



Bringing transparency, coordination and convergence to corporate tax policies in the European Union

I - Assessment of the magnitude of
aggressive corporate tax planning

STUDY

EPRS | European Parliamentary Research Service

European Added Value Unit
PE 558.773 - September 2015

Bringing transparency, coordination and convergence to corporate tax policies in the European Union

Part I: Assessment of the magnitude of aggressive corporate tax planning

Research paper

by Dr Robert Dover, Dr Benjamin Ferrett, Daniel Gravino, Professor Erik Jones and Silvia Merler

This study has been written at the request of the **European Added Value Unit** of the Directorate for Impact Assessment and European Added Value, within the Directorate-General for Parliamentary Research Services (DG EPRS) for the European Parliament's Committee on Economic and Monetary Affairs (ECON) in relation with the legislative own-initiative Report of Co-Rapporteurs Luděk Niedermayer and Anneliese Dodds, MEPs.

Abstract

This paper assesses the loss of tax revenue to the EU through aggressive corporate tax planning to be around 50-70 billion euro per annum. On an assumption of no base from sources other than profit shifting, then this figure jumps to 160-190 billion euro. The paper presents the methodology used and the country-by-country calculations on which these figures are based. It describes the common tools used in aggressive planning, and the impacts these have on tax revenue, concluding with an assessment of the inefficiencies created by individual tax arrangements for large multinational companies in the European Union.

AUTHORS

This study has been written by Dr Robert Dover, Dr Benjamin Ferrett, Daniel Gravino, Professor Erik Jones and Silvia Merler, at the request of the European Added Value Unit of the Directorate for Impact Assessment and European Added Value, within the Directorate-General for Parliamentary Research Services (DG EPRS) of the General Secretariat of the European Parliament.

RESPONSIBLE ADMINISTRATORS

Risto Nieminen, Stanislas de Finance, European Added Value Unit of the Directorate for Impact Assessment and European Added Value, within the Directorate-General for Parliamentary Research Services of the Secretariat of the European Parliament.

To contact the Unit, please email EPRS-EuropeanAddedValue@ep.europa.eu

LINGUISTIC VERSIONS

Original: EN

This document is available on the internet at: www.europarl.eu/thinktank

DISCLAIMER

The opinions expressed in this document are the sole responsibility of the authors and do not necessarily represent the official position of the European Parliament.

Reproduction and translation for non-commercial purposes are authorized, provided the source is acknowledged and the publisher is given prior notice and sent a copy.

Manuscript completed in September 2015. Brussels © European Union, 2015.

PE: 558.773

ISBN 978-92-823-7991-2

doi:10.2861/386200

QA-04-15-644-EN-N

Table of Contents

Executive summary	4
Chapter 1 – How much do aggressive corporate tax planning and tax evasion cost the EU as lost tax income? What is the cost of corporate tax evasion and aggressive tax avoidance at EU-level?	7
1. Background	8
2. Country-by-country analysis	9
2.1. Shifting from national to European level, and consequential losses	11
3. Calculations of tax loss.....	13
3.1. Country-level indicators.....	13
Chapter 2 – What is the potential EU added value of addressing this lack of transparency, coordination and convergence at EU level?	17
1. Background	17
2. Definition of tax avoidance	18
2.1. Theoretical background	18
3. Income shifting	19
3.1. The relative advantages of common and separate tax jurisdictions.....	25
3.2. Structural considerations.....	26
Chapter 3 – Macro-economic impact at single Member State level. What are the channels through which spillovers operate? What are the spillover effects, within as well as outside of the EU?.....	29
1. Background	30
2. The net-effect of spillover activities	30
2.1. Base spillovers through relocation.....	32
2.2. Base spillovers through profit shifting	32
2.3. Strategic spillovers.....	33
Chapter 4 – Do tax deals lead to collective (in)efficiency?	34
1. Background	34
2. Inefficiencies.....	35
2.1. Organisational inefficiency.....	35
2.2. Productive inefficiency	35
2.3. Informational inefficiency	35
2.4. Inefficient public goods provision.....	36
2.5. Summary of inefficiencies	36
References	37

Executive summary

Aggressive tax planning and tax avoidance are the ostensibly legal practices of working within a tax code, but using often sophisticated business and accountancy practices to minimise a company's tax liability. By contrast, tax evasion is the illegal practice of partial or non-payment of taxes due. Presented like this, the two broad concepts of evasion and avoidance appear as a binary. This is illusory: frequently aggressive tax planning is prosecuted by tax authorities, and it becomes a matter for courts to decide whether the practices were merely aggressive or in breach of the legal code. Similarly, it is for tax authorities and legislators to work together to refine their systems and dispositions towards prosecution. There is – therefore – much in the way of interpretation in this public policy area.

We estimate that revenue losses for the EU as a result of corporate tax avoidance could amount to around **50-70 billion euro**, representing the sum lost to profit shifting. We think this figure represents a lower-end estimate of lost revenue. If, however, we include other tax regime issues, such as special tax arrangements, inefficiencies in collection and other practices, we estimate that revenue losses for the EU due to corporate tax avoidance could amount to around **160-190 billion euro**, again a conservative estimate. We have assessed the **corporate income tax efficiency to be 75 per cent**. This contrasts with the IMF's assessment of 86 per cent. The data and calculations used are provided in the annexes to this report. These percentage figures do not represent the amounts that could be expected to be recovered by the various tax authorities. A certain percentage of these sums would be excessively expensive or technically difficult to collect, and would thus remain uncollected. Similarly, our calculations do not include estimates for activities within the shadow economy (which would themselves amount to evasion) that, if factored in, would add substantially to these figures.

Our assessment is that if a complete solution to the problem of base erosion and profit shifting were available and implementable across the EU, it would have an estimated positive impact of 0.2 per cent of the total tax revenues of the Member States. The Annual Macroeconomic Database of the European Commission (AMECO) calculates that the total tax revenues collected over the EU as a whole were 5.74 trillion euro in 2011 (which is the latest year for which such figures are available). This means a comprehensive solution would add another **11.5 billion euro** in revenues. While we believe that the calculation on which this estimate is based is robust, we also believe that this figure is likely to be at the lower end of what could reasonably be expected to be recovered through EU-level regulation.

There is considerable empirical evidence that the Member States engage in strategic competition when comes to setting taxes (essentially by adjusting the effective rate) and to recovery practices (the latitude afforded to businesses in complying with the tax code). Nonetheless, there are divergent views within the academic literature as to whether such competition exists, and what impact it has if it does. Compounding the effects of this empirically observable competition are the substantial differences in the published estimates for lost tax revenue. These differences are the result of the absence of accepted

benchmarks for assessment, and of the radically different methodologies used by the various governmental, academic and private accountancy institutions making the assessments. For example, the most common – and largest – difference between methodologies is the inclusion or not of tax allowances (for capital investment or staff development) in the calculation of lost tax revenue; such inclusions serve to inflate the stated calculation of tax revenue ‘lost’. Nevertheless, it would be useful to have, at EU level, a coherent conceptual framework for building consistent and reliable benchmarks to be used when assessing the impact of aggressive tax planning and tax avoidance across the Member States and the EU. This would provide a firmer platform on which to assess the different tax systems and rules prevalent across the EU, and in reducing the opacity in the tax systems and arrangements. This opacity is fuelling strategic competition among the Member States, and is reducing the effective tax rates levied on businesses operating in the EU.

The reduction in ‘effective tax rates’ has a positive correlation with attracting foreign direct investment (FDI). It does have to be recognised, however, that some forms of FDI do not amount in a net gain to the recipient country, and that other forms (such as long-term loans) are only weakly linked to FDI. Some studies have suggested that the reduction in effective tax rates has similarly resulted in a reduction in government investment in public services. These studies are highly contested and often do not take into account the natural fluctuations contained within the economic cycle. The presence of such studies may suggest that there is only a slight positive correlation between reducing ‘effective tax rates’ and attracting FDI.

There is some evidence that businesses effectively pass on increased business taxes through wage negotiations. The evidence is interesting because it also suggested that wages did not rise, but that employment levels dropped. One academic study found that once the cost of labour was factored in, every 1 euro reduction in corporation tax only saved business 53 cents owing to an offset effect.

Aggressive tax-planning is increasingly occurring through spillovers. The main channels through which spillovers occur are: base spillovers through relocation; base spillovers through profit-shifting; and strategic spillovers (seen most commonly with highly mobile capital and the registration of intellectual property). Currently the most effective framework within which to discuss spillovers is via examples of individual countries: we provide the contrasting examples of Germany, Ireland and the UK in the report.

As with revenue losses, measurements of ‘bottom-line’ figures for profit shifting are complicated and contested. Those who have sought to measure profit shifting have only been able to focus on the tax jurisdiction failing to recover funds, rather than on the whole balance, which would necessarily include the recipient tax jurisdiction. As a consequence, assessments of whole-picture net gains or losses are largely absent in published assessments. As per the previous paragraph, we are able to compare and evaluate the efforts of several Member States in this regard. We have made an assessment that the net loss to the EU amounts to **50-70 billion euro per annum**, a sum that would justify the additional cost of EU-level regulation.

The problem of the ease of reallocating taxable income via accounting mechanisms is overstated. If reallocation via accounting were easy, there would be no benefit in relocating real business activities to low-tax countries. We can observe empirically that relocation is the predominant practice, and studies suggest that a 10 per cent reduction in effective tax rate can produce a 30 per cent uplift in FDI, albeit with some caveats regarding how the FDI is assessed and what its true impact is.

There is a great deal of tax competition between Member States, which has become strategic and outward-facing in nature. Econometric data point to a trend whereby if one country reduces its effective tax rate by 1 per cent, there is a commensurate downward shift of 0.7 per cent among its key competitors. This means that lack of coordination at EU level could lead to a race to the bottom. Accepting that the assessment of an effective tax rate occurs ex post, further investigation is always required to validate the hypothesis that a response occurs.

Individualised tax arrangements between major multinational enterprises and tax authorities lead to four types of possible inefficiencies. These inefficiencies are the result of both nominal and real effects of tax deals. They arise from aggressive tax strategies based on transfer pricing and profit shifting, but they also arise from the impact of tax deals on the location and pattern of investment.

Chapter 1 – How much do aggressive corporate tax planning and tax evasion cost the EU as lost tax income? What is the cost of corporate tax evasion and aggressive tax avoidance at EU-level?

Key findings

- We estimate that revenue losses for the EU due to corporate tax avoidance through profit shifting are estimated to amount to around **50-70 billion euro**.
- If, however, we assume no base from sources other than profit shifting, we estimate that revenue losses for the EU due to corporate tax avoidance amount to around **160-190 billion euro**. This would encompass special tax arrangements, inefficiencies in collection and other practices. The data and calculations used are provided in the annexes.
- It should be recognised that these figures do not represent the amounts that could be expected to be recovered. Some percentage of these sums would be excessively expensive or technically difficult to collect.
- We have assessed the corporate income tax efficiency to be 75 per cent. This contrasts with the IMF's assessment of 86 per cent.
- These figures do not include estimates for activities within the shadow economy (which would themselves amount to evasion) that, if factored in, would add substantially to the figures above.
- There is considerable empirical evidence that the Member States engage in strategic competition when setting taxes and also in recovery practices. Compounding the effects of this competition are the substantial differences in published estimates for lost tax revenues, the result of an absence of accepted benchmarks for assessment and of the range of radically different methodologies used by the various governmental, academic and private accountancy institutions making the assessments. It should be noted that the difference between tax evasion and tax avoidance is not a binary. There is a great deal of interpretation between businesses, accountants, legislators and judicial authorities on these questions.
- A common EU approach and methodology could help address the lack of operational agreement between institutions. The relaunch of the Common Consolidated Corporate Tax Base (CCCTB) could offer an effective solution to some of these problems.

1. Background

On 10 May 2013 *EurActiv*, an online media on EU affairs, quoted European Council President Herman Van Rompuy as saying that ‘every year around 1 trillion euro is lost in EU Member States because of tax evasion and tax avoidance’. A similar figure is presented on the European Commission’s Taxation and Customs Union website.¹ These figures possibly reflect the findings of a report prepared by Murphy (2012).² A close look at the report shows that, of the estimated loss of 1 trillion euro, 150 billion euro can be attributed to tax avoidance (the minimisation of tax liability *within* the legal code), resolvable through cost-effective regulatory and enforcement measures, whilst the remaining loss of 850 billion euro is the result of tax evasion (the *illegal* non-payment or under-payment of tax). While EU-level regulation can help mitigate the impact of avoidance in a cost-effective way, only Member State-level responses (some of which will be coordinated) can usefully address the problem of evasion.

That said, the reliability of the 1 trillion euro headline figure is open to question. Although there is substantial evidence that tax avoidance and evasion impose significant revenue losses, most economists agree that estimating those losses with any precision is a challenge.³ Existing estimates based on a macro approach (most of which are published by NGOs) attract considerable public attention, but are difficult to interpret because of the drawbacks associated with some of the measurement concepts. Moreover, many of these published estimates include tax-reliefs (for capital investment, staff development and so on) in the ‘lost revenue’. This is a highly questionable practice as these allowances are designed to spur economic growth and, therefore, increase receipts in the medium term. The inclusion of such allowances in these meta-figures also reduces the amount of revenue that Member States could be expected to collect with more effective regulation and collection. The calculations concerning what lost revenue can reasonably be recovered rely on settled methodologies of calculating loss, and on the understanding that only a proportion of lost revenues not attributed to allowances can affordably be collected.⁴

¹ http://ec.europa.eu/taxation_customs/taxation/tax_fraud_evasion/a_huge_problem/index_en.htm.

² Murphy, R. (2012), ‘Closing the European Tax Gap’, a report for the Progressive Alliance of Socialists and Democrats in the European Parliament.

³ See, for example, Fuest, C. and Riedel, N. (2009), ‘Tax evasion, tax avoidance and tax expenditures in developing countries: a review of literature,’ Report prepared for the UK Department for International Development, Oxford: Oxford University Centre for Business Taxation; Hines, J.R. (2014), ‘How serious is the problem of base erosion and profit shifting?’, *Canadian Tax Journal*, no. 2, pp. 443-53; IMF (2014), ‘Spillovers in international corporate taxation’, IMF policy paper, International Monetary Fund, May 2014; Maria Theresia Evers, Ina Meier, and Christoph Spengel (2014), ‘Transparency in Financial Reporting: Is Country-by-Country Reporting suitable to combat international profit shifting?’, *ZEW Discussion Paper*, <http://ftp.zew.de/pub/zew-docs/dp/dp14015.pdf>.

⁴ An example of this – essentially based on the same sets of data – are the British Government’s figure for the corporation tax gap in 2012-13 of GBP 3.9 billion, to be compared with Murphy’s estimate of GBP 12 billion.

Part of the problem is institutional and part is conceptual. Aggressive tax planning is a legitimate practice in most countries. Moreover, firms argue that such aggressive tax planning is not only part of their responsibility to shareholders, but also that it frees up resources for investment and, thus, for economic growth. The sophistication of tax planners in devising complex tax plans has largely been ahead that of government tax authorities and the judiciary. Adding an extraterritorial dimension to tax planning has allowed companies to shift their taxable profits to states where they will receive more favourable tax treatment. A key characteristic of deliberative tax planning is the reduction of current or future tax liabilities through strictly legal arrangements that can be seen to contradict the intention behind the original law.⁵

Aggressive tax planning involves the exploitation of technicalities and technical weaknesses in a fiscal regime, or working with multiple tax regimes to identify loopholes, gaps and terminological mismatches that allow for the reduction of tax liabilities. While such practices let companies exploit gaps in international tax law, they are not illegal, but rather 'entrepreneurial', with a political component in individual countries influencing as to whether these practices are to be viewed as 'acceptable' within ethical, moral or political frames of reference. There is no unitary or universally accepted distinction between 'acceptable' and 'aggressive' tax planning.⁶ The absence of such a unitary model has allowed for a far greater quantum of activity to avoid tax across the Union than would otherwise have been the case. In practical terms, a Europeanised response is the only practical response to such issues (in terms of both organisation and of implementation).

2. Country-by-country analysis

The most useful approach to begin an analysis of European tax loss is to use a country-by-country analysis. Such analyses usually build on specific tax avoidance practices rather than on an overview of phenomena such as aggressive corporate tax planning or tax evasion. For example, according to Bach (2013), the annual revenue loss due to profit shifting in Germany (explored later in conceptual terms) amounts to about 90 billion euro. 'If the revenue from corporate taxation in Germany is divided by the corporate income figures from the national accounts, companies' average tax burden for the period 2001 to 2008 is 21 per cent. This rate is considerably lower than the statutory tax rates for this period (but is not out of line with prevailing business tax rates across the developed world). The reason for this is that tax-reported profits were well below macroeconomic profits. This tax gap in 2007 was something in the order of at least 120 billion euro, or almost five per cent of GDP. The high level of tax losses is significant. By broadening the tax base as part of the corporate tax reform of 2008, the tax gap has

⁵ Adapted from European Commission (2012) Recommendation of 06.12.2012 on aggressive tax planning, http://ec.europa.eu/taxation_customs/resources/documents/taxation/tax_fraud_evasion/c_2012_8806_en.pdf.

⁶ See Evers, Meier and Spengel (2014).

diminished significantly, but it was still at about 90 billion euro, or 3.7 per cent of GDP.⁷ That estimate is controversial. Heckemeyer and Spengel, for example, provide several reasons to believe that Bach has overestimated the amount of the revenue loss; according to their own calculations, the actual figure is likely to be less than 10 billion euro.⁸

Another illustration comes from the United Kingdom. On the basis of a model presented in his report 'The Missing Billions', Richard Murphy (2008) assesses that tax avoidance by the largest 700 companies in the UK has cost the Inland Revenue some GBP 12 billion in lost corporate income tax (CIT) (the current equivalent of circa 16.9 billion euro).⁹ The Oxford University Centre for Business Taxation (2012) criticised Murphy's approach in its report 'The Tax Gap for Corporation Tax'. Specifically, the authors argued that Murphy's approach tells us more about the differences in tax and financial accounting for corporate income and profits than it does about the absolute value of the revenue loss.¹⁰ These illustrations reveal the importance of establishing reliable benchmarks and the magnitude of financial implications of aggressive tax planning or tax avoidance. It is at this point that the effects of the different institutional arrangements between nations and, similarly, the individual national conceptual conventions become most apparent, as radically different assessments and calculations are possible using the same evidence base. The point is often made in the literature; suffice here to cite a recent description of the methods used in popular estimation techniques: 'For instance, taxable income or respectively tax payments in absence of tax avoidance are approximated by using profits from financial accounts multiplied by the statutory tax rate, company profits from national accounts or foreign capital stocks multiplied by a deemed return and an average tax rate. The differences between the actual tax payments or taxable profits and the proxy for benchmark profits/tax payments in absence of tax avoidance can therefore not be clearly attributed to profit shifting activity but rather capture conceptual differences between the compared measures. This makes these figures difficult to interpret.'¹¹

⁷ The 2008 reforms came in several forms: the rate of corporation tax was reduced from 25 per cent to 15 per cent, but there remained a 'solidarity surcharge' of 5.5 per cent. The average trade tax base rate would now be 14 per cent (with local variations). The effective tax rate was estimated to be 29.8 per cent after the reforms. The tax cuts announced in the reforms were partly paid for through reductions in allowances and deductions, but also with incentives for corporations to file in Germany (indicating an assumption of increased tax revenues). In addition to the reduction of corporate tax rates, there were new rules on interest-capping and change-of-control, and new regulations for transfer-pricing. For the pricing estimate, see S. Bach (2013), 'Unternehmensbesteuerung: Hohe Gewinne - mäßige Steuereinnahmen', *DIW Wochenbericht*, pp. 3-12.

⁸ J. H. Heckemeyer and C. Spengel (2008), 'Ausmaß der Gewinnverlagerung multinationaler Unternehmen - empirische Evidenz und Implikationen für die deutsche Steuerpolitik, Perspektiven der Wirtschaftspolitik', *Perspektiven der Wirtschaftspolitik*, vol. 9(1), p. 54.

⁹ R. Murphy (2008), 'The Missing Billions: The UK Tax Gap', Trades Union Congress: London.

¹⁰ Michael P. Devereux, Judith Freedman and John Vella (2012), 'The Tax Gap for Corporation Tax', Oxford University Centre for Business Taxation: Oxford.

¹¹ Adapted from Clemens Fuest, Christoph Spengel, Katharina Finke, Jost Heckemeyer, Hannah Nusser (2013), 'Profit Shifting and 'Aggressive' Tax Planning by Multinational Firms: Issues and Options for Reform'.

2.1. Shifting from national to European level, and consequential losses

As we shift from national to European level, we need to consider interactions across national jurisdictions. There are a large number of research studies that assess the significance of corporate tax avoidance and the impact that international tax incentives have on avoidance strategies. For the purposes of this report, we have selected studies that have passed a peer-review threshold and which can therefore be considered to have been robustly challenged by the academic community. Huizinga and Laeven support the assertion that the profits reported by European subsidiaries of multinational enterprises (MNEs) often depend on specific tax incentives and on the potential for profit shifting within the multinational group. Thus, European level action and regulation would serve to reduce some of the incentives that currently exist for profit shifting within MNEs. As Egger, Eggert and Winner reveal, the result is not only a redistribution of tax revenue but also a reduction in overall tax payments, both in absolute terms and in relation to firms that operation within only one national jurisdiction, owing to the effect that these tax competition incentives have on prevailing tax rates. We suggest that there would likely be reduced tax competition, and therefore reduced market-distorting incentives, were European-level action to be introduced.¹²

The challenge is to estimate this net revenue loss. Again, while there is substantial reason to believe that aggressive tax planning takes place, very little is actually known about what the impact of aggressive tax planning will be on net revenue loss, precisely because it is neither in the interest of the businesses concerned, nor of their accountants, to reveal the amount of corporate tax that has been avoided by taking planned steps. Recent empirical research builds on extrapolations of the volume of profit shifting across jurisdictions, and yet such approaches are likely to overestimate the gross losses within countries and the net loss at European level, because of assumptions built into the extrapolations that are based on figures of a small number of very large, listed MNEs.¹³ Our research leads us to conclude that the relaunch of the Common Consolidated Corporate Tax Base (CCCTB) in June 2015 offers an elegant solution to the complicated issues pertaining to corporate taxation in the EU. If the Commission is able to conclude its negotiations successfully, there is every reason to believe that that the CCCTB will reduce the transaction costs for businesses operating across borders and, by having the force of law (rather than the status of voluntary undertakings), also to minimise the opportunity for them to avoid corporate taxes by exploiting gaps between individual national codes.

One empirical study that attempts to shed light on revenue losses is Hines' recent research report, published in 2014.¹⁴ Some of the latest evidence suggests that the semi-elasticity of income reporting is roughly 0.4, which means that a corporation that operates in a jurisdiction with a 25 per cent tax rate, and that has the opportunity to reallocate some of its taxable income to another jurisdiction that has a 15 per cent tax rate,

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ Hines, J.R. (2014). 'How serious is the problem of base erosion and profit shifting?', *Canadian Tax Journal*, no. 2, pp. 443-53.

will typically arrange its financial and other affairs to reallocate 4 per cent of its income to the lower-rate country. For various reasons, discussed below, even this 4 per cent figure may overstate the potential tax revenue income by eradicating base erosion and profit shifting, but, on its own terms, the potential tax revenue from 4 per cent of pre-tax incomes of multinational corporations make a limited but valuable contribution to the government finances of most countries.¹⁵

On average, a member country of the Organisation for Economic Co-operation and Development (OECD) in 2011 generated 8.8 per cent of its total revenue from taxes on corporate profits, only a portion of which represented taxes on multinational corporations. As an illustrative estimate, 2 per cent would be two tenths of 1 per cent of tax revenue – even if one were to double or quintuple this figure, it would amount to less than 1 per cent of tax revenue. From this standpoint, it appears that even a complete solution to the problem of having the tax base erode and the profits shifted to another jurisdiction – were one available and implementable – would have little direct impact on government finances.¹⁶ To support his arguments, Hines notes that:

- The fact that governments of countries with high tax rates collect considerable revenue from taxing the profits of their resident multinational corporations is in itself an indication that tax avoidance is neither as easy nor as cost-effective as some fear it is. If firms were able to organise their affairs in ways that would easily redistribute pre-tax earnings in high-tax locations to alternative locations with zero or very low tax rates, then most would surely do so, and even those corporations without an international business presence would quickly establish operations in foreign locations with lower tax rates in order to reduce their tax obligations. That multinational corporations still seek to shift a proportion of their profits indicates to us that a new European regulatory regime should place appropriate costs on MNCs and, thereby, price out a reasonable proportion of profit-shifting for tax avoidance purposes.
- If it were easy to reallocate taxable income via accounting tools, there would be no benefit in locating real business activities in low-tax countries. The profit-maximising strategy would be to locate business activity wherever it generates the highest pre-tax profits, and use financial or other means to reallocate taxable income to an affiliate located in a zero-tax location.
- Further evidence is available from the location of foreign business activities. Studies consistently show that multinational firms locate more employment, property, plant and equipment in locations with lower tax rates, and less in locations with higher tax rates. Some of this movement can, in some instances, be accounted for by a lower cost base in the recipient nation.
- Finally, there is evidence from the use of tax haven affiliates by multinational corporations. Tax havens are those countries that have the lowest tax rates, and so are the destinations of choice (if one has unfettered choice) for profits to be

¹⁵ *Ibid.*

¹⁶ *Ibid.*

reallocated from high-tax countries. From 2002 to 2008, only 20 per cent of large German multinational firms had tax haven affiliates. A majority of German firms did not reallocate taxable income to tax havens, since they had no method of doing so, given the absence of legal presence in those countries or the deterrent of prevailing norms that mitigate against the practice.

Is it possible that corporate tax evasion and aggressive tax planning at EU-level is less significant than generally assumed? In order to analyse this further, we need to unpack the conceptual issues around tax evasion and tax avoidance and then generate some preliminary estimates based on that conceptual reorganisation. Before doing so, however, it is opportune to provide some rough estimates based on preliminary calculations.

3. Calculations of tax loss

Using public finance and national accounts data from Eurostat and the European Commission's publications on taxation trends in the EU, it is possible to obtain data on corporate income tax (CIT) revenues, CIT rates and operating surplus ('profits') that can be used to estimate the extent to which international tax planning may affect EU Member States' CIT revenues. Following the IMF's report on spillovers, we propose a two-tier approach.¹⁷

3.1. Country-level indicators

At the first level, we have constructed country-level indicators of CIT efficiency (Eff_i):

$$Eff_i = \frac{Rev_i}{Rate_i * Base_i}$$

where Rev_i is the actual CIT revenue of country i , $Rate_i$ is the CIT rate and $Base_i$ is the 'theoretical' tax base. The further Eff_i lies below one (unity), the less efficient is the CIT system in raising revenue in relation to the benchmark. This may reflect special tax incentives and efficiency, but it also reflects profit shifting.

At the second level, to gain insight into which (and how much) Member States lose/gain from profit shifting, we have constructed an indicator of 'revenue without profit shifting' (RWS_i):

$$RWS_i = Rate_i * Base_i * \overline{Eff}_i$$

where \overline{Eff}_i is the average efficiency rate for the entire sample, which enables us to eliminate (in a crude way) the base effects from sources other than profit shifting. The

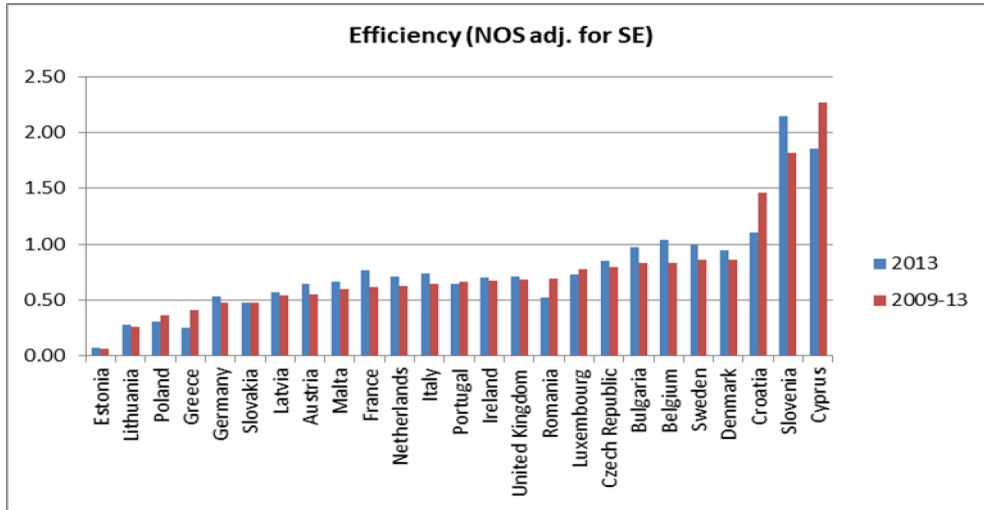
¹⁷ International Monetary Fund (2014), 'Spillovers in international corporate taxation', IMF Policy Paper.

difference between 'revenue without profit shifting' (RWS_i) and the 'actual revenue' (Rev_i) could be interpreted as the loss/gain from profit shifting.

Importantly, it should be noted that there are three available measures of the operating surplus (which is the measure for the theoretical tax base – surplus being the sum of money that governments' seek corporation tax for), namely: (i) gross operating surplus (GOS); (ii) net operating surplus (NOS) *not adjusted* for imputed compensation for self-employed workers (who are treated for tax purposes as being external contractors and, therefore, not subject to payroll taxes, pensions and so on); and (iii) NOS *adjusted* for imputed compensation for self-employed workers.

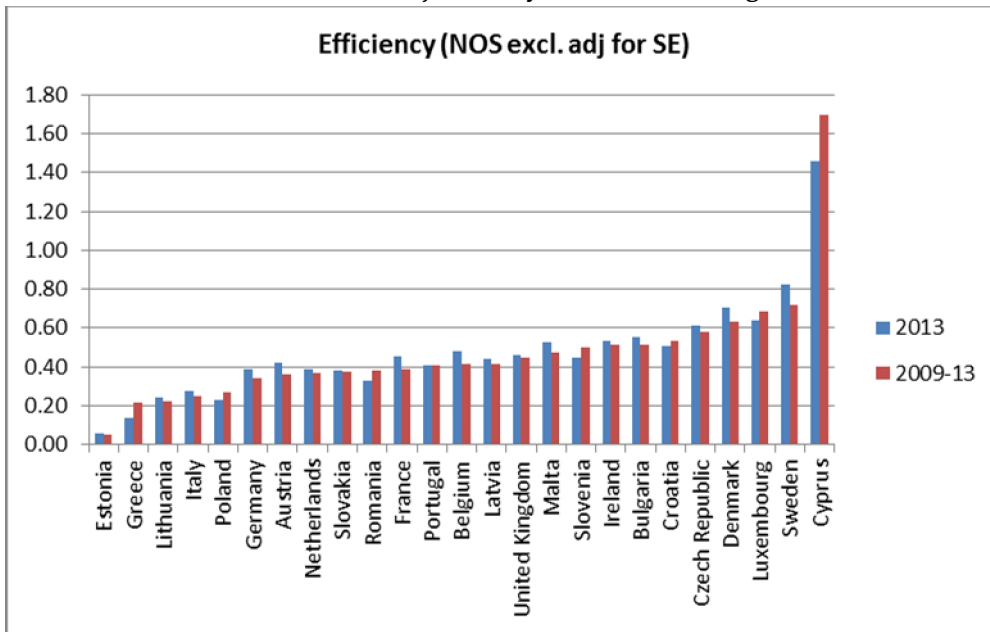
This gross operating surplus (GOS) is somewhat more inclusive than the standard conceptualisation of a corporate income tax base insofar as it does not allow for the subtraction of asset depreciation, interest payments or other provisions, which commonly include allowances to reduce corporation tax for capital investment or staff development, or for other measures determined to be both a business and a social good. Moreover, tax treatment of losses across periods of assessment can create differences between the GOS that appears as accrued in national accounts, as opposed to the corporate income tax base that is relevant for tax assessment purposes. So the simple equation of income versus expenditure, which gives rise to an operating surplus, rarely equates to the actual surplus that is declared after allowances and deductions are factored in. Hence, it is reasonable to expect the efficiency (Eff_i) of the tax system relative to this corporate income tax base to be reduced (i.e. below 1, or unity). This is why we subtract depreciation from the GOS to create a net operating surplus (NOS). Calculations using this figure should bring us closer to the 'true' corporate income tax base. Like earnings before interest and tax, NOS is closer to tax accounting than national income accounting. Debates about different forms of accounting standards and methods formed part of Parliament's work in the previous parliamentary session as part of the work stream associated with the Transatlantic Legislators' Dialogue. In the accompanying MS *Excel* sheet, in which we presents our calculations, there are estimates for NOS inclusive of compensation to self-employed (Computations (NOS not adj. SE) (2)) and NOS adjusted for the compensation to self-employed (Computations (NOS adj. SE) (2)). We seek to rely on the latter estimate because our revenue data is 'taxes on the income or profits of corporations', which excludes the income of self-employed persons, whose surplus above costs is taxed as personal income rather than as business profit, which would therefore be subject to corporation tax.

Estimates based on NOS adj. for SE yield the following CIT efficiencies:



As a benchmark, we think it is useful to compare these results to similar estimates based on GOS presented by the IMF (2014).¹⁸ The mean CIT efficiency is around 75 per cent (if we estimate this over the period 2009-2013; see sheet (Computations (NOS adj. SE) (2)) in red). (It should be noted that Spain, Hungary and Finland are excluded owing to a lack of available data.) This is comparable to the figure given in footnote 134 in the IMF study, whereby they report an average efficiency at 86 per cent. Note that while the implicit CIT base is smaller than NOS, the variation between individual countries is large.

Estimates based on NOS not adj. for SE yield the following CIT efficiencies:



These results are similar to those presented in the IMF's 2014 report.

¹⁸ IMF (2014), p. 66.

We make two calculations for revenue losses. One is in line with IMF (2014) as described above, whereby we calculate a variable called revenue without profit shifting (RWS). Here we assume \overline{Eff}_i - the average efficiency rate for the entire sample to be equivalent to 75 per cent. Therefore estimated revenue losses for the EU due to tax avoidance from corporate taxation could then amount to around 50-70 billion euro (see sheet (Computations (NOS adj. SE) (2)) in blue). If, however, we assume that profit shifting is the only source, then we estimate that revenue losses for the EU due to tax avoidance from corporate taxation could amount to around 160-190 billion euro (see sheet (Computations (NOS adj. SE) (2)) in green). This is close to the estimate of around 150 billion euro presented in Murphy (2012). However, we assume that this is likely to be an over-estimate, given that the differences between 'revenue without profit shifting' and the 'actual revenue' could be the result of other factors: (i) cross-country differences in compliance and enforcement; (ii) strategic responses to the tax policies of other countries (international tax competition); or (iii) differences between 'assumed' and 'true' tax base.

Chapter 2 – What is the potential EU added value of addressing this lack of transparency, coordination and convergence at EU level?

Key findings

- The establishment of a coherent conceptual, EU-wide framework for consistent and reliable benchmarks for assessing the impact of aggressive tax planning and tax avoidance across Member States and the EU would increase transparency.
- This would provide a firmer platform upon which to assess (a) the different tax systems and rules prevalent across the EU, and (b) the revenue that is lost between Member States.
- Current opacity in the tax systems and arrangements across the EU is fueling strategic competition amongst Member States, and is deteriorating the effective corporate tax rates.
- The local reduction in effective tax rates in individual Member States has a positive correlation with attracting foreign direct investment.
- One study suggest that the competition in tax rates – which has resulted in an approximate reduction of 15 per cent in the statutory corporate tax rate across a sample of OECD countries – is associated with a reduction of 0.6-1.1 per cent of GDP in government investment into public services, equating to 81-161 billion euro.
- The added value of transparency, coordination and convergence would come from the potential to eliminate excessively low corporate income tax rates across all Member States, thereby raising tax revenues and thus the potential for increased funding for public services.

1. Background

Corporate tax planning is understood to refer to the financial analysis carried out by companies to achieve their goals in the most tax-efficient manner possible. Over recent years, tax planning has received substantial media attention and is now once again at the fore of the European policy debate in response to what some consider to be – in some cases – abusive tax avoidance by MNEs. Indeed, the Commission’s competition authority has asked the governments of countries such as the Netherlands, Luxembourg and Ireland to explain their tax system rulings and to give details on assurances given to several specific companies, including Abbott Laboratories, Amazon, Apple, Facebook, Google, Microsoft, and Starbucks.¹⁹ As recently as March 2015 the Commission presented

¹⁹ Barker, A., Smyth, J. and Steinglass, M. (2013), ‘Brussels probes multinationals’ tax deals’, *Financial Times*, 11 Sep. 2013; Smyth, J., Steinglass, M. And Houlder, V. (2013), ‘Looking into sweetheart tax deals’, *Financial Times*, 11 Sep. 2013.

new plans on a mandatory information exchange as a means of tackling corporate tax avoidance and harmful tax competition.²⁰

Differing tax rates and systems across countries (see Box 1 below) have given MNEs the opportunity to employ different strategies, allowing them to reduce their tax bills significantly. There is ample evidence that MNEs have been arranging their affairs in a tax sensitive – or tax ‘efficient’ – manner. They have done this in several ways, but the strategies used can broadly be categorised into two groups:

- (i) locating the enterprise in a jurisdiction with low tax rates; and/or
- (ii) shifting earnings or profits to low-tax jurisdictions.

Group (i) is self-explanatory while group (ii) encompasses controlled transactions by MNEs to shift earning across countries. For instance, they may shift income into low tax jurisdictions from jurisdictions with higher taxes in order to minimise payments. In this sense, MNEs are accused of engaging in tax avoidance and, in some cases, evasion.

2. Definition of tax avoidance

An important distinction must be made between *tax planning* and *tax evasion*. Tax planning (or, if defined loosely, tax avoidance) is legal (and includes strategies such as shifting net revenues to low-tax jurisdictions while taking deductions for loss in high-tax countries, exploiting any inconsistencies across national legislative frameworks, including reporting calendars that make it possible to minimise tax obligations by delaying the repatriation of earnings), while tax evasion is illegal (and takes the form of non-payment by making false or no declarations about income to tax authorities). The remainder of these notes focus on tax avoidance.

Another important contribution regarding transparency could be the establishment of a coherent conceptual framework for reliable benchmarks for assessing the impact of aggressive tax planning and tax avoidance across Member States and the EU as a whole.

2.1. Theoretical background

The original treatment of tax competition focused on interactions across a wider economy consisting of multiple identical tax jurisdictions. Theorists have focused on how policymakers compete to attract capital – which is the most mobile productive factor. The models they used were game-theoretical (Cournot-Nash models), and the conclusion they drew was widely accepted: if you can tax those productive factors that are relatively less mobile, like labour, then it makes no sense to impose taxes on those factors that can

²⁰ European Commission (2015), ‘Proposal for a Council Directive amending Directive 2011/16/EU as regards mandatory automatic exchange of information in the field of taxation’, COM(2015)0135, 2015/0068 (CNS).

move out of the jurisdiction easily. This is the so-called 'zero tax result', which implies a 'race to the bottom' in terms of corporate income tax rates.²¹

Such early modelling of tax competition quickly moved into more extreme conclusions. If it makes no sense to tax mobile factors, then it might be attractive to offer a negative tax or subsidy to attract mobile factors (again, like capital) to move from one jurisdiction to the next. The Belgian notional interest rate reduction (*notionele interestaftrek*) is a good illustration of this.²² Such subsidies do not need to be market distorting in order to be effective. On the contrary, they could help overcome market failures by providing access to information about investment opportunities, human capital, growth prospects and other relevant factors. By creating incentives for firms to relocate across jurisdictions, policymakers could be helping those firms to exploit unrealised opportunities. The net result of such redistribution of activity would be to improve welfare in the aggregate.²³

Whether such arguments find empirical support is one question; whether they influence policy is another. Economists dispute the welfare consequences of tax competition. They tend to agree, however, that tax competition exists. Policymakers use both statutory tax rates and firm-specific exemptions to attract highly mobile capital from high-value businesses. There is more controversy over which jurisdictions are most actively engaged in the competition. For example, smaller economies, which have a lower ability to tax immobile factors because they have a smaller pool of more highly mobile labour, would be expected to be more aggressive in seeking to create tax advantages. Hence, scholars such as Bucovetsky and Wilson have constructed models of asymmetric tax competition, where large countries with market power have positive corporate income taxes while smaller countries either have no taxes or engage in some form of subsidy to attract capital.²⁴ Such arguments have obvious implications for discussions about tax policy in the 'core' and 'periphery' countries of the European Union.

3. Income shifting

²¹ Zodrow, George R., and Peter Mieszkowski (1983) 'The Incidence of the Property Tax: The Benefit View versus the New View', in Zodrow, George R. (ed.), *Local Provision of Public Services: The Tiebout Model after Twenty-Five Years*, Academic Press, New York, NY, pp. 109-129 ; Zodrow, George R. (2006), 'Capital Mobility and Source-Based Taxation of Capital Income in Small Open Economies', *International Tax and Public Finance*, vol. 13(2-3), pp. 269-294; Razin, Assaf, and Efraim Sadka (1991) 'International Tax Competition and Gains from Tax Harmonization', *Economics Letters* no. 37 (1), pp. 69-76.

²² For an explanation, see 'Notionele interestaftrek: uniek en innoverend belastingvoordeel in België,' FOD Financien, http://financien.belgium.be/nl/ondernemingen/vennootschapsbelasting/belastingvoordelen/notionele_interestaftrek/.

²³ Gordon, Roger H., and A. Lans Bovenberg (1996), 'Why is Capital So Immobile Internationally? Possible Explanations and Implications for Capital Income Taxation.' *American Economic Review*, vol. 86(5), pp. 1057-1075.

²⁴ Bucovetsky, Sam, and John D. Wilson (1991), 'Tax Competition with Two Tax Instruments', *Regional Science and Urban Economics*, vol. 21(3), pp. 333-350; Baldwin, Richard, and Paul Krugman (2004), 'Agglomeration, Integration and Tax Harmonization', *European Economic Review*, vol. 48(1), pp. 1-23.

Firm specific subsidies are one instrument in tax competition, deductions and other favourable treatment regimes are another. Hence, the difference between statutory tax rates (meaning overall) and marginal tax rates (meaning once deductions and other favourable treatment measures are taken into account) is important in models for tax competition. This distinction will also play a role in shifting income across jurisdictional boundaries.²⁵ There is a large amount of empirical research suggesting that MNEs are readily able to reallocate profits to respond to tax differentials through the use of transfer pricing mechanisms, inter-company transfers and transactions, licensing fees and so on, and there is evidence that this practice is becoming widespread.²⁶

Since the turn of the century, the focus in the literature has been on the increasing importance of competition in statutory tax rates, due to the relative ease of shifting profits. Marginal tax rates become less important to tax competition in this context. Scholars like Devereux, Lockwood and Redoano (2008) and Haufler and Schjelderup (2000) have constructed models for tax competition that demonstrate that lowering statutory tax rates whilst increasing marginal tax rates can have desirable results, particularly if the companies in question have an element of foreign ownership.²⁷ These early models focused on income shifting through transfer pricing. Later studies were able to replicate these results in models where companies were able to reallocate debt in a straightforward way, and in models in which firms are differentially mobile, with the more mobile firm generating higher profits.²⁸

Such findings are important not simply because they help us understand how tax revenue is distributed across jurisdictions, but also because of the implications that this redistribution of tax revenues has for the provision of public services. Infrastructure appears to be particularly hard hit. Gomes and Pouget (2008) provide evidence (taken from 21 OECD nations²⁹ over a period running from 1966 to 2002) that tax competition has reduced infrastructure spending wherever statutory tax rates have come down.

²⁵ Zodrow, George R. (2010) 'Capital Mobility and Capital Tax Competition', *National Tax Journal*, vol. 63(4), pp. 865-902.

²⁶ Altshuler, Rosanne, and Harry Grubert (2006), 'Governments and Multinational Corporations in the Race to the Bottom,' *Tax Notes*, vol. 110(8), pp. 459-474; Altshuler, Rosanne, and Harry Grubert (2002), 'Repatriation Taxes, Repatriation Strategies, and Multinational Financial Policy', *Journal of Public Economics*, vol. 87(1), pp. 73-107; Hines, James R., Jr. (1999), 'Lessons from Behavioral Responses to International Taxation', *National Tax Journal*, no. 52 (2), pp. 305-322.; Desai, Mihir, C. Fritz Foley and James R. Hines, Jr. (2004), 'Foreign Direct Investment in a World of Multiple Taxes', *Journal of Public Economics*, vol. 88(12), pp. 2727-2744.; Desai, Mihir, C. Fritz Foley, and James R. Hines, Jr. (2006), 'The Demand for Tax Haven Operations', *Journal of Public Economics*, vol. 90(3), 513-531.

²⁷ Haufler, A and Schjelderup, G (2000), 'Corporate tax systems and cross country profit shifting', *Oxford Economic Papers*, vol. 52(2), pp.306-325; Devereux, Michael P., Ben Lockwood, and Michela Redoano (2008), 'Do Countries Compete over Corporate Tax Rates?', *Journal of Public Economics*, vol. 92(5-6), pp. 1210-1235.

²⁸ Fuest, Clemens, and Thomas Hemmelgarn (2005), 'Corporate Tax Policy, Foreign Firm Ownership and Thin Capitalization', *Regional Science and Urban Economics*, vol. 35(5), pp. 508-526; Fuest, Clemens, and Becker, Johannes (2005), 'Does Germany collect revenue from taxing the normal return to capital?', *Fiscal Studies*, 2005, vol. 26(4), pp. 491-511.

²⁹ Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Switzerland, UK, US.

Specifically, they estimate that the 15 per cent decline in statutory corporate income tax rates across the OECD correlates with a reduction in public investment of 0.6–1.1 per cent of gross domestic product (GDP).³⁰ OECD GDP was worth USD 42 trillion dollars in 2008; implying a reduction in public investment of between USD 250 billion and USD 462 billion that year alone. The latest figures available from the OECD puts GDP at a USD 47.48 trillion³¹, which implies on the same extrapolation a reduction of USD 285–522 billion.

Where there are significant possibilities for tax avoidance, there is less incentive for tax competition across jurisdictions. MNEs that can avoid paying tax are unlikely to be influenced by tax incentives. This means that relatively high tax rates are going to have less influence on the distribution of economic activity across jurisdictions. It also means that any distortions in accounting practices will result more from efforts at overall tax avoidance than from efforts to shift profits or earnings from one jurisdiction to the next.³² By implication, governments have to tackle two different challenges at once. First, they have to eliminate the opportunities for firms to avoid tax payments through aggressive tax planning and, second, they have to coordinate efforts across jurisdictions to ensure that tax reforms do not create incentives for firms to move activity from one jurisdiction to the next. Such efforts include the coordination of rules for the treatment of transfer pricing, limits on tax deductions and other forms of special treatment, and treaties designed to limit opportunities for avoidance. Much of this coordination takes place within the context of the OECD.³³

³⁰ Gomes, Pedro, and Francois Pouget (2008), 'Corporate Tax Competition and the Decline of Public Investment,' ECB Working Paper Series No. 928, European Central Bank, Frankfurt, Germany.

³¹ OECD, Gross Domestic Product – as Stated in Dollars, June 2015 - http://www.oecd-ilibrary.org/economics/gross-domestic-product-in-us-dollars-2014-5_gdp-cusd-table-2014-5-en

³² Zodrow, George R. (2010), 'Capital Mobility and Capital Tax Competition.' *National Tax Journal*, vol. 63(4), pp. 865–902.

³³ European Commission (1997), 'Towards Tax Co-Ordination in the European Union: A Package to Tackle Harmful Tax Competition', COM (97)0495, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51997DC0495&from=EN>; OECD (1998), 'Harmful Tax Competition: An Emerging Global Issue', Organisation for Economic Co-operation and Development, Paris, France; OECD (2000), 'Towards Global Tax Cooperation: Progress in Identifying and Eliminating Harmful Tax Practices', Report to the 2000 Ministerial Council Meeting and Recommendations by the Committee on Fiscal Affairs, Organisation for Economic Co-operation and Development, Paris, France; Nicodème, G. (2006) 'Corporate Tax Competition and Coordination in the European Union: What Do We Know? Where Do We Stand?', European Commission, Economic Papers no. 250, June 2006, http://ec.europa.eu/economy_finance/publications/publication718_en.pdf.

Box 1: National corporate income tax systems

The two principles that frame most national corporate income tax systems are 'source of profits' and 'residence of business':

- 'Source of profits' refers in broad terms to the location where investments are made and activity takes place. This is usually ascertained by physical presence. Legislators establish thresholds for use by tax authorities in assessing where labor and capital is said to work, where sales or other transactions are made, and where profits should be booked. A firm that crosses these thresholds is deemed to create a permanent establishment and, hence, incur tax liabilities. These liabilities are exclusive where tax regimes are territorial – which is called the 'exemption method' in Europe. In other words, activity should only be taxed in the jurisdiction that is regarded as its 'source'.
- If 'source of profits' is based on physical presence, 'residence of business' is based on legal status. A firm is 'resident' in that place where it has its primary activity. Once that residence is established, it is possible for 'home' tax authorities to lay claim on the firm's worldwide income or earnings. Here too the taxation should be exclusive. The challenge is to deal with any overlap in jurisdictions, otherwise firms would be subjected to taxation twice (or more often) on the same activity. Legislators deal with such potential overlap through the negotiation of bilateral tax treaties that establish how tax obligations will be distributed across competing jurisdictions.

These two principles can be reconciled through treaty negotiation. The problem is that such tax treaties have often been negotiated without coordination from one agreement to the next. Hence there are significant complications across bilateral tax arrangements. Moreover, these complications have increased as the 'physical' location of economic activity has become more difficult to establish. As firms rely increasingly in intellectual property to generate earnings, and on information technology to engage in transactions, the establishment of physical presence or principal activity has become more difficult (IMF, 2014). Multinational enterprises are adept at exploiting any resulting ambiguities as part of their tax planning. Hence national tax authorities need not only to eliminate distortions across bilateral tax arrangements, but also to improve their applicability in a new economic environment.

Tax competition can take place through the implementation or enforcement of tax policy as well as through the setting of statutory tax rates or the legislation of special tax treatment. Hence, as Altshuler and Grubert argue, differential treatment of tax avoidance (or tax planning) is another area of competition.³⁴ Where tax authorities believe that they can maximise revenues or attract additional economic activity, they may facilitate the efforts of MNEs to reduce their overall tax obligations through aggressive tax planning.

³⁴ Altshuler, Rosanne, and Harry Grubert (2006) 'Governments and Multinational Corporations in the Race to the Bottom.' *Tax Notes*, vol. 110(8), pp. 459-474.

Box 2: Profit shifting strategies

There are many tax avoidance strategies than can be discussed in this note. Here we focus on the more important and popular practices.

- Transfer pricing

Transfer pricing has to do with the potential mispricing of natural resources or intellectual property rights so that costs are assigned to high-tax jurisdictions and revenues are attributed to low tax jurisdictions. Affiliates of the same MNE trade amongst themselves and charge a price for these transactions, which affects the allocation of the MNE's income across jurisdictions (see, e.g., Hines 2014). The transaction does not need to be related to the principal activity of the firm. All that is required is a remunerated exchange between subsidiaries. So long as the charge is recorded in the high-tax jurisdiction and the payment is received in the low-tax jurisdiction, the overall tax liabilities of the multinational enterprise will decrease.

The 'double Irish' is a good illustration of this practice. The 'double Irish' refers to a tax avoidance strategy that uses payments between different units or subsidiaries within a multinational corporation to shift income from a higher-tax jurisdiction to a lower-tax jurisdiction. This is possible insofar as Irish tax law does not penalise or restrict transfer pricing. This creates an incentive for MNEs to create two distinct entities, one that is resident and taxed in Ireland and another that is resident in Ireland but taxed in another jurisdiction with lower taxes. The entity taxed in Ireland will absorb the charges associated with the use of the firm's intellectual property and use those to reduce its Irish tax liabilities; the entity taxed elsewhere will receive the royalties from the use of the firm's intellectual property and pay taxes on those revenues in the lower tax jurisdiction. As a result of this two-entity structure, the overall obligations of the MNE are reduced.

Tax authorities are well aware of the perverse incentives that give rise to transfer pricing. In response, they try to legislate requirements that intra-firm transactions should be made at the prices that would apply if they were to take place between different firms or at one step removed. Such requirements are more easily enforced for widely traded commodities than they are for intellectual property rights and other intangibles. The challenge for legislators is to come up with standards that are transparent and enforceable without creating new distortions in the distribution of economic activity. The implicit cost-benefit calculation is that the measures designed to eliminate transfer pricing should not do more damage than the practice of tax avoidance or tax planning.

Once again, the challenge is to find an adequate measurement of the impact of tax avoidance. Some researchers, like Clausing (2003) or Heckemey and Overesche (2013), find evidence to suggest that there is significant abuse of intra-company transactions by US multinationals for reasons related to transfer pricing; researchers like Swenson (2001), by contrast, find that practices like transfer pricing are not very responsive to cross-country tax differentials. This suggests that the overall impact of transfer pricing could be small.

Box 2: Profit shifting strategies (cont.)

The challenge is to generalise across economic sectors. Transfer pricing in manufacturing is likely to be less important than in areas where 'arm's length' or one-step-removed transactions are less likely to generate 'objective' market prices. This includes not only intellectual property, but also much of the trade in business-to-business and financial services.

- Location of intangible assets

Differences in corporate income tax rates can also have an impact on the 'location' of intangible assets. For example, there is some evidence to suggest that firms will file for patents more frequently in jurisdictions with lower corporate income tax rates. This will alter not only the overall volume of patents filed in a given jurisdiction but also the relative size of intangible assets on the balance sheets of firms within that jurisdiction (Karkinsky and Riedel, 2012; Grubert 2003; Dischinger and Riedel, 2011).

- Intra-company debt shifting

The differential treatment of interest expenses can also have an impact on tax liabilities. Hence an MNE could organise loans from subsidiaries or other entities in jurisdictions where interest expenses are given a lower rate of deduction to subsidiaries or other entities in jurisdictions where interest expenses have a higher rate of deduction. Provided that the taxable revenues in the two places are equivalent, the result will be a reduction in overall tax obligations. With entities in multiple jurisdictions, it would be possible to use loans at different rates of interest across entities located in each of the jurisdictions in order to minimise the tax obligations of the MNE as a whole. There is significant empirical support to suggest this practice is widespread (De Mooij 2011).

- Deferral of repatriation of profits

MNEs can hold earnings in tax jurisdictions with low marginal or effective tax rates until there is a good reason to repatriate those earnings. In doing so, the MNE can defer payment of tax. If there is the prospect that the home country will introduce a tax holiday or some other incentive for repatriation in the near future, then the deferral can lower tax obligations overall. There is significant evidence that US MNEs engage in this practice generally and that many benefited from the one-year low-tax repatriation window introduced in 2005 (Dharmapala et al., 2011; Marples and Gravelle, 2011).

- Treaty shopping

A final consideration is that MNEs may take advantage of the differences between bilateral tax agreements in order to minimise their obligations, such as their obligations to shareholders. For example, it may make sense to pay dividends to shareholders in markets where they will receive more favourable tax treatment. The result would be a reduction in net tax accrual.

A second major area where action at EU level can add value is in the raising of important themes for consideration both within and across Member States. Below are highlighted some of those themes that have received most attention in the academic literature. They are important as they set the stage for answering two final questions concerning the relative advantage of common tax jurisdictions, and structural variables impact on corporation tax.

3.1. The relative advantages of common and separate tax jurisdictions

A first theme is the relative advantages to be garnered from common and separate tax jurisdictions. The question for the European Union is whether the creation of an overarching tax jurisdiction would lead to a more even distribution of economic activity across Member States (and hence a greater equalisation of their respective tax bases). This question draws in part from the observation that while tax rates have declined across Europe, the revenues collected via corporate income taxation have remained roughly stable in consequence of the modest economic growth rates.³⁵ This stability may in part be the result of greater coordination of favourable tax treatments (which create a distinction between statutory and marginal tax rates), in part to a more even redistribution of economic activity. Research by Timothy Goodspeed suggests that both factors may have been at work across OECD countries in the late 1970s and early 1980s.³⁶ By extrapolation, greater efforts at fiscal integration and tax coordination within the EU could offer significant welfare gains.

Other scholars (such as Genschel *et al.*) focus instead on the institutional context of tax competition.³⁷ They present evidence to suggest that tax competition is stronger in the EU than in the rest of the world as a result of the pressure generated via market integration and enlargement. This pressure is not unmitigated, and the combination of coordination measures undertaken within the Council of Ministers and the tax jurisprudence of the European Court of Justice could potentially reduce it. Nevertheless, the net effect of European integration has been the acceleration of tax competition across Member States. Moreover, studies of EU tax policy show how the Commission has fostered the emergence of two functionally differentiated policy arenas of closer market integration and evolving areas of community law, dealing with different definitions of tax problems and operating with modes of governance that suits the Commission's own internal logic.³⁸ This structure constrains the ability of European institutions to mitigate tax competition among Member States. A more coherent European approach to tax policy could generate additional welfare gains as a consequence.

³⁵ Nicodème, G. (2006) *op. cit.*

³⁶ Goodspeed, Timothy (1999), 'Tax Competition and Tax Structure in Open Federal Economies: Evidence from OECD Countries with Implications for the European Union', *ZEW Discussion Paper* no. 99-40.

³⁷ Genschel, P., Kemmerling, A. and E. Seils (2011), 'Accelerating downhill: how the EU shapes corporate tax competition in the Single market', *Journal of Common Market Studies*, vol. 49(3), pp.585-606.

³⁸ Kraemer, U. S. and C. M. Radaelli (2008), 'Governance Areas in the EU direct tax policy', *JCMS* 2008, vol. 46(2), pp.315-336.

These issues are relevant to other major European projects such as the completion of the internal market and the development of a European capital markets union. For example, standard models suggest that the increase in capital mobility would lead to downward pressure on corporate income taxes in the EU. Research by Krogstrup (2006) suggests that there is some merit to this claim.³⁹ Such research also makes it possible to make a quantitative assessment of the importance of tax competition pressures within the internal market. Studies have found that the increase in capital mobility may have reduced corporate taxation by as much as 20 per cent between 1980 and 2001 across the EU. The result, while not a 'race to the bottom', suggests that incentives that remain for MNEs to engage in avoidance strategies exist, and that these could be mitigated by cost-effective regulation.

3.2. Structural considerations

A second theme relates to the relative ease with which firms or workers respond to differences in tax rates depending on the situation, by which we mean large structural variables such as country size, foreign ownership, patterns of incorporation and the balance of power between capital and labour. For example, research by Huizinga and Nicodème (2006) shows that large Member States are able to place higher taxes on capital (as the mobile factor) than smaller Member States. The explanation, as introduced above, is that firms are less likely to leave larger countries than smaller countries.⁴⁰

In a similar vein, Huizinga and Nicodème test whether national governments are able to impose higher tax burdens on foreign owners of corporations. Here the assumption is that foreign owners will pay a premium to invest (or maintain their investments) in domestic markets. To test this hypothesis, they use firm-level financial data together with a variable to measure foreign ownership for 21 European countries over the period 1996-2000. What they find is that an increase in the foreign ownership share by 1 per cent correlates with an increase in the average corporate income tax rate by 0.5-1 per cent. This statistical finding suggests that national tax authorities have achieved some success in charging a tax premium on foreign investors.

There are other variations in institutional context that warrant consideration. One of these is the pattern of incorporation. In most countries, firms can choose from a menu of different legal structures; as a consequence, multinational firms and domestic firms tend to cluster around different legal forms – with much domestic activity taking place through varying forms of self-employment or other lower levels of incorporation. These different organisational structures receive different tax treatment. Hence, it is necessary to consider how these different tax treatments interact both within and across countries. Egger *et al.* (2007) look at the interaction between personal and corporate rates of income tax. Starting from the premise that domestic firms are more likely to face personal income

³⁹ Krogstrup, S. (2006), 'Are corporate taxes racing to the bottom, in the European Union?' <http://www.cer.ethz.ch/resec/sgvs/050.pdf>.

⁴⁰ Huizinga, H. and Nicodème, G. (2006), 'Foreign Ownership and Corporate Income Taxation: an Empirical Evaluation', *European Economic Review*, vol. 50(5), pp.1223-1244.

tax while multinational firms face corporate income tax, their expectation is that the two tax rates would behave differently across countries. What they find is that the pattern of interaction is similar. Domestic tax authorities respond to foreign changes in both rates of taxation – corporate and personal. This finding was unexpected. National tax authorities were expected to set personal income tax independently. The fact that personal income tax rates interact across countries suggests that the scope for tax competition is wider than just corporate income tax rates.

This cross-jurisdictional competition in terms of personal income tax rates should not be taken to mean that labour is as mobile as capital. A further consideration, therefore, is the extent to which MNEs shift the burdens of corporate income taxes onto the workforce. There is some evidence that this is the effect. Arulampalam *et al.* (2012) used data from more than 55 000 companies operating in nine Member States over a seven year period (1996-2003). They looked for evidence of cross-country variation in tax liabilities after controlling for the value-added of labour. What they found is that wage bills tend to vary inversely with tax rates and that a 1 euro increase in corporate taxation results in a 0.49 euro decrease in pay-outs on wages. Indirectly, the non-mobile factor (labour) is carrying almost one-half of the cost of taxation on the mobile factor (capital).

Firm responses

Firm responses to corporate income tax rates constitute a third set of themes for consideration. The easiest place to start is within the MNE. Here the question is how much variations in national tax regimes interact with the liability side of the balance sheets of firms. Huizinga *et al.* speculate that a firm's willingness to take on debt will vary both with domestic tax rates and with any differences between domestic and foreign taxes. What they find is that multinational firms have an incentive to shift their debt burden onto entities operating in jurisdictions with relatively high corporate income tax rates. These differences matter as multinationals have an incentive to shift debt to high-tax countries. The predictions of the model are tested using a firm-level data for European multinationals and their subsidiaries, combined with collected data on the international tax treatment of dividend and interest streams. Empirical results show that corporate debt policy indeed not only reflects domestic corporate tax rates but also differences in international tax systems.

A second consideration is the volume of profit shifting. The expectation is that a multinational will seek to minimise its tax burden across all jurisdictions within which it operates. The precise strategy will depend both on the variation in tax regimes and on the structure of operations. This is a more complex picture than the classical models presented, and the implications are not always intuitive. For example, Huizinga and Laeven built a model that focusses on the differentials across multiple jurisdictions and then tested that model using detailed information about tax treatment coupled with firm-level data. What they found is some evidence that firms will shift profits away from the highest tax jurisdiction (the semi-elasticity is 1.43) and somewhat stronger evidence that they will shift costs into the jurisdiction where they have the highest volume of activity (the semi-elasticity is 1.65). The result is highly redistributive; most EU countries benefit

from tax revenue that might otherwise accrue to Germany. The overall impact on taxes accruals, though, is less pronounced.

A third consideration is the structure of manufacturing investment. Here it is useful to focus on the variation in effective marginal tax rates across different sectors of industry. Such variation should necessarily take the mix of productive factors – capital, labour, energy – into account. The presumption is that subtle differences in tax structures will have an influence on the composition of manufacturing industry. Nevertheless, the evidence suggests that this is not the case. Barrios *et al.* (2014) conduct a comprehensive analysis of effective marginal tax rates across a range of countries, taking both sector-specific considerations and the major factors of production into account.⁴¹ They find little evidence of the influence of tax policy on the sectoral composition of manufacturing. By contrast, they find significant evidence that changes in the relative taxation of productive factors can have an impact on firm strategy. The balance of taxation on labour and energy is particularly important. Higher taxes on labour (or consumption) tend to have a larger impact on a firm's effective marginal tax rate than higher taxes on energy.

⁴¹ Barrios, S., Nicodème, G. and A.J. Sanchez Fuentes (2014), 'Effective corporate taxation, tax incidence and tax reforms: evidence from OECD countries', European Commission Taxation Working Papers, n. 45 - 2014, http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_papers/taxation_paper_45.pdf.

Chapter 3 – Macro-economic impact at single Member State level. What are the channels through which spillovers operate? What are the spillover effects, within as well as outside of the EU?

KEY FINDINGS

- Wide-ranging measurement concepts make arriving at ‘bottom-line’ figures a highly contested and problematic activity.
- Those seeking to measure profit shifting have only been able to focus on tax jurisdictions failing to recover funds rather than on the whole balance, which would include the recipient tax jurisdictions. As a consequence, assessments of whole picture net gains or losses are largely absent from the existing literature.
- Our assessment is that even if a complete solution to the problem of base erosion and profit shifting were available and implementable, it would have an estimated impact of 0.2 per cent of total tax revenues for governments. Whilst robustly arrived at, we think this estimate underplays the amount of revenue that is recoverable through a cost-effective regulatory response.
- The problem of the ease of reallocation of taxable income is overstated but does occur at scale.
- The main channels through which spillovers occur are:
 - base spillovers through relocation;
 - base spillovers through profit-shifting; and
 - strategic spillovers (seen most commonly with highly mobile capital and the registration of intellectual property).
- Currently the most effective framework for discussing spillover is the comparison of data for individual countries: we provide the contrasting examples of Germany, Ireland and the UK.
- There is a great deal of tax competition between states that has become strategic and outward-facing in nature. Econometric data points to a trend whereby if one nation reduces its effective tax rate by 1 per cent, there is a commensurate shift of 0.7per cent among key competitor states. A collective response to understanding and benchmarking tax competition and its impacts would serve to reduce the motivations for tax competition between Member States.

1. Background

Although the discussion in previous chapters suggests that countries' tax revenues may be impacted through several channels, concern is usually directed not at the location of economic activities but at the location of taxable income contingent on economic activities. As we have noted above, most economists concede that estimating aggregate tax revenue losses due to tax avoidance and evasion remains elusive despite substantial evidence that both practices are widespread.⁴² Existing estimates based on a macro approach (mostly published by non-governmental organisations)⁴³ have the merit of attracting the attention of a wider public, but are difficult to interpret because of the drawbacks related to measurement concepts. Thus, it is very difficult to arrive at 'bottom line' numbers for the overall sums at stake. Many attempts have been made to arrive at a single estimate of the extent of profit shifting. In assessing these and other estimates, it is also important to remember that they often look at only one side of the story: one country's revenue loss may be offset, though only partly, by other countries' revenue gains. This is also the case for the IMF report, published in 2014.

2. The net-effect of spillover activities

We note that the IMF's 2014 report finds a large impact from profit shifting. This is contested by some academics who argue, via longitudinal studies, that the impact on revenue collection is modest.⁴⁴ Whilst longitudinal studies serve a comparative purpose, work addressing the situation that prevails today is more interesting and relevant. In particular, more recent research suggests that there is a degree of elasticity in the reporting of income by MNEs. Evidence suggests that companies doing business in high-tax regimes will seek to shift at least 2 per cent of their profits into lower tax regimes, as a matter of course. When viewed in this context, the potential recovery potential of just 2-4 per cent of the pre-tax profit of large corporations is likely to have a limited impact on government finances. We assess that this would amount to an estimated 0.2 per cent of the total tax revenues of governments.

The large revenues that governments still are able to collect from multinationals would seem to indicate that aggressive avoidance is neither straightforward nor especially cost-effective. We assume that all large, listed businesses would register in low tax regimes were it straightforward to reallocate profits made in high tax jurisdictions to low tax jurisdictions (actually, there would be little point in doing so because a paper-exercise would suffice). However, given that the practice still continues, we believe that cost-effective, EU-level regulation has the potential to make a significant contribution to the elimination of tactical avoidance strategies.

In the statistical analysis of a large number of cases, Ruud de Mooij (2008) found a strong correlation suggesting that a 10 per cent reduction in the effective corporate tax rate

⁴² See, for example, Fuest and Riedel (2010), Hines (2014), IMF (2014), *op.cit.*

⁴³ See, for example, Murphy (2012), *op.cit.*

⁴⁴ Hines (2014), *op.cit.*

would result in up to a 30 per cent uplift in long-term foreign direct investment, accepting – as earlier in this report – that making an assessment of FDI is complicated by the myriad other factors that can effect it.⁴⁵ This is supported by findings presented in other studies that show that multinational corporations locate more of their core business activities in low-tax jurisdictions than one would expect given their business requirements, providing further evidence of the influence that tax rates can have on business decisions.

As pointed out above, there is some utility in examining the picture across country case studies. Some interesting work by Dwenger explores how German businesses effectively pass on increased business taxes through wage negotiation (specifically between 1998 and 2006).⁴⁶ The results of this study are particularly interesting as they suggest that wages did not rise, but employment levels dropped. Dwenger found that once the cost of labour was factored in, every 1 euro reduction in corporation tax only saved business 53 cents, owing to the offset effect.

In the UK, the finance department (HM Treasury) has produced evidence to show the impact of the Computable General Equilibrium (CGE) model to the corporation tax reductions announced since the change of government in 2010.⁴⁷ The coalition Government, in an attempt to stimulate economic growth, reduced the headline rate of corporation tax from 28 to 20 per cent (with the small profits rate being reduced from 21 to 20 per cent) over the life of the parliament. The Government assesses that this will result in savings in the region of GBP 8 billion pounds a year for businesses. The Treasury's report makes the case that the reduction in the headline rates will actually result in increased investment levels to the UK, and will also see an uplift in economic activity that will, in turn, result in higher levels of employment and productivity, as well as an increase in GDP of some 0.8 per cent, which equates to GBP 12.2 billion, itself a much greater offset than the original cut. The Treasury have clearly sought to position this policy in relation to the charge that such a reduction is 'soft' on business and that it reduces the revenue pool from which to invest in public services; its analysis points to something quite different.

In Ireland, where the level of corporation tax has been the source of European level debate for some years, the Department of Finance published an impact assessment in October 2014. Confirming the suspicions of the many critics of Irish business tax policy, the Department of Finance's report concluded that Ireland's success in attracting FDI was in large part the result of the business tax regime. When the Department of Finance modelled alternative rates of corporation tax, it found that if it had adopted the European average rate of 22.5 per cent, the number of non-Irish businesses investing in Ireland

⁴⁵ de Mooij, R and Sijf Ederveen (2008), 'Corporate tax elasticities: a reader's guide to empirical findings', *Oxford Review of Economic Policy*, vol. 24(4), pp. 680-697.

⁴⁶ Dwenger, N., Rattenhuber, P. and V. Steiner (2011), 'Sharing the Burden: Empirical Evidence on Corporate Tax Incidence', F.U. Berlin Discussion Paper no. 19.

⁴⁷ HM Treasury report (2013), 'Analysis of the dynamics effect of corporation tax reductions', The Stationary Office: London.

would have been halved over the period 2004-2012. Similarly, within this model, if it had raised the 12.5 per cent rate to 15 per cent, some 22 per cent fewer firms would have been attracted to invest in Ireland. The Irish case – which is an outlier in the EU because of how low its corporation rates are – does demonstrate how price sensitive a peripheral country is when engaged in tax competition and, indeed, how price sensitive foreign firms are when choosing their destinations for tax planning purposes.

The effects that are felt in individual countries – and to be clear, the majority of studies are around individual countries – invariably impact on third countries. This is what is described as ‘spillover’. There are three broad types of spillover effect: 1) base spillovers through the relocation of business out of one jurisdiction and into another; 2) the actual impact of investment income flow into a jurisdiction with attendant questions around securing public revenues; and 3) the strategic response of governments to the corporate tax levies of another country (to use the examples above, one could hypothesise that the UK Government lowered its corporation rate by some 8 per cent between 2010 – 2015 partly in response to the 12.5 per cent rate adopted by its near-neighbour, the Irish Government). There will be other spillover effects on borrowing and exchange rates affecting the relative economic fortunes of influential countries impacted positively or negatively by spillovers.

2.1. Base spillovers through relocation

Businesses moving their operations into preferential tax jurisdictions present the most visible, but also the most significant of spillover activities. The academic literature suggests that relocation activity should meet with a corresponding effect in the recipient and sending country. For those ‘losing’ businesses, the most natural response could be to reduce the headline rate, but this is overly simplistic. To return to our UK and Irish examples, the UK should not feel the need to over-respond to the Irish Government’s low headline rate because the UK is a major economy and the impact of the relocation of businesses to Ireland (a small economy) is unlikely to have a major impact on its ability to attract FDI or recover tax revenues. The impact on large economies of responding to rate reductions in smaller countries can be stark, with – as before – each percentage point reduction being worth GBP 1 billion pounds to the UK exchequer when it cut its headline rate. Taken across the EU area, where cuts of some 5 per cent have routinely been observed during the same reporting period, the impact on the whole EU will be very considerable indeed.

2.2. Base spillovers through profit shifting

Profit shifting relies on the juxtaposition of two or more tax codes in order to find ways of exploiting possible gaps between them. In this scenario, the important factor is the ease with which a company can shift profits. As the kind of information needed is commercially sensitive, however, analysts are forced to employ a variety of much rougher estimations and assessments (of the differences between tax rates and recovery) in order to provide an approximation of the scale of the problem. The IMF, in its 2014

report, argues that the phenomenon of profit shifting is large, as is its impact on governments setting rates.

As discussed above, European media outlets have reported extensively on the strategies used by MNEs to shift profits to low-tax jurisdictions. There is now a thriving industry, populated by non-governmental organisations, campaign groups and university scholars to describe, and assess the impact of, this range of activities. One recent and prominent example of this type of research is the collaborative investigation into the fast-food chain McDonald's, its profit-shifting practices and the impact of this on its business activity and on the countries in which it does business.⁴⁸ The headline conclusion of the report was that McDonald's restructured its business in 2009 to facilitate the extraction of royalties, amounting to billions of euros, from its European franchises. The particular techniques that McDonald's used were to relocate its main European headquarters from London to Geneva (a lower-tax destination), to move royalty payments from its operational business base to its franchising business located in Luxembourg (another low-tax jurisdiction) and to open an additional office for franchise operations in Switzerland in order to take advantage of a particular set of tax arrangements on intellectual property that existed between the two locations.

The result of the changes to McDonald's business structures – so the report argues – was to radically reduce the amount of corporation tax the company pays in Europe. The report assesses the value of this loss to European revenues to over 1 billion euro in the four-year period 2009-2013.

While McDonald's has been visibly highlighted by a coalition of campaign groups, there is a large quantity of empirical evidence indicating that such practices are widespread, even though the structures and payments used remain opaque. One might therefore expect that the actual impact is larger than we have estimated here.

2.3. Strategic spillovers

As highlighted above, there is strong evidence that tax competition is occurring at strategic level not just in Europe, but also between Member States and countries outside of the EU area, particularly in Central Asia. Within OECD countries, Devereux and others (2008) found that a 1 per cent decrease in the corporation tax rate of competitor nations results in, on average, a 0.7 per cent reduction in response.⁴⁹ The result of spillover effects will most keenly be felt – and exploited – by the most mobile forms of capital. It has been found that there is greater sensitivity to headline rates, rather than to the effective rate of tax, and this, in turn, suggests that governments are as highly sensitive to profit shifting as they are to the classical concern of FDI.

⁴⁸ EPSU, EFFAT, SEIU and War on Want (2015), 'Unhappy Meal: €1 Billion in Tax Avoidance on the Menu at McDonalds', Joint Report, 24 February 2015, Brussels.

⁴⁹ Devereux, Michael P., Ben Lockwood, and Michela Redoano (2008), 'Do Countries Compete over Corporate Tax Rates?', *Journal of Public Economics*, vol. 92(5-6), pp. 1210-1235.

Chapter 4 – Do tax deals lead to collective (in)efficiency?

KEY FINDINGS

- Individualised tax arrangements between major multinational enterprises and tax authorities lead to four types of possible inefficiencies. These are the result of both nominal and real effects of tax deals. They arise from aggressive tax strategies based on transfer pricing and profit shifting, but also arise from the impact of tax deals on the location and pattern of investment.
- Individual arrangements alter the balance between intra- and inter-firm trading in ways that interfere with the ability of multinational firms to minimise transaction costs (organisational inefficiency).
- Other arrangements redistribute economic activities to allow enterprises to benefit from favorable tax treatment at the expense of other sources of comparative advantage, such as those pertaining to the relative quality of labour and capital or the capacity for sustained innovation (productive inefficiency).
- They distort accounting practices, making it more difficult both for governments and investors to assess company performance (informational inefficiency).
- They create a mismatch between the accrual of tax revenue in one jurisdiction and the use of infrastructure and public services in another (inefficient public goods provision).

1. Background

The focus of this chapter is on the individual arrangements made at national level on the tax treatment of large MNEs. The key cases in Europe involve large household name-brands such as Apple, Starbucks, Amazon, Fiat and Vodafone. These cases have attracted widespread publicity in the countries affected, and have in several cases involved high-profile parliamentary inquiries into the practices of the companies concerned. In the case of the UK Parliament, these inquiries have become more a court of public opinion, focusing on the ethics and morality of these techniques than in forensically assessing whether the practices are compatible with the tax code.

In each case, Member State governments have provided assurances as to how revenues will be recorded in the tax base and what levy will be charged, as a first attempt at making such arrangements more transparent. The implicit consideration of individual tax treatments is to create sufficient tax incentives to influence the location of economic activity by any level of government. The means by which companies and their tax advisors seek to create structures that allow them to reduce their tax liabilities while remaining within the letter – if not the spirit – of the law are discussed above. Here the focus is on the areas of (collective) inefficiencies that are produced by such individual tax treatments.

2. Inefficiencies

The concern is that such tax incentives lead to four forms of (collective) inefficiency:

2.1. Organisational inefficiency

Firstly, individual tax treatments alter the balance between intra- and inter-firm trading in ways that interfere with the ability of multinational firms to minimise transaction costs. This is an organisational inefficiency. The arrangements essentially serve to place transaction costs upon businesses in a way that shapes and influences their core behaviours. Governments have sometimes publicly justified such tax treatments in terms of seeking to ensure that a strategically important MNE does not relocate offshore. We can only assume that the individual businesses have made an assessment of the whole cost and that the benefits of the individual tax treatment outweigh the possible efficiency savings possible from a more flexible disposition.

2.2. Productive inefficiency

The second type of inefficiency generated by this phenomenon is the redistribution of economic activity in order to benefit from favourable tax treatment at the expense of other sources of comparative advantage, such as those pertaining to the relative quality of labour and capital or the capacity for sustained innovation. This is a productive inefficiency, and the logic of it is that the standard of services and goods being supplied by the business as a consequence of the individual tax-treatment is less than would be the case in the absence of the preferential tax-treatment. Such behaviour is classically described as being protectionist, and the EU's efforts in creating a single market are designed to reduce the presence of protectionist policies across the area. It should be noted that such productive inefficiencies do not apply to the same degree to businesses that are predominantly e-commerce-oriented – and that have become a *cause-celebre* in profit shifting and relocation activities – as they do to manufacturing concerns.

2.3. Informational inefficiency

The third type of inefficiency derives from the fact that individual tax treatments distort accounting practices, making it more difficult both for governments and for investors to assess company performance. This is an informational inefficiency and goes to the heart of a common market trading area. Companies able to declare unexpectedly good trading figures (as several European telecom giants have done in the previous two years) on the basis of unexpectedly generous individual tax arrangements potentially obscures the 'true' performance of those businesses from investors. Such treatments are also likely to be factored in by investors in subsequent years, drawing governments and tax authorities into ever closer proximity with big business as – de facto – allocators of profit and loss, something that the neoliberal political-economic shift of the 1980s was geared to eliminate. There is an element of moral hazard to an arrangement whereby governments and tax authorities are so closely involved in business performance.

2.4. Inefficient public goods provision

The fourth and final major type of inefficiency involves the mismatch that these tax treatments create between the accrual of tax revenue in one jurisdiction and the use of infrastructure and public services in another. This can be described as inefficient public goods provision. Such inefficiencies, which clearly are starker in times of economic austerity, occur in situations where a large amount of economic activity is taking place within the borders of one country, but the income and profit of which is filed in another jurisdiction. A colourful illustration of this is the practice of some major e-commerce activities in Greece – a nation that currently faces notable challenges in terms of public sector investment – to file income and taxable profit in, to name but two preferential tax jurisdictions, Luxembourg or Ireland. The shifting of such income and profit, while legal, serves to reduce the revenues available to the first country, and, in so doing, the potential pool of capital for public goods.

2.5. Summary of inefficiencies

These inefficiencies are the result of both nominal and real effects of tax deals. They arise from aggressive tax strategies based on transfer pricing and profit shifting, but also from the impact of tax deals on the location and pattern of investment. Ultimately, profit shifting contains its own inefficiencies for the businesses involved. Complex and expensive arrangements (be they advisory or structural) have to be put in place if they are to capitalise on the profitable gaps created by comparing two or more European tax codes. Such arrangements are also inefficient for governments, partly in terms of the revenues that are lost, but also in terms of the potentially higher enforcement costs associated with bringing high-value but marginal cases to court.

Individual tax treatments are seen by governments to be a convenient means by which to ensure the recovery of a proportion of tax revenue that might otherwise be offshored. There is some good evidence – as highlighted above – that such tax treatments also help governments promote and attract additional FDI (albeit a contested concept with contested numbers) and, thereby, are seen by some as a net promoter of economic activity and growth. Lastly, in working with MNEs on tax arrangements, governments believe they are reducing their costs in forensic examination and enforcement costs, and potentially securing a larger recovery of income than might necessarily be the case. The competitive element in this element of corporation tax is that which takes place between private tax experts and those devising and enforcing the tax code – the former, in seeking to generate value added for their clients, nearly always being able to deploy greater levels of resources than the latter.

As noted above, the implementation of the CCCTB is the single largest step that the European Union could take to overcome the problem of aggressive tax planning leading to corporate tax avoidance. A common set of definitions, assessment tools and methodologies would help to overcome the significant gaps that exist across the Union in attempting to identify and quantify avoidance practices. A common and cost-effective Union-wide regulatory framework is the most sensible and effective way of limiting and eroding these practices.

References

- Altshuler, R. and Grubert, H. (2002), 'Repatriation Taxes, Repatriation Strategies, and Multinational Financial Policy,' *Journal of Public Economics*, vol. 87 (1), pp. 73–107.
- Altshuler, R. and Grubert, H. (2006). 'Governments and Multinational Corporations in the Race to the Bottom', *Tax Notes*, vol. 110 (8), pp. 459–474.
- Arulampalam, W., Devereux, M. P. and Maffini, G. (2012), 'The direct incidence of corporate income tax on wages', *European Economic Review*, vol. 56(6), pp. 1038-1054.
- Bach, S (2013) *Unternehmensbesteuerung: Hohe Gewinne – mäßige Steuereinnahmen*, DIW Wochenbericht, pp. 3-12.
- Baldwin, R., and Krugman, P. (2004), 'Agglomeration, Integration and Tax Harmonization', *European Economic Review* vol. 48 (1), pp. 1-23.
- Barker, A., Smyth, J. and Steinglass, M. (2013), 'Brussels probes multinationals' tax deals', *Financial Times*, 11 September 2013
- Barrios, S., Huizinga, H., Laeven, L. and G. Nicodeme (2012), 'International taxation and multinational firm location decisions', *Journal of Public Economics*, vol. 96(11), pp. 946-958.
- Barrios, S., Nicodème, G. and Sanchez Fuentes, A.J. (2014), 'Effective corporate taxation, tax incidence and tax reforms: evidence from OECD countries', European Commission Taxation working papers n.45, May
- Benassy-Quéré, A., Trannoy, A. and Wolff, G. (2014), 'Tax harmonization in Europe: moving forward', *VoxEU*, July.
- Betterdorf, L., Devereux, M. P., van der Horst, A., Loretz, S. and de Mooij, R.A. (2011), 'Corporate tax reform in the EU: Weighing the pros and cons', *VoxEU*, March.
- Betterdorf, L., Devereux, M. P., van der Horst, A., Loretz, S. and de Mooij, R.A. (2011), 'The economic effects of EU-reforms in corporate income tax systems, Studies for the Consolidated Corporate Tax Impact Assessment'.
- Betterdorf, L., Devereux, M. P., van der Horst, A., Loretz, S. and de Mooij, R.A. (2009), 'Corporate tax harmonisation in the EU', *Economic Policy*, vol. 63, pp. 537:590.
- Brueckner, JK, (2003) 'Strategic Interaction Among Governments: An Overview of Empirical Studies.' *International Regional Science Review* vol. 26(2), pp.175-188.
- Bucovetsky, S, and Wilson, JD (1991) 'Tax Competition with Two Tax Instruments.' *Regional Science and Urban Economics* vol. 21(3), pp.333-350.
- Clausing, K.A. (2003) Tax-motivated transfer pricing and US intrafirm trade prices, *Journal of Public Economics*, vol. 87(9-10), pp. 2207-2223
- De Groen, Willelm P. (2015) 'Corporate taxation in Europe: let's get it together!', *CEPS commentary*, February
- De Mooij, R & Ederveen, S (2008) 'Corporate tax elasticities: a reader's guide to empirical findings,' *Oxford Review of Economic Policy*, vol. 24(4), pp. 680-697
- De Mooij, R. (2011), 'The Tax Elasticity of Corporate Debt: A Synthesis of Size and Variations,' *IMF Working Paper* 11/95 (Washington: International Monetary Fund).
- Desai, M, Foley, CF and Hines, JR., (2004) 'Foreign Direct Investment in a World of Multiple Taxes.' *Journal of Public Economics* vol.88(12), pp.2727-2744.

- Desai, M, Foley, CF and Hines, JR Jr. (2006) 'The Demand for Tax Haven Operations.' *Journal of Public Economics* vol.90(3), pp.513-531.
- Devereux, MP, Lockwood, B and Redoano, M (2008). 'Do Countries Compete over Corporate Tax Rates?' *Journal of Public Economics* vol. 92(5-6), pp.1210-1235.
- Devereux, MP. and S. Lorentz (2012) 'What do we know about corporate tax competition?', Working Paper 12-29, Oxford University, http://www.sbs.ox.ac.uk/sites/default/files/Business_Taxation/Docs/WP1229.pdf
- Devereux, M, Freedman, J and Vella, J (2012), *The Tax Gap for Corporation Tax*, Oxford University Centre for Business Taxation: Oxford.
- Dharmapala, D., Foley, CF and Forbes, K (2011) 'Watch What I Do, Not What I Say: the Unintended Consequences of the Homeland Investment Act,' *Journal of Finance*, Vol. 66 (June), pp. 753-87.
- Dharmapala, D and Riedel, N (2013) 'Earnings Shocks and Tax-Motivated Income-Shifting: Evidence from European Multinationals' *Journal of Public Economics* vol. 97(1), pp.95-107.
- Dischinger, M, and Riedel, N (2011) 'Corporate Taxes and the Location of Intangible Assets within Multinational Firms,' *Journal of Public Economics*, vol.95 (August), pp. 691- 707.
- Dwenger, N., Rattenhuber, P. and V. Steiner (2011) 'Sharing the Burden: Empirical Evidence on Corporate Tax Incidence', F.U. Berlin Discussion Paper 19.
- Egger, P., Pfaffermayr, M. and Winner, H (2007) 'Competition in corporate and personal income taxation', April
- EPSU, EFFAT, SEIU, and War on Want (2015) *Unhappy Meal: €1 Billion in Tax Avoidance on the Menu at McDonalds*, joint report, Brussels 24th February 2015
- EurActiv (2013) <http://www.euractiv.com/euro-finance/eu-leaders-prepare-tackle-tax-ha-news-519618>
- European Commission (1997) 'Towards Tax Co-Ordination in the European Union: A Package to Tackle Harmful Tax Competition.' Communication from the Commission to the Council, COM (97) 495 final. European Commission, Brussels, Belgium.
- European Commission (2015) Council Directive amending Directive 2011/16/EU as regards mandatory automatic exchange of information in the field of taxation, COM(2015) 135 final, 2015/0068 (CNS)
- European Commission (2012) Recommendation of 06.12.2012 on aggressive tax planning.
- European Union (2014) *Taxation trends in the European Union*, report produced by DG TAXUD: Brussels.
- Evers, M; Meier, I and Spengel, C (2014) 'Transparency in Financial Reporting: Is Country-by-Country Reporting suitable to combat international profit shifting?' ZEW Discussion Paper <http://ftp.zew.de/pub/zew-docs/dp/dp14015.pdf>
- Fuest, C. and Riedel, N. (2009) 'Tax evasion, tax avoidance and tax expenditures in developing countries: a review of literature,' Report prepared for the UK Department for International Development, Oxford: Oxford University Centre for Business Taxation.
- Fuest, C. and Riedel, N. (2012) Tax evasion and tax avoidance in developing countries: the role of international profit shifting, Oxford University Centre for Business Taxation, WP 10/12
- Fuest, C., Peichl, A., & Siegloch, S. (2012). Which workers bear the burden of corporate taxation and which firms can pass it on? Micro evidence from Germany, Oxford University Centre for Business Taxation, Working Paper No. 12/16, Said Business School, Oxford.

- Fuest, C, and Hemmelgarn, T (2005) 'Corporate Tax Policy, Foreign Firm Ownership and Thin Capitalization.' *Regional Science and Urban Economics* vol.35 (5), pp.508-526.
- Fuest, C. and Riedel, N. (2012). Tax evasion and tax avoidance in developing countries: the role of international profit shifting, *Oxford University Centre for Business Taxation, WP 10/12*
- Fuest, C; Spengel, C; Finke, K; Heckemeyer, J and Nusser, H (2013) Profit Shifting and 'Aggressive' Tax Planning by Multinational Firms: Issues and Options for Reform, Discussion Paper No. 13-044, Centre for European Economic Research.
- Genschel, P., Kemmerling, A. and E. Seils (2011) 'Accelerating downhill: how the EU shapes corporate tax competition in the Single market', *Journal of Common Market Studies*, vol.49(3), pp.585-606
- Gomes, P and Pouget, F (2008) 'Corporate Tax Competition and the Decline of Public Investment.' *ECB Working Paper Series No. 928*. European Central Bank, Frankfurt, Germany.
- Goodspeed, T (1999) 'Tax Competition and Tax Structure in Open Federal Economies: Evidence from OECD Countries with Implications for the European Union', *ZEW Discussion Paper No. 99-40*.
- Gordon, RH. (1986) 'Taxation of Investment and Savings in the World Economy.' *American Economic Review* vol.76(5), pp.1086-1102.
- Gordon, RH., and Bovenberg, AL (1996) 'Why is Capital So Immobile Internationally? Possible Explanations and Implications for Capital Income Taxation.' *American Economic Review* vol.86(5), pp.1057-1075.
- Gresik, T.A. (2001) 'The Taxing Task of Taxing Transnationals', *Journal of Economic Literature* vol.XXXIX, pp. 800-838.
- Haufler, A, and Schjelderup, G (2000) 'Corporate Tax Systems and Cross Country Profit Shifting.' *Oxford Economic Papers* vol.52(2), pp.306-325.
- Heckemeyer, JH & Spengel, C (2008) *Ausmaß der Gewinnverlagerung multinationaler Unternehmen – empirische Evidenz und Implikationen für die deutsche Steuerpolitik*, Perspektiven der Wirtschaftspolitik, p. 54.
- Heckemeyer, J.H. and Overesch, M. (2013) 'Multinationals' profit response to tax differentials: effect size and shifting channels'. *ZEW Discussion Paper No. 13-045*
- Hines, J.R. (2014). How serious is the problem of base erosion and profit shifting? *Canadian Tax Journal*, vol. 2, pp.443-53
- Hines, James R., Jr., (1999) 'Lessons from Behavioral Responses to International Taxation.' *National Tax Journal* vol.52(2), pp.305-322.
- HM Treasury report (2013) - 'Analysis of the dynamics effect of corporation tax reductions', The Stationary Office: London
- Huizinga, H. and Laeven, L (2006) 'International Profit Shifting within Multinationals: A Multi-Country Perspective', *European Economy Papers*, n. 260, December
- Huizinga, H. and Nicodème, G. (2006) 'Foreign Ownership and Corporate Income Taxation: an Empirical Evaluation', *European Economic Review*, vol.50(5), pp.1223-1244.
- Huizinga, H., Laeven, L. and Nicodème, G (2006) 'Capital Structure and International debt shifting', *European Economic Papers*, November
- International Monetary Fund (2014). Spillovers in international corporate taxation, *IMF Policy Paper*.

Irish Department of Finance (2014) 'Economic impact assessment of Ireland's corporation tax policy', October

Karkinsky, T, and Riedel, N (2012) 'Corporate Taxation and the Choice of Patent Location within Multinational Firms,' *Journal of International Economics*, vol.88 (September), pp. 176-85.

Kraemer, U. S. and Radaelli, C (2008) 'Governance Areas in the EU direct tax policy', *Journal of Common Market Studies*, vol.46(2), pp.315-336

Krogstrup, S. (2006) 'Are corporate taxes racing to the bottom, in the European Union?', <http://www.cer.ethz.ch/resec/sgvs/050.pdf>

Marples, DJ, and Gravelle, G (2011), 'Tax Cuts on Repatriation Earnings as Economic Stimulus: An Economic Analysis,' Congressional Research Service Report for Congress (Washington: Congressional Research Service).

Murphy, R (2008) 'The Missing Billions: The UK Tax Gap', Trades Union Congress: London

Murphy, R. (2012). Closing the European Tax Gap, *a report for the Progressive Alliance of Socialists and Democrats in the European Parliament*.

Nicodème, G. (2006) 'Corporate Tax Competition and Coordination in the European Union: What Do We Know? Where Do We Stand?', *European Economy papers n. 250*, July

Organisation for Economic Co-operation and Development (1998) Harmful Tax Competition: An Emerging Global Issue. Organisation for Economic Co-operation and Development, Paris, France

Organisation for Economic Co-operation and Development (2000). *Towards Global Tax Cooperation: Progress in Identifying and Eliminating Harmful Tax Practices. Report to the 2000 Ministerial Council Meeting and Recommendations by the Committee on Fiscal Affairs*. Organisation for Economic Co-operation and Development, Paris, France.

Razin, A and Sadka, E (1991) 'International Tax Competition and Gains from Tax Harmonization.' *Economics Letters* vol.37(1), pp.69-76.

de Mooij, R & Ederveen, S (2008). 'Corporate tax elasticities: a reader's guide to empirical findings,' *Oxford Review of Economic Policy*, Oxford University Press, vol. 24(4), pp.680-697.

Smyth, J., Steinglass, M. And Houlder, V. (2013) Looking into sweetheart tax deals, *Financial Times*, 11 September 2013

Stewart, K and Webb, M (2006), International competition in corporate taxation: evidence from the OECD time series, *Economic Policy*, vol.82, pp.154-201.

Swenson, DL., (2001) 'Tax Reforms and Evidence of Transfer Pricing,' *National Tax Journal*, vol.54 , pp. 7-26.

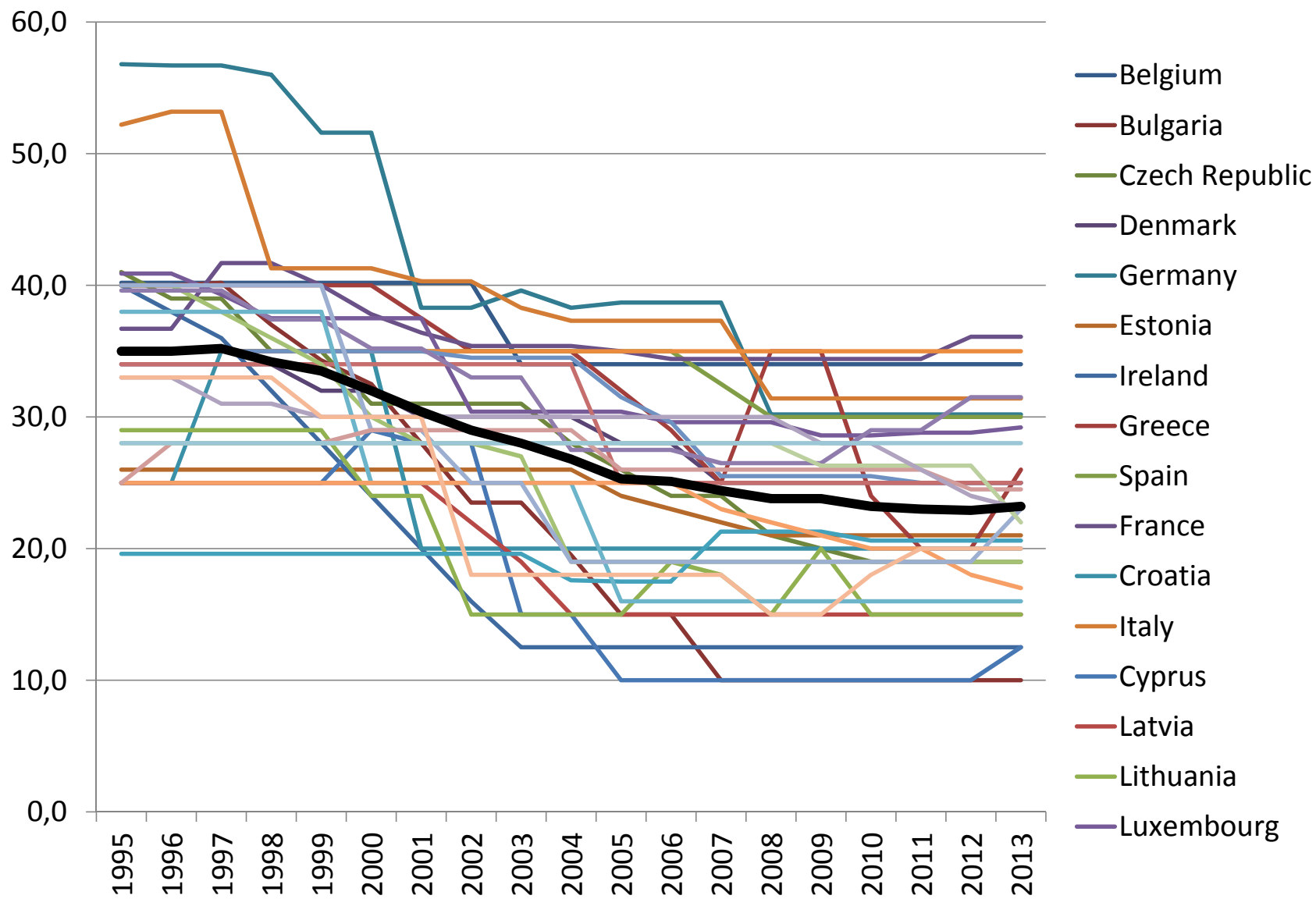
Zodrow, GR. (2006). 'Capital Mobility and Source-Based Taxation of Capital Income in Small Open Economies.' *International Tax and Public Finance* vol.13(2-3), pp.269-294.

Zodrow, GR., (2010) 'Capital Mobility and Capital Tax Competition.' *National Tax Journal* vol.63(4), pp.865-902.

Zodrow, GR., and Mieszkowski, P (1983) 'The Incidence of the Property Tax: The Benefit View versus the New View.' In Zodrow, GR. (ed.), *Local Provision of Public Services: The Tiebout Model after Twenty-Five Years*, pp.109-129. Academic Press, New York, NY.

Annexes

Tax Rates EU (1995-2013)



Adjusted top statutory tax rate on corporate income (%), 1995–2014
Source: Taxation trends in the European Union 2014, pp. 36

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Belgium	40,2	40,2	40,2	40,2	40,2	40,2	40,2	40,2	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	35,0
Bulgaria	40,0	40,0	40,2	37,0	34,3	32,5	28,0	23,5	23,5	19,5	15,0	15,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	15,0
Czech Repu	41,0	39,0	39,0	35,0	35,0	31,0	31,0	31,0	31,0	28,0	26,0	24,0	24,0	21,0	20,0	19,0	19,0	19,0	19,0	24,0
Denmark	34,0	34,0	34,0	34,0	32,0	32,0	30,0	30,0	30,0	30,0	28,0	28,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	27,0
Germany	56,8	56,7	56,7	56,0	51,6	51,6	38,3	38,3	39,6	38,3	38,7	38,7	38,7	30,2	30,2	30,2	30,2	30,2	30,2	34,8
Estonia	26,0	26,0	26,0	26,0	26,0	26,0	26,0	26,0	26,0	26,0	24,0	23,0	22,0	21,0	21,0	21,0	21,0	21,0	21,0	23,0
Ireland	40,0	38,0	36,0	32,0	28,0	24,0	20,0	16,0	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5	13,3
Greece	40,0	40,0	40,0	40,0	40,0	40,0	37,5	35,0	35,0	35,0	32,0	29,0	25,0	35,0	35,0	24,0	20,0	20,0	26,0	29,9
Spain	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	32,5	30,0	30,0	30,0	30,0	30,0	30,0	32,5
France	36,7	36,7	41,7	41,7	40,0	37,8	36,4	35,4	35,4	35,4	35,0	34,4	34,4	34,4	34,4	34,4	34,4	36,1	36,1	35,1
Croatia	25,0	25,0	35,0	35,0	35,0	35,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0	20,0
Italy	52,2	53,2	53,2	41,3	41,3	41,3	40,3	40,3	38,3	37,3	37,3	37,3	37,3	31,4	31,4	31,4	31,4	31,4	31,4	35,1
Cyprus	25,0	25,0	25,0	25,0	25,0	29,0	28,0	28,0	15,0	15,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	12,5	13,7
Latvia	25,0	25,0	25,0	25,0	25,0	25,0	25,0	22,0	19,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	15,0	16,6
Lithuania	29,0	29,0	29,0	29,0	29,0	24,0	24,0	15,0	15,0	15,0	15,0	19,0	18,0	15,0	20,0	15,0	15,0	15,0	15,0	16,6
Luxembourg	40,9	40,9	39,3	37,5	37,5	37,5	37,5	30,4	30,4	30,4	30,4	29,6	29,6	29,6	28,6	28,6	28,8	28,8	29,2	30,1
Hungary	19,6	19,6	19,6	19,6	19,6	19,6	19,6	19,6	19,6	17,6	17,5	17,5	21,3	21,3	21,3	20,6	20,6	20,6	20,6	19,8
Malta	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0
Netherlands	35,0	35,0	35,0	35,0	35,0	35,0	35,0	34,5	34,5	34,5	31,5	29,6	25,5	25,5	25,5	25,5	25,0	25,0	25,0	29,0
Austria	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	27,8
Poland	40,0	40,0	38,0	36,0	34,0	30,0	28,0	28,0	27,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	21,0
Portugal	39,6	39,6	39,6	37,4	37,4	35,2	35,2	33,0	33,0	27,5	27,5	27,5	26,5	26,5	26,5	29,0	29,0	31,5	31,5	29,6
Romania	38,0	38,0	38,0	38,0	38,0	25,0	25,0	25,0	25,0	25,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	18,8
Slovenia	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	23,0	22,0	21,0	20,0	20,0	18,0	17,0	22,4
Slovakia	40,0	40,0	40,0	40,0	40,0	29,0	29,0	25,0	25,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	19,0	23,0	21,0
Finland	25,0	28,0	28,0	28,0	28,0	29,0	29,0	29,0	29,0	29,0	26,0	26,0	26,0	26,0	26,0	26,0	26,0	24,5	24,5	26,7
Sweden	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	26,3	26,3	26,3	26,3	22,0	27,0
United King	33,0	33,0	31,0	31,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	30,0	28,0	28,0	26,0	24,0	23,0	28,4
Norway	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0
Iceland	33,0	33,0	33,0	33,0	30,0	30,0	30,0	18,0	18,0	18,0	18,0	18,0	18,0	15,0	15,0	18,0	20,0	20,0	20,0	18,9
EU-28	35	35	35,2	34,2	33,5	32	30,4	29	28	26,8	25,3	25,1	24,4	23,8	23,8	23,2	23	22,9	23,2	25,3
EU-27	35,3	35,3	35,2	34,1	33,5	31,9	30,7	29,3	28,3	27	25,5	25,3	24,5	24	23,9	23,3	23,1	23	23,3	25,5
EA-18	36,2	36,3	36,4	35,2	34,7	33,9	32,6	31,2	29,8	28,8	27,4	27	26,2	25,7	25,6	25	24,8	24,8	25,5	27,3
EA-17	36,8	37	37	35,8	35,2	34,4	33	31,8	30,4	29,6	28,1	27,7	26,8	26,3	26,2	25,6	25,4	25,4	26,1	27,9

Notes:

1. Only the 'basic' (non-targeted) top rate is presented here; some countries apply small profits rates or special rates, e.g., in case the investment is financed through issuing new equity, or alternative rates for different sectors. Such targeted tax rates can be substantially lower than the effective top rate.
2. Existing surcharges and local taxes are included (see country notes below).

Country notes:

Belgium: (a) A 3 % 'crisis' surcharge is applicable since 1993; (b) since 01.01.2006 Belgium applies a system of notional interest deduction (ACE) which reduces the 'effective tax rate' by several percentage points, depending on the difference between the rate of return and the rate of the notional interest deduction.

Cyprus: In 2003 and 2004 the rate includes the additional 5 % surcharge on companies with income exceeding EUR 1.7 million. In 2013, under the macro-financial adjustment programme and prior to the first disbursement of assistance, the corporate income tax rate was increased to 12.5 % (with effect on 01.01.2013).

France: 33.33 %; 34.43 % including 3.3 % additional social surcharge for large companies; 36.1 % (2012–13) and 38.0 % (2014–15) including the temporary surcharge (contribution exceptionnelle) for very large companies (turnover above EUR 250 million). Companies can benefit from a tax credit equal to 6 % (since 2014) of the payroll for (most) employees. The local business tax (contribution économique territoriale) is not included (capped to 3 % of value added).

Germany: The rate includes the solidarity surcharge of 5.5 % and the Berlin rate for the trade tax ('Gewerbesteuer' – 14.35 %; in 2012 average trade tax rate for former federal territory was 13.825 % and 12.985 % for new Länder). From 1995 to 2000 the rates for Germany refer only to retained profits. For distributed profits lower rates applied. Until 2007 the trade tax was an allowable expense for the purpose of calculating the income on which corporation tax is payable. As from 2008 enterprises are subject to an overall tax burden of around 30 %.

Greece: The rate includes a special contribution introduced in 2009 (2008 income) on companies with net income above EUR 5 million. The contribution is levied at progressive rates, with the marginal rate reaching 10 %. In 2010 (2009 income) the contribution applies to income above EUR 100 000, top rate being 10 % (income above EUR 5 million).

Hungary: including the local business tax of maximum 2 % that applies on the gross operating profit (turnover minus costs) and which is deductible from the CIT. In the typical case of a local tax of 2 %, the total tax paid is $19 \times (1 - 2 \%) + 2 = 20.62$. For energy providers and other utilities, a cca. 50 % CIT rate applies. An 'Innovation tax' of 0.3 % is also due on the same base as the local business tax while micro and small enterprises are exempted from paying (not included in the calculation).

Ireland: 25 % for non-trading income, gains and profits from mining petroleum and land dealing activities. Until 2003, Ireland applied a 10 % CIT rate to qualifying manufacturing and services companies.

Italy: As from 1998 the rates for Italy include IRAP (rate 3.90 %), a local tax levied on a tax base broader than corporate income. The rate may vary up to 0.92 percentage point depending on location. 'Robin tax' on financial institutions is not included. From 2012, an ACE is in force, reducing the effective tax rate (see also previous note on Belgium).

Lithuania: A 'social tax' (applied as a surcharge) has been introduced in 2006 and 2007 (at 4 % and 3 % respectively). As from 2010, companies with up to ten employees and taxable income not exceeding LTL 500 000 (approx. EUR 144 810), benefit from a reduced tax rate of 5 %. As from 2012, the threshold has been increased to LTL 1 000 000 (about EUR 289 603).

Luxembourg: Basic local tax (municipal business tax) is 3 % to be multiplied by a municipal factor ranging from 2 to 3.5. The rate in the table is for Luxembourg City.

Malta: The rate shown does not take into account the corporate tax refund system.

Portugal: As from 2007 the rate for Portugal includes the maximum 1.5 % rate of a municipal surcharge. As from 01.01.2014 the State tax is 3 % on taxable profits between EUR 1.5 and 7.5 million, 5 % on taxable profits between EUR 7.5 and 35 million and 7 % on profits exceeding EUR 35 million.

Slovakia: the standard CIT rate has been reduced to 22 % on the 01.01.2014, together with the introduction of a minimum (lumpsum) tax, whose value vary with turnover (EUR 480 for not VAT registered companies, EUR 960 if small VAT registered companies and EUR 2 880 if annual turnover above EUR 500 000).

United Kingdom: Rates given are rate for the tax year starting in April. The main rate of corporation tax has been cut from 28 % (2010) to 21 % (2014) and the government has announced a further cut by April 2015.

Source: Commission services

Taxes on the income or profits of corporations (Million euro)

Source: eurostat (finance); see saved doc called Revenues in Private Work EP

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
European	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
European	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
Belgium	5.108	5.781	6.231	7.706	7.700	8.085	8.087	8.139	7.911	8.990	9.814	11.369	11.760	11.598	8.113	9.261	10.692	11.689	12.294	129.716	
Bulgaria	450	398	467	443	376	365	568	485	461	492	379	484	1.260	1.038	823	654	678	676	786	8.786	
Czech Re	1.938	1.640	1.930	1.872	2.154	2.111	2.771	3.465	3.733	4.035	4.533	5.424	6.165	6.492	5.006	5.039	5.247	5.069	5.093	62.070	
Denmark	3.249	3.653	4.021	4.677	3.889	5.672	5.008	5.321	5.443	5.880	7.327	8.334	7.365	6.176	4.417	5.513	5.407	6.591	6.756	79.537	
Germany	36.924	43.833	45.893	48.952	53.829	57.980	33.547	33.140	37.692	46.258	53.573	66.303	69.801	64.210	45.607	52.932	64.980	70.093	70.215	708.351	
Estonia	:	:	:	:	:	:	:	:	:	55	57	52	65	59	39	35	37	56	62	515	
Ireland	1.408	1.800	2.271	2.618	3.442	3.885	4.144	4.804	5.155	5.335	5.503	6.685	6.393	5.071	3.889	3.944	3.751	3.964	4.272	62.910	
Greece	:	:	:	:	:	:	:	:	:	:	:	5.997	6.042	6.231	5.960	5.706	4.589	2.314	2.429	39.268	
Spain	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
France	21.755	25.852	29.112	31.193	36.872	40.746	46.279	39.984	34.604	39.536	40.900	53.485	56.765	56.609	32.001	44.286	51.532	52.267	56.120	604.368	
Croatia	:	:	:	:	:	:	:	519	594	612	834	1.134	1.344	1.393	1.152	871	1.041	877	890	11.259	
Italy	28.958	37.413	43.323	26.738	30.773	27.632	36.134	32.262	28.739	30.038	33.533	43.753	50.457	47.767	37.406	36.735	35.768	37.732	40.377	490.700	
Cyprus	281	325	344	417	545	622	671	670	507	471	634	803	1.079	1.218	1.096	1.075	1.228	1.114	1.171	11.737	
Latvia	69	82	119	138	139	132	176	198	152	196	260	367	572	727	291	174	283	357	370	4.123	
Lithuania	:	:	:	:	:	:	:	:	:	339	437	663	734	888	489	276	253	433	477	4.989	
Luxembou	1.036	1.100	1.220	1.321	1.328	1.533	1.651	1.926	1.892	1.571	1.753	1.680	1.977	2.003	2.075	2.311	2.148	2.257	2.213	25.458	
Hungary	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
Malta	66	54	78	71	94	135	126	131	163	128	146	171	258	295	305	322	311	362	421	3.139	
Netherlan	10.460	13.435	15.418	16.132	17.215	18.140	18.800	16.530	14.502	16.266	18.735	19.978	21.049	21.179	13.293	14.589	14.046	13.697	14.074	216.738	
Austria	2.881	3.870	4.084	4.440	3.881	4.526	6.923	5.247	5.200	5.607	5.766	5.964	7.069	7.468	5.114	5.810	6.470	6.679	7.251	80.568	
Poland	2.935	3.300	3.759	3.980	3.767	4.454	3.802	4.151	3.365	4.004	5.234	6.537	8.543	9.819	7.098	7.041	7.681	8.092	6.993	82.358	
Portugal	2.062	2.562	3.141	3.346	4.141	4.744	4.379	4.641	3.989	4.279	4.132	4.705	6.073	6.286	4.819	4.919	5.521	4.649	5.537	63.928	
Romania	1.056	905	1.334	1.378	1.282	1.302	1.143	1.276	1.476	1.935	2.163	2.778	3.812	4.185	3.139	2.853	3.110	2.852	2.931	33.651	
Slovenia	83	151	184	193	241	250	287	385	448	524	795	920	1.116	934	652	668	611	446	433	8.219	
Slovakia	903	717	689	646	595	575	611	654	812	882	1.049	1.294	1.637	2.012	1.577	1.659	1.699	1.715	2.118	17.719	
Finland	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
Sweden	5.040	5.554	6.327	5.899	7.397	10.054	6.587	5.407	6.084	8.511	10.750	11.547	12.845	9.810	8.650	11.776	12.530	10.951	11.912	127.359	
United Kir	23.612	29.350	44.869	48.289	47.169	52.988	55.923	46.860	43.725	49.078	59.054	73.473	65.609	62.118	42.666	51.398	53.168	53.288	49.713	706.072	
Norway	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
Switzerlar	4.241	4.261	4.300	4.686	5.875	7.191	8.442	7.614	7.008	6.885	7.339	9.374	9.811	11.172	11.067	11.916	14.241	14.539	14.550	133.957	

Taxes on the income or profits of corporations (Million national currency)

Source: eurostat (finance); see saved doc called Revenues in Private Work EP

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
European	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
European	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
Belgium	4.882	5.632	6.261	7.760	7.700	8.085	8.087	8.139	7.911	8.990	9.814	11.369	11.760	11.598	8.113	9.261	10.692	11.689	12.294	129.716	
Bulgaria	40	89	883	872	736	713	1.106	946	899	961	742	947	2.465	2.030	1.610	1.280	1.327	1.321	1.538	17.172	
Czech Re	67.255	56.510	69.357	67.464	79.458	75.155	94.393	106.731	118.882	128.665	134.989	153.713	171.179	161.948	132.327	127.404	129.031	127.480	132.318	1.719.060	
Denmark	23.808	26.880	30.089	35.078	28.916	42.279	37.319	39.538	40.446	43.746	54.597	62.166	54.871	46.050	32.886	41.057	40.286	49.063	50.385	592.408	
Germany	35.374	42.796	46.093	49.285	53.829	57.980	33.547	33.140	37.692	46.258	53.573	66.303	69.801	64.210	45.607	52.932	64.980	70.093	70.215	708.351	
Estonia	:	:	:	:	:	:	:	:	:	55	57	52	65	59	39	35	37	56	62	515	
Ireland	1.458	1.813	2.155	2.614	3.442	3.885	4.144	4.804	5.155	5.335	5.503	6.685	6.393	5.071	3.889	3.944	3.751	3.964	4.272	62.910	
Greece	:	:	:	:	:	:	:	:	:	:	:	5.997	6.042	6.231	5.960	5.706	4.589	2.314	2.429	39.268	
Spain	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
France	21.640	25.590	29.347	31.392	36.872	40.746	46.279	39.984	34.604	39.536	40.900	53.485	56.765	56.609	32.001	44.286	51.532	52.267	56.120	604.368	
Croatia	:	:	:	:	:	:	:	3.843	4.492	4.588	6.169	8.305	9.862	10.062	8.459	6.347	7.741	6.597	6.742	83.206	
Italy	31.857	37.851	43.167	26.840	30.773	27.632	36.134	32.262	28.739	30.038	33.533	43.753	50.457	47.767	37.406	36.735	35.768	37.732	40.377	490.700	
Cyprus	284	328	342	413	539	610	660	658	506	468	625	790	1.075	1.218	1.096	1.075	1.228	1.114	1.171	11.684	
Latvia	68	82	112	130	124	105	140	164	138	185	258	363	570	727	292	176	285	354	370	4.021	
Lithuania	:	:	:	:	:	:	:	:	:	339	437	663	734	888	489	276	253	433	477	4.989	
Luxembou	990	1.072	1.226	1.330	1.328	1.533	1.651	1.926	1.892	1.571	1.753	1.680	1.977	2.003	2.075	2.311	2.148	2.257	2.213	25.458	
Hungary	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
Malta	71	57	80	72	93	127	119	125	162	128	146	171	258	295	305	322	311	362	421	3.124	
Netherlan	9.963	13.045	15.468	16.249	17.215	18.140	18.800	16.530	14.502	16.266	18.735	19.978	21.049	21.179	13.293	14.589	14.046	13.697	14.074	216.738	
Austria	2.760	3.779	4.103	4.470	3.881	4.526	6.923	5.247	5.200	5.607	5.766	5.964	7.069	7.468	5.114	5.810	6.470	6.679	7.251	80.568	
Poland	9.306	11.294	13.967	15.586	15.924	17.853	13.961	16.010	14.804	18.124	21.057	25.468	32.324	34.485	30.716	28.125	31.649	33.863	29.351	329.937	
Portugal	2.017	2.502	3.111	3.366	4.141	4.744	4.379	4.641	3.989	4.279	4.132	4.705	6.073	6.286	4.819	4.919	5.521	4.649	5.537	63.928	
Romania	281	355	1.081	1.376	2.096	2.594	2.973	3.989	5.543	7.838	7.834	9.794	12.712	15.411	13.309	12.016	13.183	12.716	12.951	130.269	
Slovenia	54	108	139	150	196	216	261	363	437	523	795	920	1.116	934	652	668	611	446	433	8.158	
Slovakia	1.166	927	871	848	871	813	879	926	1.118	1.172	1.345	1.599	1.836	2.088	1.577	1.659	1.699	1.715	2.118	19.729	
Finland	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
Sweden	47.034	47.289	54.733	52.598	65.147	84.910	60.961	49.531	55.510	77.661	99.781	106.861	118.816	94.322	91.852	112.315	113.142	95.318	103.056	1.179.126	
United Kir	19.569	23.885	31.063	32.664	31.072	32.295	34.777	29.467	30.257	33.307	40.381	50.089	44.899	49.463	38.013	44.091	46.143	43.210	42.219	526.316	
Norway	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	0	
Switzerlar	6.555	6.680	7.070	7.600	9.401	11.204	12.752	11.170	10.660	10.629	11.363	14.745	16.117	17.734	16.710	16.448	17.553	17.524	17.912	191.316	

Net operating surplus: total economy (UOND)

Source: AMECO

Country	Unit	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
European Union	Mrd ECU/EUR- St	1850	1965	2089	2163	2205	2364	2457	2546	2602	2783	2911	3108	3328	3294	2873	3063	3174	3129	3139
Belgium	Mrd EURO-BEF	50	49	51	53	53	57	56	57	59	66	71	74	79	75	68	75	78	74	75
Bulgaria	Mrd BGN	0	1	10	11	10	12	13	14	14	15	17	20	24	27	26	25	30	29	28
Czech Republic	Mrd CZK	486	544	565	669	688	725	804	813	854	932	1006	1119	1224	1248	1183	1174	1173	1135	1131
Denmark	Mrd DKK	209	216	222	206	214	261	249	244	238	260	276	298	272	260	219	276	286	290	286
Germany	Mrd EURO-DEM	419	428	449	464	457	447	476	487	486	527	549	604	646	628	519	588	622	596	602
Estonia	Mrd EURO-EEK	1	1	1	1	2	2	2	2	3	3	4	4	5	4	3	4	5	5	5
Ireland	Mrd EURO-IEP	19	21	26	31	36	43	49	57	59	61	64	65	70	62	56	58	65	66	64
Greece	Mrd EURO-GRD	46	50	55	59	61	63	67	69	76	84	83	92	97	98	93	83	73	69	68
Spain	Mrd EURO-ESP	142	150	152	163	169	183	201	215	227	237	249	266	286	291	278	264	269	273	276
France	Mrd EURO-FRF	249	250	263	284	288	308	321	322	327	343	345	360	388	386	333	354	354	347	342
Croatia	Mrd HRK	24	28	31	31	28	30	33	37	41	46	57	64	71	77	65	65	70	68	67
Italy	Mrd EURO-ITL	363	384	393	395	407	440	465	471	485	504	501	507	528	527	482	484	492	458	467
Cyprus	Mrd EURO-CYP	3	3	3	3	4	4	4	4	4	4	5	5	5	6	6	6	6	7	6
Latvia	Mrd EURO-LVL	0	0	1	1	1	1	2	2	2	3	4	4	5	5	4	4	5	5	6
Lithuania	Mrd EURO-LTL	2	3	4	4	4	4	5	5	6	7	8	9	10	11	8	10	12	13	13
Luxembourg	Mrd EURO-LUF	5	5	5	6	7	7	6	6	7	7	8	10	10	11	9	11	12	12	12
Hungary	Mrd HUF	1172	1479	2025	2454	2735	2934	3639	4383	4540	5149	5551	6194	6169	6526	5844	5913	6392	6096	6711
Malta	Mrd EURO-MTL	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Netherlands	Mrd EURO-NLG	77	80	90	97	99	108	112	113	113	119	129	144	156	161	143	152	157	149	145
Austria	Mrd EURO-ATS	38	39	41	44	45	49	50	52	53	59	63	68	74	73	64	67	72	71	69
Poland	Mrd PLN	105	125	153	182	200	242	245	264	282	339	364	399	448	465	536	559	619	649	672
Portugal	Mrd EURO-PTE	23	24	27	29	31	32	34	34	34	37	37	39	43	43	42	43	42	42	43
Romania	Mrd RON	2	4	10	11	19	25	34	43	62	85	91	118	152	182	180	194	207	220	245
Slovenia	Mrd EURO-SIT	2	2	2	3	3	3	4	4	5	5	6	7	8	8	6	6	6	5	6
Slovakia	Mrd EURO-SKK	6	6	7	7	8	9	10	11	12	15	16	20	23	26	22	23	23	24	24
Finland	Mrd EURO-FIM	23	23	26	29	31	34	37	37	37	39	39	41	47	46	34	38	40	36	36
Sweden	Mrd SEK	459	411	423	423	433	445	415	425	466	523	539	619	640	588	472	611	626	557	570
United Kingdom	Mrd GBP	191	217	223	222	214	224	217	237	268	280	309	318	333	361	333	354	381	386	398
Macedonia FYR	Mrd MKD	NA	NA	NA	NA	NA	58	63	60	67	78	97	109	123	135	127	134	150	152	NA
Iceland	Mrd ISK	100	108	132	138	122	128	164	170	158	178	168	147	188	261	349	352	357	341	365
Turkey	Mrd TRY	8	14	26	48	67	105	150	212	275	343	401	471	NA	NA	NA	NA	NA	NA	NA
Norway	Mrd NOK	256	296	319	274	317	499	501	462	499	601	731	835	821	951	723	820	919	975	961
Switzerland	Mrd CHF	85	87	93	97	92	97	90	81	82	92	99	113	125	124	104	119	116	113	111
United States	Mrd USD	1721	1896	2059	2154	2251	2344	2410	2517	2665	2886	3176	3483	3307	3177	3212	3563	3786	4153	4397
Japan	Mrd JPY	99199	102651	102794	95196	94389	98962	98933	101736	108573	112491	108619	106808	110541	99232	85906	97918	86743	91518	91332
Canada	Mrd CAD	178	186	197	194	221	257	258	264	295	325	354	360	375	403	316	378	411	406	409
Mexico	Mrd MXN	1099	1586	1970	2380	2826	3347	3430	3760	4111	4836	5316	6063	6583	7168	6561	7480	8371	8999	NA
Korea	Mrd WON	120758	124682	138172	138326	156302	175962	188448	214858	222243	246182	245898	249878	273347	290760	312607	362987	372685	369525	NA
Australia	Mrd AUD	127	132	142	146	159	163	183	193	214	229	254	277	300	347	344	384	404	395	415
New Zealand	Mrd NZD	31	32	33	33	37	40	43	45	47	50	50	51	56	51	54	59	62	60	NA

Gross operating surplus: total economy (UOGD)

Source: AMECO

Country	Unit	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
European Union	Mrd ECU/EUR- St	2.969	3.140	3.318	3.437	3.550	3.814	3.986	4.149	4.240	4.504	4.717	5.021	5.352	5.372	4.946	5.207	5.381	5.410	5.442
Belgium	Mrd EURO-BEF	82	83	87	90	92	99	100	103	107	117	124	131	139	140	135	146	151	150	153
Bulgaria	Mrd BGN	0	1	11	14	13	15	16	18	19	21	23	27	33	36	36	36	40	40	38
Czech Republic	Mrd CZK	821	919	995	1.143	1.194	1.268	1.378	1.400	1.463	1.573	1.673	1.823	1.988	2.060	2.024	2.024	2.037	2.014	2.036
Denmark	Mrd DKK	380	393	411	402	420	476	478	484	489	521	545	578	571	587	530	593	609	624	624
Germany	Mrd EURO-DEM	729	745	774	797	798	802	843	863	914	943	1.008	1.070	1.069	1.069	970	1.047	1.097	1.087	1.105
Estonia	Mrd EURO-EEK	1	1	2	2	2	3	3	3	4	4	5	6	7	7	5	6	7	7	8
Ireland	Mrd EURO-IEP	25	28	33	39	46	55	63	73	76	80	85	90	95	86	78	80	86	89	88
Greece	Mrd EURO-GRD	57	63	69	75	78	81	86	90	101	110	111	121	129	133	130	121	111	106	102
Spain	Mrd EURO-ESP	202	214	221	235	249	271	296	319	339	362	387	417	450	465	455	446	453	458	459
France	Mrd EURO-FRF	437	443	461	488	500	535	559	571	586	614	631	664	710	729	679	708	721	724	724
Croatia	Mrd HRK	44	48	54	55	54	57	67	71	78	89	97	108	119	128	119	118	123	119	118
Italy	Mrd EURO-ITL	508	537	552	561	580	623	658	676	697	726	735	751	783	794	754	766	783	755	765
Cyprus	Mrd EURO-CYP	4	4	4	5	5	5	6	6	6	6	7	7	7	8	8	9	9	9	9
Latvia	Mrd EURO-LVL	2	2	2	3	3	3	4	4	5	6	7	8	10	11	8	8	10	11	11
Lithuania	Mrd EURO-LTL	4	5	6	6	6	7	7	8	8	9	10	11	14	15	12	14	16	17	18
Luxembourg	Mrd EURO-LUF	7	7	7	8	9	10	9	10	10	11	12	14	15	15	13	16	17	18	17
Hungary	Mrd HUF	2.283	2.884	3.712	4.406	4.981	5.462	6.416	7.304	7.650	8.453	9.053	10.033	10.256	10.887	10.519	10.789	11.437	11.338	12.029
Malta	Mrd EURO-MTL	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Netherlands	Mrd EURO-NLG	129	135	147	157	163	178	188	193	197	205	218	237	253	262	247	259	264	256	253
Austria	Mrd EURO-ATS	66	69	72	75	78	83	87	90	93	99	106	113	120	122	115	119	126	126	127
Poland	Mrd PLN	155	188	227	268	295	346	357	379	404	468	498	542	599	620	695	722	788	828	860
Portugal	Mrd EURO-PTE	37	39	42	45	48	52	55	57	58	62	63	66	72	73	72	74	73	73	73
Romania	Mrd RON	4	7	16	19	31	41	58	77	104	132	145	177	219	263	269	287	312	331	364
Slovenia	Mrd EURO-SIT	3	4	5	6	6	7	8	9	9	10	11	12	14	14	13	13	13	13	13
Slovakia	Mrd EURO-SKK	10	11	12	13	14	16	18	19	22	25	27	31	35	38	34	37	38	39	40
Finland	Mrd EURO-FIM	40	41	45	50	52	57	61	62	63	66	67	71	80	81	70	74	76	75	75
Sweden	Mrd SEK	715	681	711	732	768	812	811	840	888	957	992	1.096	1.146	1.134	1.049	1.198	1.227	1.175	1.199
United Kingdom	Mrd GBP	304	335	344	344	343	359	362	392	429	451	488	512	535	560	536	562	594	605	625
Macedonia FYR	Mrd MKD	NA	NA	73	76	81	102	109	108	122	136	159	173	202	219	211	222	238	243	257
Iceland	Mrd ISK	164	173	196	207	201	215	268	279	272	298	302	311	379	514	648	645	648	646	675
Turkey	Mrd TRY	8	15	28	51	72	114	165	236	302	373	432	507	NA	NA	NA	NA	NA	NA	NA
Norway	Mrd NOK	405	452	484	450	504	699	715	680	721	832	976	1.101	1.114	1.276	1.073	1.184	1.301	1.379	1.393
Switzerland	Mrd CHF	167	169	175	181	180	190	187	181	185	196	205	223	241	246	230	245	244	242	243
United States	Mrd USD	2.844	3.072	3.299	3.464	3.652	3.858	4.014	4.179	4.393	4.717	5.158	5.619	5.571	5.540	5.580	5.944	6.237	6.683	7.024
Japan	Mrd JPY	196.872	201.568	206.239	200.125	197.931	202.213	201.538	203.585	209.023	213.116	209.966	210.752	216.950	208.186	192.933	201.697	188.540	192.133	193.203
Canada	Mrd CAD	302	317	335	342	377	424	437	451	484	520	562	584	616	665	591	654	700	713	733
Mexico	Mrd MXN	1.350	1.912	2.356	2.854	3.377	3.974	4.109	4.493	4.937	5.751	6.285	7.123	7.737	8.460	8.022	8.981	9.990	10.796	NA
Korea	Mrd WON	193.782	210.609	238.851	252.720	278.304	303.905	324.123	358.021	375.650	410.762	421.017	435.069	471.630	499.767	531.178	595.120	625.067	636.915	NA
Australia	Mrd AUD	213	220	237	246	265	278	304	321	350	376	413	451	487	548	554	605	635	638	671
New Zealand	Mrd NZD	44	45	47	48	52	56	61	62	66	70	72	74	81	79	82	87	90	90	NA

Net operating surplus: total economy :- Adjusted for imputed compensation of self-employed (UQND)

Source: AMECO

Country	Unit	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
European Union	Mrd ECU/EUR- St NA		1.101	1.194	1.239	1.242	1.344	1.403	1.503	1.532	1.694	1.789	1.948	2.121	2.084	1.685	1.827	1.920	1.849	1.859
Belgium	Mrd EURO-BEF	27	25	26	28	27	31	29	29	30	37	41	43	46	41	33	40	41	35	35
Bulgaria	Mrd BGN	0	1	8	7	6	8	8	9	9	10	11	13	17	19	17	15	19	18	16
Czech Republic	Mrd CZK	403	445	455	540	545	570	636	620	631	700	775	871	957	972	903	873	861	819	820
Denmark	Mrd DKK	159	165	171	153	160	206	192	183	176	200	214	233	204	190	148	205	214	218	212
Germany	Mrd EURO-DEM	307	312	331	344	335	322	349	357	351	388	404	456	495	475	366	431	458	428	434
Estonia	Mrd EURO-EEK	1	1	1	1	1	2	2	2	2	3	3	4	4	4	2	3	4	4	4
Ireland	Mrd EURO-IEP	13	15	19	23	27	33	39	47	48	49	50	51	54	44	40	44	51	52	49
Greece	Mrd EURO-GRD	27	30	32	35	35	37	40	39	44	50	44	52	56	56	49	43	37	36	38
Spain	Mrd EURO-ESP	86	93	97	105	110	121	135	148	158	165	174	188	204	203	193	181	187	192	193
France	Mrd EURO-FFR	161	163	176	197	200	219	230	228	231	243	241	251	275	270	214	230	224	214	204
Croatia	Mrd HRK	NA	12	11	6	2	2	6	7	6	11	20	25	28	32	21	19	25	28	30
Italy	Mrd EURO-ITL	180	189	190	191	199	223	242	239	238	245	242	238	251	243	199	192	197	164	175
Cyprus	Mrd EURO-CYP	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	5	5	5	5
Latvia	Mrd EURO-LVL	0	0	0	0	0	1	1	2	2	2	3	3	3	4	3	3	4	4	4
Lithuania	Mrd EURO-LTL	2	2	2	2	2	3	4	4	4	5	6	6	8	9	7	8	10	11	11
Luxembourg	Mrd EURO-LUF	5	5	5	5	6	6	6	6	6	6	7	9	9	9	7	9	11	11	10
Hungary	Mrd HUF	618	769	1.170	1.512	1.680	1.792	2.411	3.023	3.155	3.655	4.057	4.678	4.635	4.936	4.346	4.453	4.906	4.573	5.278
Malta	Mrd EURO-MTL	0,638	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2	2
Netherlands	Mrd EURO-NLG	45	47	56	61	62	71	74	72	76	84	96	96	104	106	86	95	96	85	79
Austria	Mrd EURO-ATS	23	24	25	27	28	31	32	33	34	39	43	47	53	51	42	45	49	47	45
Poland	Mrd PLN	46	50	65	85	95	125	117	135	158	214	238	273	315	320	387	400	451	479	500
Portugal	Mrd EURO-PTE	13	12	14	15	16	16	17	18	17	20	20	22	26	25	25	26	26	26	27
Romania	Mrd RON	0	1	4	1	3	-2	-7	10	16	42	34	57	82	92	89	95	118	130	154
Slovenia	Mrd EURO-SIT	0	0	1	1	1	1	1	2	2	2	2	3	4	4	2	2	2	1	1
Slovakia	Mrd EURO-SKK	5	5	6	6	7	7	9	9	10	13	13	17	20	21	17	18	18	19	19
Finland	Mrd EURO-FIM	15	15	18	21	22	25	28	28	27	29	29	30	36	34	34	22	26	23	23
Sweden	Mrd SEK	398	347	356	357	363	371	341	351	395	447	461	536	551	500	381	515	532	461	474
United Kingdom	Mrd GBP	132	156	161	158	147	155	144	183	190	215	217	223	249	218	231	254	252	222	260
Macedonia FYR	Mrd MKD	NA	NA	NA	NA	NA	42	46	39	44	59	79	87	101	109	100	104	120	122 NA	
Iceland	Mrd ISK	NA	NA	NA	NA	NA	46	80	81	82	93	72	30	65	140	244	236	231	208	221
Turkey	Mrd TRY	5	9	16	31	36	64	89	133	177	248	303	365 NA	NA	NA	NA	NA	NA	NA	NA
Norway	Mrd NOK	212	252	273	225	267	447	447	406	441	540	668	768	750	877	647	744	839	893	873
Switzerland	Mrd CHF	49	49	52	55	50	56	47	39	42	53	60	72	81	79	61	76	71	68	69
United States	Mrd USD	1.321	1.483	1.629	1.709	1.797	1.858	1.914	2.017	2.128	2.314	2.585	2.860	2.669	2.543	2.584	2.923	3.145	3.493	3.741
Japan	Mrd JPY	34.182	38.465	37.777	31.529	33.375	40.070	42.533	48.317	57.069	61.346	58.248	59.666	65.009	55.381	45.148	58.287	47.718	53.204	53.341
Canada	Mrd CAD	127	131	137	129	155	191	194	198	227	255	280	284	293	320	231	292	323	314	313
Mexico	Mrd MXN	838	1.267	1.551	1.873	2.209	2.636	2.621	2.885	3.160	3.811	4.246	4.931	5.365	5.866	5.237	6.049	6.874	7.404 NA	
Korea	Mrd WON	8.683	-3.451	1.651	-838	13.104	23.716	22.738	37.008	37.453	54.681	43.104	41.600	59.371	71.082	97.914	146.232	148.198	133.738 NA	
Australia	Mrd AUD	80	84	91	95	105	107	125	132	151	162	184	205	222	268	261	295	316	304	321
New Zealand	Mrd NZD	26	27	28	29	32	36	39	40	43	45	44	45	49	44	47	51	54	53 NA	

Weight Matrix 13 yr avrg 2000-2012 - Gross Operating Surplus and mixed income

Source: own calcs

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
European Union (28 countries)						0,06	0,06	0,07	0,07	0,07	0,08	0,08	0,09	0,09	0,08	0,08	0,09	0,09	0,09	0,09
Belgium						0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,08	0,09	0,08	0,09	0,09	0,09	0,09	0,09
Bulgaria						0,04	0,05	0,05	0,05	0,06	0,06	0,07	0,09	0,10	0,10	0,10	0,11	0,11	0,11	0,11
Czech Republic						0,04	0,05	0,06	0,06	0,06	0,07	0,08	0,09	0,10	0,09	0,10	0,10	0,10	0,10	0,10
Denmark						0,07	0,07	0,07	0,07	0,07	0,08	0,08	0,08	0,08	0,08	0,07	0,08	0,09	0,09	0,09
Germany (until 1990 former territory of the FRG)						0,06	0,07	0,07	0,07	0,07	0,07	0,08	0,09	0,08	0,08	0,08	0,08	0,09	0,09	0,09
Estonia						0,04	0,05	0,05	0,06	0,06	0,07	0,09	0,10	0,10	0,08	0,09	0,10	0,11	0,11	0,12
Ireland						0,05	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,08	0,07	0,08	0,09	0,09	0,09	0,09
Greece						0,06	0,06	0,06	0,07	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,08	0,08	0,07	0,07
Spain						0,05	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,09	0,09	0,09	0,09
France						0,06	0,07	0,07	0,07	0,07	0,07	0,08	0,08	0,09	0,08	0,08	0,08	0,09	0,09	0,09
Croatia						0,04	0,05	0,05	0,06	0,07	0,08	0,08	0,09	0,10	0,09	0,09	0,09	0,09	0,09	0,09
Italy						0,07	0,07	0,07	0,07	0,08	0,08	0,08	0,08	0,08	0,08	0,08	0,08	0,08	0,08	0,08
Cyprus						0,06	0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10
Latvia						0,04	0,05	0,05	0,05	0,06	0,07	0,08	0,10	0,11	0,09	0,09	0,10	0,11	0,11	0,11
Lithuania						#VALUE!	#VALUE!	#VALUE!	#VALUE!	0,08	0,09	0,10	0,12	0,13	0,10	0,12	0,13	0,14	0,15	0,15
Luxembourg						0,06	0,05	0,06	0,06	0,06	0,07	0,08	0,09	0,09	0,09	0,08	0,09	0,10	0,10	0,10
Hungary						0,05	0,05	0,07	0,07	0,07	0,08	0,08	0,09	0,10	0,08	0,09	0,09	0,09	0,09	0,09
Malta						0,06	0,06	0,07	0,07	0,07	0,07	0,07	0,08	0,08	0,09	0,08	0,09	0,09	0,10	0,10
Netherlands						0,06	0,06	0,06	0,07	0,07	0,07	0,08	0,09	0,09	0,09	0,08	0,09	0,09	0,09	0,09
Austria						0,06	0,06	0,06	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,08	0,09	0,09	0,09	0,09
Poland						#VALUE!	#VALUE!	0,06	0,06	0,06	0,08	0,09	0,10	0,11	0,10	0,11	0,12	0,12	0,13	0,13
Portugal						0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,09	0,09	0,09	0,09	0,09	0,09	0,09
Romania						0,03	0,04	0,04	0,04	0,05	0,06	0,08	0,10	0,11	0,10	0,11	0,11	0,12	0,12	0,13
Slovenia						0,05	0,06	0,06	0,06	0,07	0,07	0,08	0,09	0,10	0,09	0,09	0,09	0,09	0,09	0,09
Slovakia						0,03	0,04	0,04	0,05	0,06	0,06	0,07	0,09	0,11	0,10	0,11	0,11	0,12	0,12	0,12
Finland						0,06	0,07	0,07	0,07	0,07	0,07	0,08	0,09	0,09	0,08	0,08	0,08	0,08	0,08	0,08
Sweden						0,07	0,06	0,06	0,07	0,07	0,07	0,08	0,09	0,08	0,07	0,09	0,09	0,09	0,09	0,10
United Kingdom						0,07	0,07	0,07	0,07	0,08	0,08	0,09	0,09	0,08	0,07	0,08	0,08	0,08	0,09	0,08
Iceland						0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,09	0,08	0,08	0,08	0,08	0,09	0,09	0,09
Norway						0,05	0,05	0,06	0,06	0,06	0,07	0,08	0,09	0,10	0,08	0,09	0,10	0,11	0,11	0,11
Switzerland						0,06	0,06	0,06	0,06	0,07	0,07	0,07	0,08	0,08	0,08	0,08	0,09	0,10	0,10	0,10
Former Yugoslav Republic of Macedonia, the						0,05	0,05	0,05	0,05	0,06	0,07	0,08	0,09	0,10	0,09	0,10	0,11	0,11	0,12	0,12

ECU-EUR exchange rates (annual averages) :- Units of national currency per EUR/ECU (XNE)

Country	Unit	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Belgium	(Annual average-	0,956	1,005	1,007	1,007	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Bulgaria	(Annual average-	0,088	0,225	1,902	1,969	1,956	1,952	1,948	1,949	1,953	1,956	1,956	1,956	1,956	1,956	1,956	1,956	1,956	1,956	1,956	1,956
Czech Republic	(Annual average-	34,696	34,457	35,930	36,049	36,884	35,599	34,068	30,804	31,846	31,891	29,782	28,342	27,766	24,946	26,435	25,284	24,590	25,149	25,980	25,980
Denmark	(Annual average-	7,328	7,359	7,484	7,499	7,436	7,454	7,452	7,431	7,431	7,440	7,452	7,459	7,451	7,456	7,446	7,447	7,451	7,444	7,444	7,458
Germany	(Annual average-	0,958	0,976	1,004	1,007	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Estonia	(Annual average-	0,958	0,976	1,004	1,006	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Ireland	(Annual average-	1,036	1,007	0,949	0,998	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Greece	(Annual average-	0,889	0,897	0,908	0,971	0,956	0,988	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Spain	(Annual average-	0,980	0,966	0,997	1,005	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
France	(Annual average-	0,995	0,990	1,008	1,006	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Croatia	(Annual average-	6,836	6,897	6,980	7,128	7,581	7,643	7,482	7,413	7,569	7,497	7,401	7,325	7,338	7,224	7,340	7,289	7,439	7,522	7,579	7,579
Italy	(Annual average-	1,100	1,012	0,996	1,004	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Cyprus	(Annual average-	1,011	1,011	0,995	0,990	0,989	0,981	0,984	0,983	0,998	0,994	0,986	0,984	0,995	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Latvia	(Annual average-	0,981	0,995	0,938	0,939	0,890	0,796	0,797	0,827	0,912	0,947	0,991	0,991	0,996	1,000	1,004	1,008	1,005	0,992	0,998	0,998
Lithuania	(Annual average-	1,515	1,471	1,314	1,299	1,235	1,070	1,038	1,002	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Luxembourg	(Annual average-	0,956	0,974	1,005	1,007	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Hungary	(Annual average-	164,545	193,758	211,654	240,573	252,767	260,045	256,591	242,958	253,618	251,656	248,054	264,263	251,352	251,512	280,327	275,480	279,373	289,249	296,873	296,873
Malta	(Annual average-	1,075	1,066	1,019	1,013	0,992	0,941	0,939	0,952	0,993	0,997	1,001	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Netherlands	(Annual average-	0,952	0,971	1,003	1,007	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Austria	(Annual average-	0,958	0,976	1,005	1,007	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Poland	(Annual average-	3,170	3,422	3,715	3,916	4,227	4,008	3,672	3,857	4,400	4,527	4,023	3,896	3,784	3,512	4,328	3,995	4,121	4,185	4,197	4,197
Portugal	(Annual average-	0,978	0,976	0,991	1,006	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Romania	(Annual average-	0,266	0,392	0,811	0,998	1,635	1,992	2,600	3,127	3,755	4,051	3,621	3,526	3,335	3,683	4,240	4,212	4,239	4,459	4,419	4,419
Slovenia	(Annual average-	0,646	0,717	0,755	0,776	0,812	0,862	0,910	0,943	0,976	0,998	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Slovakia	(Annual average-	1,290	1,292	1,265	1,313	1,465	1,414	1,437	1,377	1,328	1,281	1,281	1,236	1,121	1,038	1,000	1,000	1,000	1,000	1,000	1,000
Finland	(Annual average-	0,960	0,980	0,989	1,006	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Sweden	(Annual average-	9,332	8,515	8,651	8,916	8,808	8,445	9,255	9,124	9,124	9,282	9,254	9,250	9,615	10,619	9,537	9,030	8,704	8,652	8,652	8,652
United Kingdom	(Annual average-	0,829	0,814	0,692	0,676	0,659	0,609	0,622	0,629	0,692	0,679	0,684	0,682	0,684	0,796	0,891	0,858	0,868	0,811	0,849	0,849
Macedonia FYR	(Annual average-	49,539	50,749	56,685	60,985	60,618	60,726	60,913	60,979	61,263	61,337	61,297	61,190	61,173	61,520	61,282	61,519	61,480	61,524	61,502	61,502
Iceland	(Annual average-	84,685	84,656	80,439	79,698	77,182	72,585	87,417	86,178	86,648	87,140	78,226	87,757	87,634	143,829	172,667	161,890	161,420	160,730	162,380	162,380
Turkey	(Annual average-	0,060	0,103	0,172	0,294	0,447	0,575	1,102	1,440	1,695	1,777	1,677	1,809	1,786	1,906	2,163	1,997	2,338	2,314	2,534	2,534
Montenegro	(Annual average- NA	NA	NA	NA	NA	NA	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Serbia	(Annual average- NA	NA	NA	6,702	11,232	12,424	58,196	59,877	60,658	65,131	72,702	83,000	84,105	79,964	81,441	93,952	103,043	101,959	113,022	113,100	113,100
Albania	(Annual average-	121,370	132,694	168,895	168,876	146,747	132,578	129,037	132,361	137,507	127,673	124,187	123,082	123,625	122,803	132,058	137,786	140,330	139,040	140,271	140,271
Norway	(Annual average-	8,286	8,197	8,019	8,466	8,310	8,113	8,048	7,509	8,003	8,370	8,009	8,047	8,017	8,224	8,728	8,004	7,793	7,475	7,807	7,807
Switzerland	(Annual average-	1,546	1,568	1,644	1,622	1,600	1,558	1,511	1,467	1,521	1,544	1,548	1,573	1,643	1,587	1,510	1,380	1,233	1,205	1,231	1,231
United States	(Annual average-	1,308	1,270	1,134	1,121	1,066	0,924	0,896	0,946	1,131	1,244	1,244	1,256	1,370	1,471	1,395	1,326	1,392	1,285	1,328	1,328
Japan	(Annual average-	123,012	138,084	137,076	146,415	121,317	99,475	108,682	118,063	130,971	134,445	136,849	146,015	161,253	152,454	130,337	116,239	110,959	102,492	129,663	129,663
Canada	(Annual average-	1,795	1,731	1,569	1,665	1,584	1,371	1,386	1,484	1,582	1,617	1,509	1,424	1,468	1,559	1,585	1,365	1,376	1,284	1,368	1,368
Mexico	(Annual average-	8,437	9,653	8,978	10,300	10,195	8,736	8,371	9,165	12,214	14,043	13,564	13,694	14,985	16,291	18,799	16,737	17,288	16,903	16,964	16,964
Korea	(Annual average-	1013,630	1007,970	1050,420	1565,610	1267,260	1043,500	1154,826	1175,496	1346,904	1422,620	1273,609	1198,581	1272,988	1606,087	1772,904	1531,821	1541,234	1447,691	1453,912	1453,912
Australia	(Annual average-	1,765	1,623	1,528	1,787	1,652	1,589	1,732	1,738	1,738	1,690	1,632	1,667	1,635	1,742	1,773	1,442	1,348	1,241	1,378	1,378
New Zealand	(Annual average-	1,993	1,847	1,715	2,097	2,015	2,029	2,130	2,037	1,944	1,873	1,766	1,937	1,863	2,077	2,212	1,838	1,760	1,587	1,621	1,621

Net Operating Surplus: Adjusted for imputed compensation of self-employed (UQND)
 EUR millions

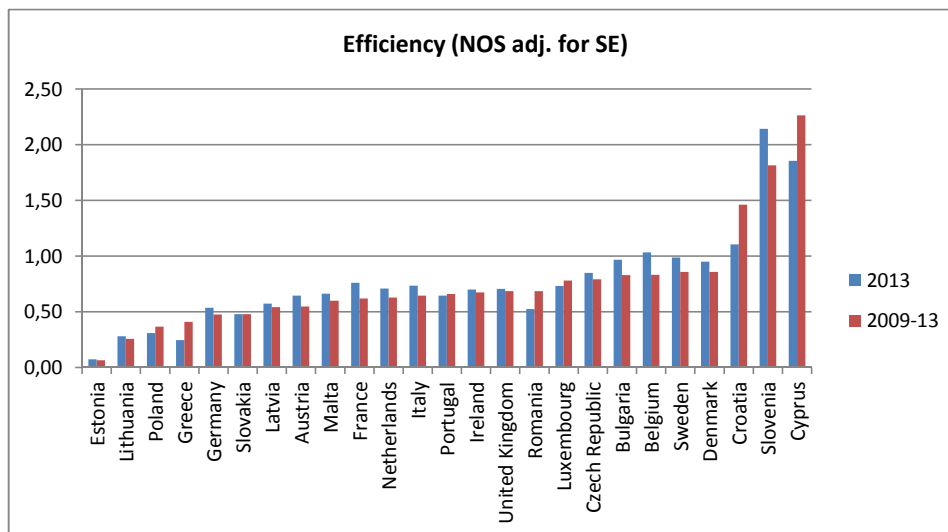
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Belgium	27.985	26.074	26.264	27.409	26.825	30.596	28.663	29.105	30.445	37.062	40.834	43.242	46.403	41.305	33.192	40.005	40.525	35.271	34.998
Bulgaria	3.275	2.589	4.087	3.765	3.100	3.982	4.233	4.749	4.606	5.069	5.533	6.678	8.648	9.565	8.536	7.671	9.922	9.458	8.125
Czech Republic	11.627	12.916	12.663	14.970	14.782	16.016	18.663	20.114	19.828	21.947	26.016	30.721	34.483	38.961	34.169	34.530	35.005	32.582	31.582
Denmark	21.747	22.438	22.837	20.434	21.469	27.679	25.759	24.668	23.706	26.816	28.657	31.239	27.420	25.490	19.861	27.499	28.669	29.237	28.491
Germany	319.968	319.644	329.670	341.312	334.648	322.051	348.836	356.821	351.415	387.744	404.345	455.682	494.961	474.579	365.915	430.861	458.149	428.250	434.407
Estonia	538	817	1.041	1.271	1.421	1.657	1.961	2.187	2.394	2.580	3.182	3.714	4.073	3.529	2.118	2.982	3.834	4.020	4.034
Ireland	12.430	14.864	19.896	22.612	27.183	33.134	39.172	46.545	47.870	48.625	50.089	50.855	53.566	44.201	39.803	43.892	50.833	52.230	48.920
Greece	30.356	33.665	35.639	35.576	36.848	37.257	39.804	39.128	44.145	50.280	44.273	52.483	56.280	56.399	49.483	42.998	36.577	35.977	38.085
Spain	88.106	96.439	97.066	104.457	110.087	120.568	135.425	148.440	157.531	165.295	174.155	187.997	204.102	203.214	192.728	181.005	187.097	191.580	193.241
France	162.297	164.182	174.273	195.510	199.702	218.594	229.884	228.463	231.033	242.685	240.981	251.154	275.192	270.194	213.901	230.228	223.950	213.576	204.224
Croatia	#VALUE!	1.726	1.606	778	254	307	752	925	852	1.423	2.721	3.366	3.815	4.434	2.866	2.638	3.323	3.686	4.023
Italy	164.050	186.611	190.749	190.746	199.273	223.106	241.920	239.284	237.882	244.892	241.826	237.547	250.902	243.350	199.232	192.251	197.036	164.168	175.282
Cyprus	1.748	1.762	1.846	2.215	2.469	2.721	3.005	2.874	2.602	2.802	3.077	3.466	4.430	4.346	4.346	4.592	4.754	5.139	5.048
Latvia	35	4	6	169	314	886	1.353	1.941	2.104	2.512	2.882	3.185	4.078	3.811	2.752	2.811	3.940	4.316	4.308
Lithuania	1.037	1.384	1.757	1.921	1.773	2.940	3.586	3.957	4.449	5.121	6.118	6.423	8.252	9.091	6.656	8.219	10.149	11.051	11.393
Luxembourg	4.728	4.878	4.599	4.838	6.066	6.447	5.516	5.962	6.291	7.033	8.901	9.280	9.370	7.348	9.490	10.907	10.918	10.353	13.880
Hungary	3.757	3.971	5.526	6.283	6.648	6.890	9.395	12.444	14.524	16.357	17.702	18.439	19.626	15.504	16.165	17.560	15.809	17.779	17.779
Malta	594	677	767	891	948	1.123	1.021	1.117	1.190	1.110	1.282	1.279	1.423	1.548	1.398	1.680	1.629	1.687	1.818
Netherlands	46.989	48.412	55.410	60.919	62.079	70.502	74.162	72.952	75.918	83.686	96.369	104.220	106.462	86.437	94.621	95.723	85.486	79.387	79.387
Austria	24.419	24.537	25.306	27.071	27.809	30.620	32.055	33.064	33.721	38.906	42.897	47.393	53.005	51.157	42.196	45.343	49.005	46.974	45.008
Poland	14.481	14.668	17.521	21.704	22.383	31.275	31.791	35.111	35.883	47.259	59.189	70.038	83.266	91.076	89.375	100.140	109.451	114.550	119.888
Portugal	12.880	12.783	13.960	14.788	16.295	16.304	16.891	17.597	16.861	20.068	19.533	22.060	26.056	24.980	24.780	26.495	25.593	26.485	27.212
Romania	1.442	1.732	4.758	6.29	2.005	878	3.040	4.314	10.351	9.422	16.264	24.573	24.936	24.936	24.936	22.630	27.786	29.141	34.880
Slovenia	304	490	1.009	1.182	1.475	1.140	1.287	1.203	2.078	2.225	2.871	3.872	3.932	2.267	1.621	1.720	1.263	1.188	1.188
Slovakia	3.906	4.069	4.512	4.531	4.566	5.167	5.968	6.417	7.023	9.624	13.362	17.415	20.695	16.784	18.370	18.390	19.392	19.294	19.294
Finland	15.762	15.092	18.078	21.314	22.212	25.177	27.792	27.781	27.443	29.491	28.684	30.000	36.096	34.195	22.124	25.954	26.399	22.670	22.670
Sweden	42.684	40.759	41.169	40.084	41.243	43.962	38.838	38.302	43.275	49.007	49.615	57.948	59.545	52.025	35.859	54.012	58.895	53.018	54.816
United Kingdom	159.163	191.910	233.030	233.570	223.352	255.110	232.156	255.668	264.182	279.963	314.309	317.826	326.580	312.948	244.869	269.447	292.884	310.490	306.079

Net Operating Surplus: NOT Adjusted for imputed compensation of self-employed (UQND)
 EUR millions

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Belgium	52.443	50.725	50.945	52.351	52.812	56.982	55.779	57.001	58.885	66.131	70.548	74.247	78.828	75.362	67.871	75.450	77.532	73.987	75.065
Bulgaria	4.548	3.522	5.185	5.516	4.934	5.985	6.580	7.232	7.222	7.895	8.622	9.991	12.403	14.047	13.348	12.827	15.208	14.905	14.145
Czech Republic	14.014	15.779	15.718	18.565	18.646	20.375	23.602	26.409	26.818	29.226	33.763	39.490	44.092	50.030	44.760	46.443	47.716	45.116	43.528
Denmark	28.526	29.372	29.714	27.444	28.798	35.045	33.393	32.802	32.011	34.968	37.028	39.901	36.471	34.841	29.388	37.027	38.328	38.949	38.364
Germany	437.452	437.884	447.101	461.012	457.292	446.668	476.349	487.485	486.106	527.143	549.073	604.293	646.342	628.334	519.369	588.312	622.271	596.443	602.467
Estonia	645	961	1.217	1.486	1.646	1.922	2.234	2.480	2.767	3.039	3.604	4.246	4.832	4.242	2.778	3.636	4.553	4.822	4.934
Ireland	18.366	21.246	27.237	30.672	35.905	42.600	49.472	57.402	59.446	61.274	63.538	64.962	69.765	61.684	55.882	58.149	64.583	66.049	64.105
Greece	51.176	56.109	60.519	61.299	63.845	64.234	67.220	69.337	76.217	83.909	83.266	91.860	97.076	98.470	92.832	83.099	73.324	69.178	67.733
Spain	145.108	155.300	152.884	162.041	169.495	182.832	200.687	215.459	226.545	237.451	249.364	266.329	286.406	290.924	278.174	263.854	268.883	272.654	276.372
France	250.295	252.472	260.445	281.999	287.693	308.405	320.903	321.988	326.862	342.739	345.192	359.871	387.932	386.476	332.598	354.282	353.985	347.380	341.530
Croatia	3.532	4.101	4.513	4.356	3.716	3.925	4.422	4.974	5.353	6.169	7.742	8.780	9.705	10.633	8.906	8.902	9.467	9.022	8.822
Italy	329.907	379.904	394.509	393.329	407.495	439.717	465.068	471.098	484.902	503.797	501.192	506.876	527.665	527.106	482.081	484.080	491.737	458.159	466.995
Cyprus	2.794	2.785	2.929	3.337	3.661	4.018	4.350	4.277	4.189	4.476	4.824	5.179	5.488	6.067	6.014	6.256	6.463	6.685	6.437
Latvia	332	355	601	726	899	1.519	2.026	2.580	2.724	3.209	3.628	4.155	5.335	5.154	3.889	3.811	4.980	5.459	5.601
Lithuania	1.478	2.133	2.819	2.984	2.876	4.135	4.870	5.427	6.114	6.799	7.903	8.549	10.365	10.988	8.287	9.619	11.606	12.664	13.220
Luxembourg	5.394	5.554	5.282	5.532	6.803	7.233	6.363	6.490	6.873	7.263	8.065	9.971	10.424	10.580	8.592	10.784	12.263	11.841	11.841
Hungary	7.120	7.632	9.568	10.201	10.818	11.282	14.183	18.041	17.900	20.461	22.377	23.440	24.543	25.946	20.846	21.466	22.880	21.077	22.607
Malta	779	867	971	1.102	1.171	1.379	1.281	1.390	1.477	1.407	1.590	1.603	1.770	1.921	1.795	2.086	2.052	2.156	2.286
Netherlands	80.321	82.557	89.953	95.947	98.568	108.163	112.429	112.738	113.408	119.197	128.793	144.356	156.268	161.226	142.729	152.023	156.630	148.721	144.847
Austria	39.367	40.392	41.048	43.296	44.809	48.572	50.442	52.273	53.271	58.517	63.029	68.478	74.115	73.011	64.368	67.490	71.971	70.533	69.158
Poland	32.980	36.583	41.182	46.491	47.272	60.327	66.806	68.329	64.179	74.946	90.440	102.427	118.382	132.369	123.931	139.971	150.238	155.127	159.997
Portugal	23.986	24.985	26.965	28.503	30.652	31.854	33.508	34.436	34.223	37.030	36.839	39.337	43.461	42.728	42.152	43.295	41.802	42.083	42.844
Romania	9.179	9.142	11.834	11.419	11.523	12.423	13.221	13.814	16.516	20.884	25.148	33.334	45.454	49.426	42.518	46.028	48.765	49.439	55.404
Slovenia	2.411	2.551	3.214	3.491	3.901	3.610	3.849	4.453	4.814	4.990	5.253	6.103	7.376	7.754	6.260	5.784	5.970	5.483	5.706
Slovakia	4.418	4.664	5.256	5.376	5.412	6.163	7.036	7.647	9.041	11.540	12.751	16.012	20.773	24.959	21.559	23.344	23.365	24.369	24.285
Finland	23.622	23.033	26.214	29.252	30.670	33.998	36.711	36.734	36.515	38.917	38.511	40.520	47.152	45.992	34.472	38.413	39.585	36.432	36.428
Sweden	49.180	48.246	48.932	47.488	49.169														

Efficiency Calculations

	2013					5-Yr Average (2009-2013)					Weights	RWS - Method 1		RWS - Rev		RWS - Method 2			
	Rate	Rev	Base	Rate x Base	Eff	Rate	Rev	Base	Rate x Base	Eff		2013 Avrg 09-13		2013 Avrg 09-13		2013 Avrg 09-13			
	nat	cur mil	nat cur mil	nat cur		nat	cur	nat cur	nat cur										
Belgium	34,0	12.294	34.998	11.899	103%	34,0	10.410	36.798	12.511	83%	1,79%	9.139	9.418	-	3.155	-	992	-395	2.102
Bulgaria	10,0	786	8.125	813	97%	10,0	724	8.742	874	83%	0,42%	624	658	-	162	-	66	26	151
Czech Republic	19,0	5.093	31.582	6.001	85%	19,2	5.091	33.573	6.444	79%	1,55%	4.609	4.850	-	484	-	240	907	1.353
Denmark	25,0	6.756	28.491	7.123	95%	25,0	5.737	26.751	6.688	86%	1,35%	5.471	5.034	-	1.285	-	702	367	951
Germany	30,2	70.215	434.407	131.191	54%	30,2	60.765	423.516	127.902	48%	11,80%	100.764	96.278	-	30.549	-	35.513	60.976	67.137
Estonia	21,0	62	4.034	847	7%	21,0	45	3.398	714	6%	0,01%	651	537	-	589	-	492	785	668
Ireland	12,5	4.272	48.920	6.115	70%	12,5	3.964	47.136	5.892	67%	1,86%	4.697	4.435	-	425	-	471	1.843	1.928
Greece	26,0	2.429	38.085	9.902	25%	25,3	4.200	40.624	10.293	41%	0,97%	7.605	7.748	-	5.176	-	3.549	7.473	6.094
Spain	30,0	:	193.241	57.972		30,0	#DIV/0!		-			44.527	-	-	-	-	-	-	-
France	36,1	56.120	204.224	73.725	76%	35,1	47.241	217.176	76.208	62%	7,89%	56.626	57.365	-	506	-	10.124	17.605	28.967
Croatia	20,0	890	4.023	805	111%	20,0	966	3.307	661	146%	0,28%	618	498	-	272	-	468	-85	305
Italy	31,4	40.377	175.282	55.038	73%	31,4	37.604	185.594	58.276	65%	7,02%	42.274	43.867	-	1.897	-	6.264	14.662	20.673
Cyprus	12,5	1.171	5.048	631	186%	10,5	1.137	4.776	502	227%	0,63%	485	378	-	687	-	759	-540	635
Latvia	15,0	370	4.308	646	57%	15,0	295	3.625	544	54%	0,12%	496	409	-	126	-	114	276	249
Lithuania	15,0	477	11.393	1.709	28%	15,8	386	9.493	1.500	26%	0,14%	1.313	1.129	-	836	-	744	1.232	1.114
Luxembourg	29,2	2.213	10.353	3.023	73%	28,8	2.201	9.803	2.825	78%	0,45%	2.322	2.126	-	109	-	74	810	624
Hungary	20,6	:	17.779	3.663		20,7	#DIV/0!		-			2.813	-	-	-	-	-	-	-
Malta	35,0	421	1.818	636	66%	35,0	344	1.642	575	60%	0,06%	489	433	-	68	-	89	215	231
Netherlands	25,0	14.074	79.387	19.847	71%	25,2	13.940	88.331	22.255	63%	3,24%	15.244	16.753	-	1.170	-	2.813	5.773	8.316
Austria	25,0	7.251	45.008	11.252	64%	25,0	6.265	45.705	11.426	55%	1,47%	8.642	8.601	-	1.391	-	2.336	4.001	5.161
Poland	19,0	6.993	119.188	22.646	31%	19,0	7.381	106.541	20.243	36%	2,28%	17.394	15.238	-	10.401	-	7.857	15.653	12.862
Portugal	31,5	5.537	27.212	8.572	65%	29,5	5.089	26.113	7.704	66%	1,01%	6.584	5.799	-	1.047	-	710	3.035	2.615
Romania	16,0	2.931	34.880	5.581	53%	16,0	2.977	27.104	4.337	69%	1,09%	4.286	3.264	-	1.356	-	288	2.650	1.360
Slovenia	17,0	433	1.188	202	214%	19,2	562	1.612	310	182%	0,17%	155	233	-	278	-	329	-231	252
Slovakia	23,0	2.118	19.294	4.438	48%	19,8	1.754	18.446	3.661	48%	0,52%	3.408	2.756	-	1.291	-	1.002	2.320	1.907
Finland	24,5	:	22.697	5.561		25,4	#DIV/0!		-			4.271	-	-	-	-	-	-	-
Sweden	22,0	11.912	54.816	12.059	99%	25,4	11.164	51.320	13.015	86%	2,58%	9.263	9.797	-	2.649	-	1.367	148	1.851
United Kingdom	23,0	49.713	306.079	70.398	71%	25,7	50.047	284.754	73.049	69%	11,44%	54.071	54.987	-	4.358	-	4.941	20.685	23.002
					77%				average weighted-avrg						52.323		72.308	160.192	188.122

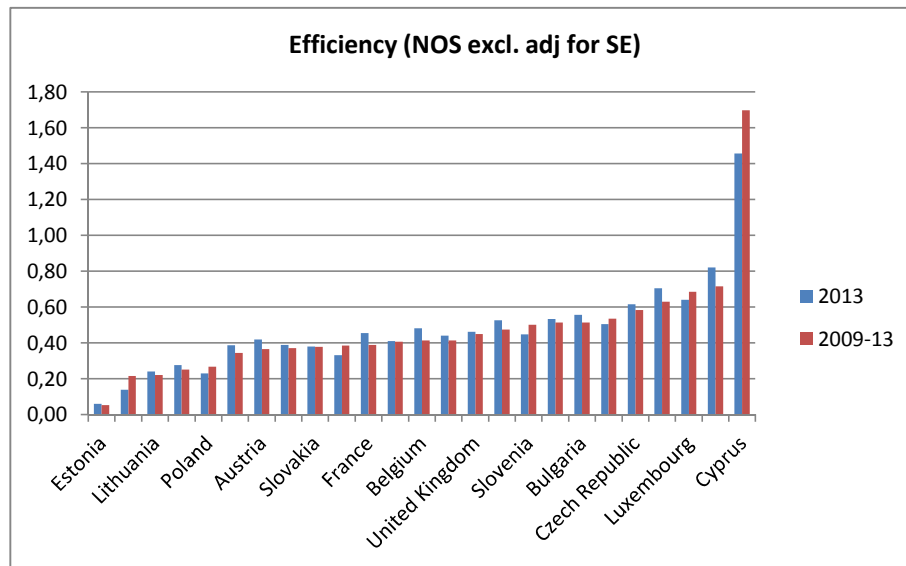


NOS incl. adj for SE

	2013	2009-13
Estonia	0,07	0,06
Lithuania	0,28	0,26
Poland	0,31	0,36
Greece	0,25	0,41
Germany	0,54	0,48
Slovakia	0,48	0,48
Latvia	0,57	0,54
Austria	0,64	0,55
Malta	0,66	0,60
France	0,76	0,62
Netherlands	0,71	0,63
Italy	0,73	0,65
Portugal	0,65	0,66
Ireland	0,70	0,67
United Kingdom	0,71	0,69
Romania	0,53	0,69
Luxembourg	0,73	0,78
Czech Republic	0,85	0,79
Bulgaria	0,97	0,83
Belgium	1,03	0,83
Sweden	0,99	0,86
Denmark	0,95	0,86
Croatia	1,11	1,46
Slovenia	2,14	1,82
Cyprus	1,86	2,27

Efficiency Calculations

	2013					5-Yr Average (2009-2013)					Weights	RWS		RWS - Rev		
	Rate	Rev	Base	Rate x Base	Eff	Rate	Rev	Base	Rate x Base	Eff		2013 Avrg 09-13	2013 Avrg 09-13			
	nat cur	mil nat cur	mil nat cur	nat cur		nat cur	nat cur	nat cur	nat cur							
Belgium	34,0	12.294	75.065	25.522	48%	34,0	10.410	73.981	25.154	41%	1,12%	12.149	11.840	-	145	1.430
Bulgaria	10,0	786	14.145	1.414	56%	10,0	724	14.087	1.409	51%	0,26%	673	663	-	113	61
Czech Republic	19,0	5.093	43.528	8.270	62%	19,2	5.091	45.512	8.735	58%	0,97%	3.937	4.112	-	1.156	979
Denmark	25,0	6.756	38.364	9.591	70%	25,0	5.737	36.411	9.103	63%	0,84%	4.565	4.285	-	2.190	1.452
Germany	30,2	70.215	602.467	181.945	39%	30,2	60.765	585.772	176.903	34%	7,33%	86.608	83.270	-	16.393	22.505
Estonia	21,0	62	4.934	1.036	6%	21,0	45	4.145	870	5%	0,01%	493	410	-	431	364
Ireland	12,5	4.272	64.105	8.013	53%	12,5	3.964	61.753	7.719	51%	1,16%	3.814	3.634	-	458	330
Greece	26,0	2.429	67.733	17.610	14%	25,3	4.200	77.233	19.569	21%	0,60%	8.383	9.211	-	5.954	5.012
Spain	30,0	:	276.372	82.912		30,0	#DIV/0!		-			39.467	-	-	-	-
France	36,1	56.120	341.530	123.292	46%	35,1	47.241	345.955	121.397	39%	4,90%	58.689	57.143	-	2.569	9.902
Croatia	20,0	890	8.822	1.764	50%	20,0	966	9.024	1.805	54%	0,18%	840	850	-	50	117
Italy	31,4	40.377	466.995	146.636	28%	31,4	37.604	476.610	149.656	25%	4,36%	69.801	70.444	-	29.424	32.841
Cyprus	12,5	1.171	6.437	805	146%	10,5	1.137	6.371	670	170%	0,39%	383	315	-	788	822
Latvia	15,0	370	5.601	840	44%	15,0	295	4.748	712	41%	0,07%	400	335	-	30	40
Lithuania	15,0	477	13.220	1.983	24%	15,8	386	11.079	1.751	22%	0,09%	944	824	-	467	438
Luxembourg	29,2	2.213	11.841	3.458	64%	28,8	2.201	11.161	3.216	68%	0,28%	1.646	1.514	-	567	687
Hungary	20,6	:	22.607	4.657		20,7	#DIV/0!		-			2.217	-	-	-	-
Malta	35,0	421	2.286	800	53%	35,0	344	2.075	726	47%	0,04%	381	342	-	40	2
Netherlands	25,0	14.074	144.847	36.212	39%	25,2	13.940	148.990	37.539	37%	2,02%	17.237	17.670	-	3.163	3.730
Austria	25,0	7.251	69.158	17.289	42%	25,0	6.265	68.704	17.176	36%	0,91%	8.230	8.085	-	979	1.820
Poland	19,0	6.993	159.997	30.399	23%	19,0	7.381	145.853	27.712	27%	1,42%	14.470	13.044	-	7.478	5.664
Portugal	31,5	5.537	42.844	13.496	41%	29,5	5.089	42.435	12.519	41%	0,63%	6.424	5.893	-	888	804
Romania	16,0	2.931	55.404	8.865	33%	16,0	2.977	48.431	7.749	38%	0,68%	4.220	3.648	-	1.289	671
Slovenia	17,0	433	5.706	970	45%	19,2	562	5.841	1.122	50%	0,11%	462	528	-	29	34
Slovakia	23,0	2.118	24.285	5.586	38%	19,8	1.754	23.384	4.641	38%	0,32%	2.659	2.185	-	541	431
Finland	24,5	:	36.428	8.925		25,4	#DIV/0!		-			4.248	-	-	-	-
Sweden	22,0	11.912	65.920	14.502	82%	25,4	11.164	61.544	15.607	72%	1,60%	6.903	7.347	-	5.009	3.817
United Kingdom	23,0	49.713	468.218	107.690	46%	25,7	50.047	433.809	111.287	45%	7,11%	51.262	52.384	-	1.549	2.337
					48%				average	47%					60.666	79.688
									weighted-avrg	37%						



NOS excl. adj for SE

	2013	2009-13
Estonia	0,06	0,05
Greece	0,14	0,21
Lithuania	0,24	0,22
Italy	0,28	0,25
Poland	0,23	0,27
Germany	0,39	0,34
Austria	0,42	0,36
Netherlanc	0,39	0,37
Slovakia	0,38	0,38
Romania	0,33	0,38
France	0,46	0,39
Portugal	0,41	0,41
Belgium	0,48	0,41
Latvia	0,44	0,41
United Kinę	0,46	0,45
Malta	0,53	0,47
Slovenia	0,45	0,50
Ireland	0,53	0,51
Bulgaria	0,56	0,51
Croatia	0,50	0,54
Czech Rept	0,62	0,58
Denmark	0,70	0,63
Luxembour	0,64	0,68
Sweden	0,82	0,72
Cyprus	1,46	1,70

This paper assesses the loss of tax revenue to the EU through aggressive corporate tax planning to be around EUR 50-70 billion per annum. On an assumption of no base from sources other than profit shifting, then this figure jumps to EUR 160-190 billion. The paper presents the methodology used and the country-by-country calculations on which these figures are based. It describes the common tools used in aggressive planning, and the impacts these have on tax revenue, concluding with an assessment of the inefficiencies created by individual tax arrangements for large multinational companies in the European Union.

This is a publication of the European Added Value Unit
EPRS | European Parliamentary Research Service
European Parliament

The content of this document is the sole responsibility of the author and any opinions expressed therein do not necessarily represent the official position of the European Parliament. It is addressed to the Members and staff of the EP for their parliamentary work

PE: 558.773

ISBN 978-92-823-7991-2

doi:10.2861/386200

QA-04-15-644-EN-N

www.europarl.europa.eu/thinktank (Internet) – www.eptthinktank.eu (blog) – www.eprs.sso.ep.parl.union.eu (Intranet)