6 | 2.8 | 9.0 | 8.1 | 3.1 | 30.3 |
| Hungary | 7.7 | 2.6 | 13.8 | 7.8 | 3.4 | 40.4 |
| Malta | 5.8 | 6.8 | 6.2 | 8.0 | 3.1 | 34.5 |
| Poland | 5.4 | 2.7 | 11.4 | 8.0 | 4.4 | 34.3 |
| Romania | 3.4 | 3.0 | 9.3 | 7.9 | 2.7 | 28.0 |
| Slovenia | 5.9 | 2.5 | 14.1 | 8.4 | 3.4 | 37.3 |
| Slovakia | 2.8 | 3.1 | 12.0 | 6.9 | 2.7 | 29.1 |
| NMS10 average¹ | 5.2 | 3.6 | 10.7 | 8.3 | 3.5 | 33.6 |
| EU27 average¹ | 8.1 | 3.3 | 11.0 | 7.8 | 3.0 | 37.0 |

Note: ¹ Arithmetic average

Source: Eurostat 2010c

At EEC inception there were four types of sales, or turnover, taxes operating in Western Europe (Dossier 1973; Paxton 1976). One was the *cumulative multi-stage cascade system* (West Germany, Luxembourg and the Netherlands), where the tax was levied on the gross value of the commodity at each stage of production, without any rebate on taxes paid at earlier stages. Another was the *value added tax* (VAT; in France), levied at each stage of production as a percentage of the value of sales less tax levied at earlier stages of

production.⁷ A third was *mixed systems* (Belgium and Italy). The fourth was the *purchase tax* (UK), a single-stage tax charged at the wholesale stage by registered manufacturers or wholesalers, which meant that manufacturers could trade with each other without paying tax.

Although all these tax systems had a common treatment of trade, with no tax paid on exports, and tax levied on imports at the point of entry, the cumulative systems involved distortions. Since the amount of tax in

cumulative systems varied with the number of transactions in the supply chain, the precise amount of tax to be remitted on exports could not be calculated accurately, and nor could the tax on imports; this meant that these taxes could be used as NTBs.⁸

The EEC adopted VAT as its turnover tax and a common base⁹ was agreed. Having chosen the tax and the tax base, the EEC had to decide on the tax jurisdiction, using either the 'destination' or 'origin' principle. Under the destination principle, tax revenue would be attributable to the country of final purchase. For example, if the UK levies VAT at 8 per cent and France at 16 per cent, a commodity exported from the UK to France would be exempt from UK tax but would be subject to the tax in France. Hence France would collect the tax revenue and the UK's exports would compete on equal terms with French products in the French market. Under the origin principle, tax revenue would be distributed according to the value added in each country. Hence a commodity exported by the UK to France would pay UK tax (8 per cent), and in France additional tax would be levied to bring the overall tax on the commodity to 16 per cent. Under strict conditions, equivalence would apply: tax revenue and its distribution would be the same under the destination and origin principles. These conditions are that the tax systems in both countries must be exactly the same in terms of base, rules and rates, and trade should be balanced. In this situation the tax collected from foreign countries on exports would be the same as the tax paid to foreign countries on imports. In the absence of these conditions, the destination and origin principles will lead to an uneven distribution of the tax burden between countries. The destination principle requires border tax adjustments, so it was argued that a borderless EU needed a shift to the origin principle (Shibata 1967). In the absence of the equivalence conditions, both systems involve potential jurisdiction and distortion problems, so it is practical issues that will decide the choice of system (Bovenberg 1994; Lockwood *et al.* 1994). The EEC decided to use the destination principle, which is consistent with undistorted intra-EU trade, provided that customs controls remain. This decision ensured that the EEC continued to have separate national markets divided by physical borders. Changes were needed once these physical borders were eliminated by the SEM.

There are three fundamental problems with VAT: first, the definition of the tax base; second, the

widespread use of multiple rate VAT; third, the treatment of cross-border trade. Under current legislation (Council 2010a), exemptions from VAT include: activities such as healthcare, education, social services, cultural services, public broadcasting, postal services, leasing/letting property, insurance, financial transactions and gambling; and organizations, public bodies, small business and farmers. Public bodies are exempt because it seems strange for the government to tax itself, but recent experience of privatization and contracting out has indicated that there is no clear division between public and private activities. The exemption of small business is the result of the high, largely fixed cost of operating VAT, which would function as regressive tax on small business.¹⁰ The compliance costs of VAT are estimated to be 2 per cent of turnover for small businesses (turnover below 60,000 euros), but only 0.3 per cent for large companies (turnover greater than 1 million euros) (Sandford *et al.* 1989). The problem with exemptions is that they can lead to distortions in prices, reduce the efficiency of tax collection and increase compliance and administration costs. A wider tax base with fewer exemptions is desirable.

The EU is still a long way from achieving the approximation of VAT rates envisaged in the SEM White Paper (CEU 1985a). All countries respect the minimum standard rate of 15 per cent, with a range from 15 per cent in Luxembourg and Cyprus to 25 per cent in Denmark and Sweden (see Table 15.2). Lower rates vary between 0 and 10 per cent, with the majority of countries operating multiple-rate VAT. A long list of exceptions complicates the system considerably.

The extent to which the variation in rates represents a problem with regard to cross-border shopping is arguable. Evidence suggests that its magnitude diminishes rapidly with distance, and differences in excises seem to be more important, accounting for two-thirds of the value of cross-border shopping (Bygrä *et al.* 1987; Fitzgerald *et al.* 1988). Similarly, Commission studies find that the abolition of border controls has not led to significant changes in cross-border shopping patterns, distortions of competition or changes in trade, due to differences in VAT rates (European Parliament 2001b). So there does not seem to be any great need to further harmonize VAT rates to reduce distortions caused by cross-border shopping.

The existence of multiple rates is much more questionable. The major reason for special exemptions and

Table 15.2 VAT in EU member states, 2008

| | VAT rates (%) | | VAT revenue (%) | |
|---------------------------------|---------------|--------------|-------------------|------------|
| | Standard | Other | Total tax revenue | GDP |
| <i>Single rate</i> | | | | |
| Denmark | 25.0 | - | 21.0 | 10.1 |
| <i>Dual rate</i> | | | | |
| Bulgaria | 20.0 | 7.0 | 34.5 | 11.5 |
| Czech Republic | 19.0 | 9.0 | 19.5 | 7.1 |
| Germany | 19.0 | 7.0 | 17.9 | 7.0 |
| Estonia | 18.0 | 5.0 | 24.9 | 8.0 |
| Hungary | 20.0 | 5.0 | 19.3 | 7.8 |
| Latvia | 18.0 | 5.0 | 23.0 | 6.6 |
| Malta | 18.0 | 5.0 | 23.3 | 8.0 |
| Netherlands | 19.0 | 6.0 | 18.6 | 7.3 |
| Austria | 20.0 | 10.0 | 18.2 | 8.0 |
| Romania | 19.0 | 9.0 | 28.2 | 7.6 |
| Slovakia | 19.0 | 10.0 | 23.6 | 6.9 |
| Slovenia | 20.0 | 8.5 | 22.6 | 8.4 |
| UK | 17.5 | 5.0 | 17.0 | 6.3 |
| <i>Multiple rate</i> | | | | |
| Belgium | 21.0 | 6.0/12.0 | 15.8 | 7.0 |
| Greece | 19.0 | 4.5/9.0 | 21.8 | 7.1 |
| Spain | 16.0 | 4.0/7.0 | 15.9 | 5.3 |
| France | 19.6 | 2.1/5.5 | 16.4 | 7.0 |
| Ireland | 21.0 | 4.8/13.5 | 24.4 | 7.1 |
| Italy | 20.0 | 4.0/10.0 | 13.8 | 5.9 |
| Cyprus | 15.0 | 5.0/8.0 | 28.9 | 11.3 |
| Lithuania | 18.0 | 5.0/9.0 | 26.6 | 8.1 |
| Luxembourg | 15.0 | 3.0/6.0/12.0 | 16.8 | 6.0 |
| Poland | 22.0 | 3.0/7.0 | 23.4 | 8.0 |
| Portugal | 20.0 | 5.0/12.0 | 23.6 | 8.7 |
| Finland | 22.0 | 8.0/17.0 | 19.4 | 8.4 |
| Sweden | 25.0 | 6.0/12.0 | 20.0 | 9.4 |
| Arithmetic average EU15 | 19.9 | | 18.7 | 7.4 |
| Arithmetic average NMS10 | 18.8 | | 24.8 | 8.3 |
| Arithmetic average EU27 | 19.4 | | 21.4 | 7.8 |
| <i>Minimum rates</i> | 15.0 | 15.0 | | |

Source: Eurostat 2010a

reduced rates is to limit the regressive impact of VAT,¹¹ but the major beneficiaries of such exemptions are not the poor. The conclusion of a 1988 study, which has been supported by subsequent evidence,¹² was that the distribution of the tax burden was not very different if products were zero-rated (the UK), taxed at a reduced rate (the Netherlands) or even at the same rate as other

goods and services (Denmark) (OECD 1988b). Thus, although expenditure on food is proportionally higher for poorer groups, the better-off spend more in absolute terms, thus the improvement in the progressivity of the tax system is minor. 'Differentiated VAT rates are an ineffective, ill targeted instrument for eliminating the impact of the tax on the poor' (Cnossen 2002, p. 492).

Multiple rates are also not without cost, since they increase the administrative complexity of the system and cause problems of compliance. One study suggested that UK firms found that having multiple rates rather than a single rate doubled compliance costs (Hemming and Kay 1981). Imposing an additional VAT rate also reduces the compliance rate by 7 per cent (Agha and Houghton 1996). This is not surprising when one realizes that the following factors need to be considered in applying the zero rate to food in the UK: 'place of consumption, timing of consumption, temperature, saltiness, number, volume, concentration, sugar content, use of fingers in consumption and alcoholic content' (Cnossen 2002, p. 493). There is, therefore, no economic or social justification for the continued use of multiple rates.

The EU responded to the abolition of fiscal borders in the SEM with a transitional regime of cross-border trade on a deferred payment or postponed accounting basis. Under this system exports are free of VAT, but the exporter must inform the fiscal authorities in the country it is exporting to. Importers must declare imports and pay VAT at the local rate. A VAT Information Exchange System (VEIS) reinforces checks by requiring registered businesses to file quarterly reports of exports and imports. In the past the Commission has argued that the deferred payment system is bureaucratic, creates additional administrative burdens for companies and is subject to fraud. The European Parliament (2001b, p. 44) suggests that the identified 1,300 million euros of VAT fraud is merely 'the tip of the iceberg'. The Commission wanted to shift to the origin system (CEU 1985a), but it has now accepted that this is politically too difficult and has sought to improve the transitional regime. This has become more urgent with the escalation of missing trader/carousel fraud. This occurs where fraudsters set up bogus companies to import high-value items (mobile phones and computer chips) that are VAT-free, then sell them on to other bogus companies, charging VAT, but not paying it to the tax authorities. The goods are then exported and the VAT that has not been paid is reclaimed. The process can then start over again, hence the term carousel. When the tax authorities seek to claim the VAT, they are unable to trace the owners/officers of the companies involved. With organized crime involved, the losses are very high: 10 per cent of VAT revenue (*The Economist* 2006, p. 5). The suggestions for controlling this problem

vary from tightening up the administrative arrangements to altering the VAT system - for example, by not charging VAT on business-to-business transactions or charging VAT on intra-EU trade. Such measures could be limited to certain items likely to be involved in carousel fraud. However, this could weaken self-policing elements of the system and complicate and increase the costs of policing and compliance.

This analysis leads to the conclusion that VAT reform should extend the tax base and eliminate multiple rates. Eventually the problem of fraud may give MSs the incentive to finally achieve sufficient harmonization of rates to enable a move to the origin system to take place.

15.5 Excise duties

There are large differences in rates between MSs, and excise duties are important for EU governments, being the fifth most important source of revenue (see Table 15.1, page 231). Thus the importance of excises varies substantially between MSs, from 18.3 per cent of tax revenue in Bulgaria to 4.5 per cent in Italy in 2008.

The EU position on tobacco duties is a compromise between the southern and northern MSs. The south favoured taxation based on the value of the product to protect their cheap, home-grown tobacco. The north preferred specific taxes based on volume rather than value to discourage tobacco smoking. This led to wide differences in rates and in the total tax burden on cigarettes.¹³ This widened still further with low tax and low cigarette prices in the new member states (NMSs; see Table 15.3). EU regulations (Council 1992b, 1995a) have had to accommodate this wide variation. Thus the EU requires that the specific and *ad valorem* excises plus VAT must not be less than 57 per cent of the retail price and 64 euros per thousand cigarettes; these are to be raised to 60 per cent and 90 euros in 2014 (Council 2010b). The total tax on a pack of twenty cigarettes varies between 1.28 euros in Poland to 5.21 euros in Ireland (see Table 15.3). With such a disparity of tax and consequent variation in prices, it is not surprising that high-tax countries are suffering a substantial loss of revenue as a result of personal purchases overseas and small- and large-scale smuggling. It is estimated that 25 per cent of the cigarettes smoked in the UK are smuggled (Public Accounts

Table 15.3 Cigarette taxation in EU member states, 2010

| | % retail selling price | | | € | |
|----------------------------------|------------------------|-------------------|--------------|--------------|--------------------|
| | Specific | <i>Ad valorem</i> | VAT | Total | Total ^a |
| Belgium | 6.58 | 52.41 | 17.36 | 76.34 | 2.84 |
| Denmark | 34.04 | 20.80 | 20.00 | 74.84 | 2.73 |
| Germany | 33.43 | 24.66 | 15.97 | 74.06 | 2.87 |
| Greece | 8.57 | 58.43 | 18.70 | 85.70 | 2.14 |
| Spain | 6.00 | 57.00 | 15.25 | 78.25 | 2.14 |
| France | 6.03 | 57.97 | 16.39 | 80.39 | 3.58 |
| Ireland | 43.16 | 18.25 | 17.36 | 78.77 | 5.22 |
| Italy | 3.76 | 54.74 | 16.67 | 75.17 | 2.16 |
| Luxembourg | 9.18 | 47.84 | 13.04 | 70.06 | 2.10 |
| Netherlands | 36.48 | 20.52 | 15.97 | 72.97 | 2.88 |
| Austria | 13.35 | 43.00 | 16.67 | 73.02 | 2.25 |
| Portugal | 38.62 | 23.00 | 18.03 | 78.97 | 2.15 |
| Finland | 7.95 | 52.00 | 18.70 | 78.65 | 4.40 |
| Sweden | 12.40 | 39.20 | 20.00 | 71.60 | 4.91 |
| UK | 37.85 | 24.00 | 14.89 | 76.74 | 6.91 |
| EU15 average^a | 19.83 | 39.59 | 17.00 | 76.37 | 3.29 |
| Bulgaria | 49.03 | 23.00 | 16.67 | 88.70 | 2.11 |
| Czech Republic | 33.97 | 28.00 | 16.67 | 78.64 | 2.48 |
| Estonia | 32.91 | 33.00 | 16.67 | 82.57 | 2.04 |
| Cyprus | 14.54 | 44.50 | 13.04 | 72.08 | 2.82 |
| Latvia | 29.61 | 34.50 | 17.36 | 81.46 | 2.15 |
| Lithuania | 34.78 | 25.00 | 17.36 | 77.09 | 2.20 |
| Hungary | 30.63 | 28.30 | 20.00 | 78.93 | 2.26 |
| Malta | 11.00 | 50.00 | 15.25 | 76.25 | 4.00 |
| Poland | 36.94 | 31.41 | 18.03 | 86.38 | 1.87 |
| Romania | 41.83 | 22.00 | 19.35 | 83.18 | 2.32 |
| Slovenia | 15.17 | 44.03 | 16.67 | 75.87 | 2.50 |
| Slovakia | 43.32 | 24.00 | 15.97 | 83.29 | 2.42 |
| NMS10 average^b | 31.14 | 32.31 | 16.92 | 80.37 | 2.43 |
| EU27 average^b | 24.86 | 36.35 | 16.96 | 78.15 | 2.91 |

Notes: ^a per 20 cigarettes; ^b arithmetic average

Source: CBU 2010h, p. 7

Committee 2002). Tobacco smuggling is not simply a UK problem; it is an EU-wide and global problem (Cnossen and Smart 2005). With internal harmonization of tobacco duties problematic and the threat of external smuggling, governments in high-tax countries are faced with a difficult choice between lower duties and revenue loss.

Excises on alcoholic drink are based on relative alcohol content as a result of a judgment by the European Court of Justice (1983), which was necessary

to avoid taxation distorting trade between MSs. Thus the most flagrant discrimination in favour of local producers has been eliminated (Cnossen 1987), but national beverages are still protected - for example, by applying different excises to still and sparkling wine. Some convergence of rates has occurred as MSs have moved towards the lowest rate: seven MSs levy no excises on wine, and in France it is only 3 euro cents a litre. Some high rates persist, with large differentials remaining: the excises on wine vary from 0

Table 15.4 Alcohol taxation in EU member states, 2010 (per litre)

| | Specific excise (euro) | | | VAT (%) |
|----------------------------------|------------------------|---------------|----------------|----------------|
| | Beer | Still wine | Spirits | |
| Belgium | 0.017 | 0.471 | 17.522 | 21.0 |
| Denmark | 0.068 | 0.825 | 20.148 | 25.0 |
| Germany | 0.008 | 0.000 | 13.030 | 19.0 |
| Greece | 0.026 | 0.000 | 24.500 | 23.0 |
| Spain | 0.075 | 0.000 | 8.303 | 18.0 |
| France | 0.027 | 0.036 | 15.130 | 19.6 |
| Ireland | 0.157 | 2.622 | 31.130 | 21.0 |
| Italy | 0.024 | 0.000 | 8.000 | 20.0 |
| Luxembourg | 0.008 | 0.000 | 10.411 | 15.0 |
| Netherlands | 0.055 | 0.706 | 15.040 | 19.0 |
| Austria | 0.020 | 0.000 | 10.000 | 20.0 |
| Portugal | 0.087 | 0.000 | 10.093 | 21.0 |
| Finland | 0.260 | 2.830 | 39.400 | 22.0 |
| Sweden | 0.163 | 2.118 | 49.211 | 25.0 |
| UK | 0.190 | 2.470 | 26.129 | 17.5 |
| EU15 average^a | 0.079 | 0.8052 | 19.8698 | 20.4067 |
| Bulgaria | 0.008 | | | 20.0 |
| Czech Republic | 0.013 | 0.000 | 8.954 | 20.0 |
| Estonia | 0.026 | 0.731 | 9.715 | 23.0 |
| Cyprus | 0.048 | 0.000 | 6.107 | 15.0 |
| Latvia | 0.031 | 0.635 | 9.050 | 21.0 |
| Lithuania | 0.025 | 0.573 | 9.268 | 21.0 |
| Hungary | 0.023 | 0.000 | 8.801 | 25.0 |
| Malta | 0.008 | 0.000 | 23.288 | 18.0 |
| Poland | 0.018 | 0.372 | 11.611 | 22.0 |
| Romania | 0.007 | 0.000 | | 24.0 |
| Slovenia | 0.100 | 0.000 | 6.951 | 20.0 |
| Slovakia | 0.017 | 0.000 | 7.284 | 19.0 |
| NMS10 average^a | 0.027 | 0.210 | 10.103 | 20.667 |
| EU27 average^a | 0.056 | 0.553 | 15.963 | 20.522 |

Note: ^a arithmetic average

Source: CEU 2010h

to 2.73 euros a litre and on spirits from 6.45 to 15.45 euros (see Table 15.4). A directive on minimum rates was agreed in 1992 (Council 1992c); the minimum was set at a low level, and since then it has been eroded by inflation so now it does nothing to reduce the differences in taxation. The taxation of alcohol is also excessively complicated.

Substantial smuggling and cross-border purchases occur; it is estimated that about a quarter of the spirits consumed in Denmark and Sweden are purchased

outside the consumers' own MS (European Parliament 2001b, p. 39). Harmonization of rates and a similar basis of taxation across drinks is required, reducing rates in northern Europe, leading to some increase in consumption, and raising rates in the south, causing some inflation.¹⁴ These largely transitional problems are a price worth paying to eliminate the difficulties caused by current large differences in rates (London Economics 2010).

Table 15.5 Taxes on petrol and diesel fuel, 2010

| | Unleaded petrol excise duty (euros per litre) | Diesel fuel excise duty (euros per litre) | Diesel and gasoline VAT (%) |
|---------------------------------|---|---|-----------------------------|
| Belgium | 0.614 | 0.580 | 21.0 |
| Denmark | 0.567 | 0.426 | 25.0 |
| Germany | 0.670 | 0.655 | 19.0 |
| Greece | 0.670 | 0.440 | 23.0 |
| Spain | 0.425 | 0.316 | 18.0 |
| France | 0.607 | 0.417 | 19.6 |
| Ireland | 0.543 | 0.449 | 21.0 |
| Italy | 0.564 | 0.337 | 20.0 |
| Luxembourg | 0.465 | 0.330 | 15.0 |
| Netherlands | 0.714 | 0.421 | 19.0 |
| Austria | 0.442 | 0.355 | 20.0 |
| Portugal | 0.583 | 0.308 | 21.0 |
| Finland | 0.627 | 0.391 | 23.0 |
| Sweden | 0.374 | 0.425 | 25.0 |
| UK | 0.628 | 0.628 | 17.5 |
| EU15 unweighted average | 0.566 | 0.432 | 20.5 |
| Bulgaria | 0.350 | 0.307 | 20.0 |
| Czech Republic | 0.505 | 0.431 | 20.0 |
| Estonia | 0.423 | 0.330 | 20.0 |
| Cyprus | 0.359 | 0.330 | 15.0 |
| Latvia | 0.380 | 0.330 | 21.0 |
| Lithuania | 0.434 | 0.330 | 21.0 |
| Hungary | 0.444 | 0.460 | 25.0 |
| Malta | 0.459 | 0.352 | 18.0 |
| Poland | 0.391 | 0.429 | 22.0 |
| Romania | 0.348 | 0.376 | 24.0 |
| Slovenia | 0.485 | 0.165 | 20.0 |
| Slovakia | 0.515 | 0.481 | 19.0 |
| NMS10 unweighted average | 0.424 | 0.360 | 20.4 |
| EU25 unweighted average | 0.503 | 0.400 | 20.4 |
| Agreed minima | 0.421 | 0.330 | |

Source: CEU 2010h

15.5.1 Energy taxes

Energy taxes vary significantly between forms of energy, where the energy is used and among EU countries (Kouvaritakis *et al.* 2005). The most heavily taxed is fuel for transport. Although the tax on unleaded gasoline varies from 0.35 euros in Romania to 0.713 euros in the Netherlands, there is little possibility of cross-border shopping or smuggling, so this does not raise issues for tax harmonization. Differences in the excise duties on commercial diesel fuel can affect competition in road

transport, where goods in one country can be transported by lorries buying their fuel in another. The extent of such problems has been limited by a reasonable degree of similarity of rates: twenty-two MSs have rates between 0.307 and 0.449 euros per litre of normal diesel fuel (see Table 15.5). Belgium, Germany and the UK are out of line, with rates of 0.58, 0.655 and 0.628 euros per litre respectively. Since these countries are exceptions, the solution seems to lie in their own hands.¹⁵

While the heavier taxation of road transport can be

justified as a means of paying for roads, concentrating tax on one energy use makes little sense in a wider environmental context. To reduce distortions caused by the haphazard taxation of energy, a directive applying minimum tax rates to all energy products was agreed in 2003 (Council 2003d). This applies to fuel used for transport or heating, not when used as raw materials, and it allows differential taxation between private and commercial use. While it irons out some distortions and encourages energy efficiency, this is very far from a comprehensive carbon tax (considered in Chapter 18).

This indicates that further reform of indirect taxes in the EU is desirable. The operation of VAT is complicated by multiple rates, which seem to have little merit. The transitional regime for the collection of VAT worked reasonably well, but is now under pressure from growing fraud, and tackling this will either complicate the existing system or require more fundamental change to the origin system. Differences in excise rates are a cause of substantial smuggling from both within and outside the EU. Further harmonization, with reductions, particularly in the highest rates, seems to be the only answer here.

15.6 Corporation tax

CT is a tax on company profits and thus on capital. Since capital is potentially mobile there are concerns that the movement of capital will undermine national CT and governments' revenue.¹⁶ The received wisdom that tax competition would inevitably lead to a race to the bottom, however, has been questioned on both theoretical and empirical grounds. Not all capital is mobile and governments have consequently sought to tax immobile corporations while reducing burdens on mobile capital. The widening of the CT base and the lowering of rates can be seen as a move in this direction (Devereux *et al.* 2002). In addition, CT is only one of the factors affecting choice of location, and if there are offsetting benefits then CT can still be collected. These benefits could be agglomeration economies leading to a differential return on capital (Baldwin and Krugman 2004). Alternatively, the benefits could derive directly from the effects of government expenditure on productivity (Wooders *et al.* 2001). If this view is taken, then tax competition has the benefit that it encourages

government expenditure, which benefits the economy while constraining wasteful expenditure.¹⁷

Unfortunately, this theoretical ambiguity cannot easily be resolved by empirical analysis. This is bedevilled by the complexity of CT and the lack of aggregate measures of corporate profits. The complexity of the tax stems from the variation in the way in which profit is measured for tax purposes (depreciation of investment, treatment of research and development expenditure, and so on), the interaction with the personal tax system, the treatment of overseas earnings, and so on. There are substantial differences between the statutory and implicit rates¹⁸ (Eurostat 2010a; Nicodème 2001). Thus statutory CT rates are poor indicators of the actual rate of tax on profits; estimates of implicit CT rates take into account the differences in tax legislation between countries (Devereux *et al.* 2002). However, these estimates are sensitive to assumptions that have to be made relating to tax policy, economic conditions and investor behaviour.

Given these problems, it is not surprising that the empirical evidence on globalization and corporate tax revenue is ambiguous. Some studies actually suggest a positive relationship between the two (Garrett 1995b; Swank 1998), but the relationship was found to be negative when implicit CT rates were used (Bretschger and Hettich 2002; de Mooij 2005). CT rates have been reduced in the EU, with the average top rate in the EU27 falling from 35.3 per cent in 1995 to 23.2 per cent in 2010; however, this is not necessarily the result of tax competition. Rates may have been reduced and bases widened to improve the efficiency, equity and simplicity of the tax system; the implicit CT rate rose from 1995 to 2007, so there is no evidence of a downward trend in CT revenue in the EU.¹⁹ Microeconomic evidence does seem to suggest that CT is a factor affecting MSs' location decisions: head offices and foreign subsidiaries are attracted to low-tax jurisdictions (Buettnner and Ruf 2007; Barrios *et al.* 2009). There is also evidence of significant shifting of profit from high- to low-tax jurisdictions (Huizinga and Laeven 2008) and that it occurs within the EU (Huizinga *et al.* 2008).

Perhaps even more than with other taxes, the bewildering complexity of the different national systems is an issue. In addition to great variation in what can and cannot be deducted in the calculation of profit, CTs vary in the extent of personal income tax liability on dividend income (distributed profits). There are

Table 15.6 EU25 corporation tax, 2010

| | System | Main rate | Implicit rate ^a |
|----------------|---------------------------|-------------------|----------------------------|
| Belgium | Special personal tax rate | 34.0 | 21.4 |
| Denmark | Special personal tax rate | 25.0 | 24.9 |
| Germany | Special personal tax rate | 15.0 | n.a. |
| Greece | Dividend exemption | 25.0 | 18.6 |
| Spain | Imputation | 30.0 | 34.0 |
| France | Imputation | 33.3 | 29.1 |
| Ireland | Classical | 12.5 | 7.6 |
| Italy | Imputation | 27.5 | 31.5 |
| Luxembourg | Classical | 22.0 | n.a. |
| Netherlands | Dividend exemption | 25.5 | 11.9 |
| Austria | Special personal tax rate | 25.0 | 26.1 |
| Portugal | Imputation | 25.0 | 22.6 |
| Finland | Imputation | 26.0 | 19.3 |
| Sweden | Classical | 26.3 | 23.2 |
| UK | Imputation | 28.0 | 22.2 |
| Bulgaria | Classical | 10.0 | 20.0 |
| Czech Republic | Classical | 19.0 | 25.7 |
| Estonia | Dividend tax | 21.0 ^b | 8.3 |
| Cyprus | Classical | 10.0 | 37.3 |
| Latvia | Exempt | 15.0 | 15.2 |
| Lithuania | Classical | 15.0 | 11.1 |
| Hungary | Classical | 19.0 | 19.9 |
| Malta | Imputation | 35.0 | n.a. |
| Poland | Imputation | 19.0 | 20.0 |
| Romania | Classical | 16.0 | n.a. |
| Slovenia | Classical | 20.0 | 27.4 |
| Slovakia | Classical | 19.0 | 20.7 |

Notes: ^a 2008; ^b no tax on retained profit

Source: Eurostat 2010a

two extreme systems: the classical and imputation systems. Under the classical system, corporations pay tax on their profits, but there is no allowance for this tax against personal taxation (PT). Under the imputation system, the whole or part of the corporation tax can be used to offset PT liability on dividends. Another possibility is subjecting dividend income to a separate lower rate of PT. EU enlargement has added yet another variant – only taxing dividends, not retained earnings. At present, CT systems in the EU run the whole gamut, with four different systems in operation and a range of rates from 10 to 34 per cent (see Table 15.6). Higher

rates may be offset by other characteristics of the CT system, but there are large differences in implicit rates. NMSs generally have low nominal CT rates, but their simpler systems with few allowances mean that differences between nominal and implicit rates are usually small.

CT has other economic effects: the higher rate on dividends favours profit retention. Since interest can be allowed as a cost before the calculation of profit, CT encourages the use of debt rather than equity for finance; this is reinforced by financial innovation blurring the distinction between equity and debt. This will

tend to make it more difficult for new firms to raise capital, because profit will be retained by existing firms rather than recycled via dividends. Also, the limited credit history and asset bases for collateral of new firms make it difficult for them to borrow. Devereux and Griffith (2001) calculate effective average CT rates on hypothetical investment projects using the rates and rules in current legislation, showing that retained earnings have an effective CT rate on average 10 per cent higher than that on debt.²⁰

This analysis of the effects of CT suggests that the distortions can extend across EU borders. The CT system favours incumbent as opposed to new firms, limiting competition and reducing SEM dynamism. It also favours markets where shareholder involvement in the company is more direct, such as in Germany, where banks typically have large holdings and where the need to satisfy shareholders with dividends is lower. The lower taxation of debt finance is to the advantage of MSs with large firms that are creditworthy; where there are close links between banks and companies it can protect against foreign takeovers, because foreign firms do not have the same access to local bank finance. The favourable tax treatment of debt finance is reinforced by internationalization and liberalization of capital markets. With withholding tax on cross-border interest payments very low, a large part of interest income escapes taxation (Huizinga 1994).

The requirement that profits for CT should be calculated separately for each MS creates problems for pan-European business. Tax losses in one MS cannot be offset against profits in another, and assets transferred between MSs may be subject to capital gains tax. This discourages cross-border mergers and takeovers and constrains the operation of MSs within the EU. The administrative costs of complying with different CT regimes can also be high.

The Commission's Bolkestein Report (CEU 2001g) scrutinized two approaches to these problems: first, piecemeal changes to legislation to correct particular distortions – for example, improving double taxation conventions; second, general measures to establish a common tax base for EU activities. There are three possibilities for a common tax base: an EU CT, common base taxation (CBT) and home state taxation (HST). An EU-wide CT would be difficult to agree, given the requirement for unanimity. CBT would harmonize rules for calculating taxable profits on

cross-border operations (national rules would remain for domestic operations). HST means that MSs would only be taxed in the MS in which their headquarters is located. With both systems, one set of consolidated accounts would be produced, and a formula using shares of sales, payroll and property would be used to apportion profit,²¹ to which MSs would apply their tax rates. The Commission is supporting the development of a CBT (CEU 2007c).

CBT is not without problems; it would tend to increase tax competition due to greater transparency, because differences in tax paid would depend solely on rates. Distortions between MSs caused by national distortions, such as the favouring of debt over equity finance, are not dealt with: 'the elimination of in-state distortions is a prerequisite to the elimination of interstate distortions' (Cnossen 2002, p. 531). Although one of the objectives is to make cross-border mergers easier, tax considerations will become a factor influencing such mergers. Formula apportionment of profit would lead to further distortions of the location of production. The problems are such that some commentators doubt whether CBT or EU CT are worth the effort (Mintz 2002). Whether such proposals would carry sufficient support to be agreed is questionable in any case.

Another problem is that of interest and dividend payments to foreign holders, who can avoid income taxation: a withholding tax was proposed to deal with this issue. This tax would have to be accepted to offset income tax liability in the MS of residence. In liberalized financial markets, an EU withholding tax would encourage an outflow of funds from the EU and the City of London in particular. Instead, the EU and 15 other states have agreed on the exchange of information on assets held by residents of other MSs, so as to enforce residence-based taxation (Council 2003a).²² The directive does not seem to have affected saving behaviour, but this may reflect the paucity of the available data and loopholes in the legislation (Hemmelgarn and Nicodème 2009). A review (CEU 2008c) concluded that the legislation was operating satisfactorily, but some tightening of the rules was needed and an amended directive is now going through the legislative procedure.

15.7 Conclusion

It should not come as a surprise that tax harmonization continues to be a difficult issue for the EU: a sensitive area of national sovereignty that remains the prerogative of MSs collides with the need to avoid distortions to trade and investment in an increasingly integrated SEM. Therefore, tax harmonization involves a trade-off between national sovereignty over tax, and the difficulties caused by variations in rates and systems. The limited degree of tax convergence achieved so far indicates that tax competition cannot be relied on to achieve spontaneous harmonization. Tax competition moves rates to lower levels, but this is not always undesirable: it may act as a restraining influence on taxation. Tax harmonization, therefore, may be regarded as a way of maintaining the level of taxation. There are some areas, however, where harmonization could achieve significant potential benefits (excise duties), but given the law of unintended consequences, which seems to hold sway in tax matters, a gradualist approach to harmonization is both practical and preferable.

Summary

- EU tax harmonization is the agreement and application of common rules for taxation across the EU. This involves three separate aspects:
 1. the object of taxation – that is, what is to be taxed;
 2. the tax base – that is, agreement on the calculation of what is to be taxed; and
 3. harmonization of rates.
- Tax harmonization in the EU so far has been very limited to:
 1. an agreed base for VAT;
 2. minimum rates for VAT, alcohol, cigarette and energy taxation; and
 3. some limits to unfavourable interaction between national tax systems.
- Tax harmonization is necessary because in the SEM different tax systems:
 1. can cause distortions; and
 2. can undermine the ability of national governments to raise revenue.
 This process needs to consider:
 3. jurisdiction – that is, who is to receive taxes;

4. distortion – that is, the effects of the taxes on the economy; and
5. enforcement – that is, how the tax rules are applied.

These will guide the tax harmonization process, which involves the narrowing or elimination of differences of the tax base and tax rates. The need for these adjustments and for tax harmonization is principally in relation to taxes on consumption and on capital.²³

- Of the consumption taxes, VAT presents limited problems:
 1. the tax base of consumption is relatively immobile and consumers are not very sensitive to differences in rates;
 2. the tax is relatively cheap to collect and it is difficult to evade.

The principal difficulties with VAT are associated with exemptions, multiple rates and their administrative costs. There is a good case for making the tax base as wide as possible and for the abolition of multiple rates. The transitional regime on cross-border trade has worked satisfactorily, but is now under increasing pressure from fraud; this calls into question the continued use of the destinations system of taxation.

- Excise duties on cigarettes and alcohol do present substantial problems because of the enormous differences in rates that persist. This encourages a substantial illegal market, with suppliers ranging from small-scale smuggling to organized crime. These problems can probably only be dealt with effectively by harmonization of rates. Energy is an area where there are good arguments for increasing taxation, but where, with the exception of vehicle fuel, rates are low.
- Taxation of capital presents difficulties because of the mobility of the tax base and the spread of corporate activities across states. This means that the taxation jurisdiction is somewhat arbitrary and the taxes levied will have considerable cross-border effects. Corporation tax is also notable for its complexity, which is not helped within the EU by differences in its bases, rules and rates. The system at the moment distorts the choices of retaining and distributing profits, and encourages financing by debt rather than equity. These distortions within MSs also have cross-border effects on investment and business restructuring. The Commission's suggested common base taxation is not without problems.

Questions and essay topics

1. Is tax harmonization necessary in the EU?
2. Why is tax harmonization so difficult in the EU?
3. Explain what is meant by the following terms: jurisdiction, distortion and enforcement. Consider why they are important for tax harmonization.
4. Distinguish between origin and destination VAT systems. Explain how the EU has managed to continue with the origin system in the SEM.
5. Explain the problems caused by differences in VAT between EU MSs.
6. Why are differences in excise duties on cigarettes and alcohol so large in the EU?
7. Why has it proved so difficult to harmonize excise duty on cigarettes and alcohol?
8. Why do differences in excise duties on commercial diesel fuel cause problems in the SEM?
9. What economic effects could differences in corporation tax (CT) between MSs have?
10. Why is CT harmonization particularly complicated?
11. Why has the Commission argued that a common CT base is necessary?
12. How would you explain the fact that while the statutory rate of CT has fallen, the implicit rate has risen?

FURTHER READING

- Crossen, S. (2003) 'How much tax coordination in the European Union', *International Tax and Public Finance*, vol. 10.
- Griffith, R., Hines, J. and Sørensen, P. B. (2008) *International Capital Taxation*, Institute for Fiscal Studies (www.ifs.org.uk/mirleesreview/press_docs/international.pdf).
- Keen, M. and de Mooij, R. (2008) 'Tax policy and subsidiarity in the European Union', in G. Gelauff, I. Grilo and A. Lejour (eds.) with M. Keen (2008) *Subsidiarity and Economic Reform in Europe*, Springer, Berlin.

NOTES

- 1 Eurostat 2010a. All other taxation statistics in this chapter are from this source unless otherwise indicated.
- 2 This is formal incidence; the legal responsibility for paying the tax, the real incidence, who really bears the burden of the tax, can be very different. Thus social

- security payments made by employers may be effectively borne by employees as reductions in their wages.
- 3 Government expenditure can cause analogous effects to differences in taxes. These effects are dealt with by internal market legislation (Chapter 7) and, for industrial subsidies, by competition policy (Chapter 13).
 - 4 Tax competition means that a higher rate of tax is needed to raise funds, increasing tax-induced inefficiency.
 - 5 The main people affected will be very high income earners, who would in any case be attracted by tax havens, which offer extremely low rates of tax.
 - 6 This is the intra-company price for international trade that takes place within the company.
 - 7 Thus the tax paid equals the rate of tax multiplied by the value added at that stage of production.
 - 8 Such taxes also had variable effects on prices and encouraged the vertical integration of companies.
 - 9 See Council 2010a for the latest version.
 - 10 This is the reason for the exemption of farmers, although they receive flat rate compensation for tax on agricultural inputs.
 - 11 Some countries also use lower rates for labour-intensive services as an employment measure.
 - 12 For example, the Australian Society of CPAs (1998) estimated that only 15 per cent of the benefit of a zero rate on food in New Zealand would go to households with the lowest 20 per cent of income.
 - 13 Ninety-five per cent of total tobacco consumption.
 - 14 Although additional revenue could be used to lower other indirect taxes, eliminating the inflationary effect.
 - 15 Part of the justification for high vehicle taxes is to reduce emissions for environmental reasons. The Commission's proposal for a carbon tax was not approved, but some member states have introduced carbon taxes (see Chapter 18).
 - 16 The problem of tax avoidance on interest by the use of accounts in another EU country has been dealt with by an agreement to exchange information on such accounts (Council 2003e).
 - 17 This, of course, could constrain government expenditure considered desirable by the population.
 - 18 The implicit or effective rate is the tax revenue divided by the tax base.
 - 19 Since a lot of corporation tax was collected from the finance sector, this downward trend may reflect the unusual circumstances of this period.
 - 20 Excessive leverage was a causal factor in the financial crisis, so CT reform should be part of the general recasting of the economic system to avoid excessive debt.
 - 21 This is the system widely used in the USA and Canada.

- 22 Some non-EU countries operate withholding taxes rather than exchange information, and this includes Switzerland; given that this tax was at the relatively low rate of 15 per cent, this limited the effectiveness of the measure.

- 23 Since income taxes present few independent cross-border problems, they are not considered here.