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An implicit tax rate for non-financial corporations: Definition and comparison with other tax indicators

Working paper n° 5/2004

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TAXATION PAPERS

AN IMPLICIT TAX RATE FOR NON-FINANCIAL CORPORATIONS: DEFINITION AND COMPARISON WITH OTHER TAX INDICATORS

by

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Working paper n°5 December 2004

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http://europa.eu.int/comm/taxation_customs/taxation/taxation.htm

¹ Economic analysis of taxation unit, DG Taxation and Customs Union, European Commission. I would like to thank Marcel Gerard from the catholic university in Mons (FUCaM), Sytze de Boer from the Ministry of Finance of the Netherlands and my colleague Carola Maggiulli for their useful comments on a previous version of the paper.

Summary

This paper develops a macroeconomic implicit tax rate for non-financial corporations based on national accounts data. This indicator is compared with a more micro-oriented implicit tax rate based on accounting data collected in the BACH database (Bank for the Accounts of Companies Harmonised) of the European Commission and the all-in top statutory corporate tax rate.

Implicit tax rates (ITR) are backward looking tax indicators which measure the average effective tax burden. In the publication 'Structures of the Taxation systems in the EU' implicit tax rates for different economic functions (consumption, labour capital) are compiled by relating tax revenue data from national accounts to an approximation of the potentially taxable base in the economy. The ITR on capital and business income is a summary indicator for the whole private sector that is sometimes not easy to interpret. The paper explains its merits and drawbacks.

For having more policy oriented backward looking tax indicators a split of the ITR for the capital and business income of households and (financial and non-financial) corporations is developed. The methodology of national accounts needs to be carefully respected in order to avoid biased indicators. This concerns in particular the recording of partnerships' economic activity and the income of financial corporations that they earn on behalf of insurance policy holders.

The ITR on non-financial corporations has been rising sharply between 1995 and 2000. In 2001 in most of the EU-15 countries a reduction in the ITR is discernible, partly offsetting the increase in prior years. For explaining this development four main channels of influence have been identified: The ITR is sensitive to the business cycle and in addition, the taxation of capital gains in this period of booming stock markets has led to an overestimation of the average effective tax burden. Moreover, empirical evidence exists to suggest that corporations changed their way of financing (and their distribution of profits) with less interest and more dividend payments. Most tax systems in the EU are not neutral towards different forms of investment-financing. The shift towards more dividend distributions results on average in a higher tax burden on companies' profits. All these factors have disguised the cuts in the nominal statutory tax rates on corporations. However, the cuts were often accompanied by measures that broadened the taxable base.

In order to check the increasing trend in the ITR on non-financial corporations the indicator is compared to a micro-oriented implicit tax rate based on the accounting data collected in the BACH database. For the EU average the 'ITR Bach' decreased slightly in the years 1995 to 2001. Conceptual differences in profit determination in the commercial profit and loss accounts and in national accounts proved to be important in explaining these diverging trends. For illustrative purposes an 'ITR Bach NA' using the accounting data is computed that applies a similar calculation of profits to national accounts. For this indicator a slight increase over the whole period is discernible, like for the ITR on non-financial corporations. With the exception of Belgium, the correlation between both indicators is higher in countries where the BACH data is built on a representative sample.

In conclusion, the ITR Bach seems not to be the preferable indicator per se. Taking the greater international comparability of national accounts into account, the ITR on non-financial corporate income still seems to be a useful tool in assessing the average effective tax burden for the whole sector of non-financial corporations.

Keywords: Implicit tax rates, Backward-looking tax indicators, International comparative analysis, Corporate Taxation

JEL Classification: C82, H25, H32

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Introduction

The 'Structures of the taxations systems in the EU' published by Taxation and Customs Union Directorate-General of the European Commission and Eurostat (European Commission 2004) presents backward-looking indicators for the effective average tax burden levied on different economic functions, so called implicit tax rates. The implicit tax rate (ITR) on capital and business income measures the average effective tax burden for households and corporations by using an approximation of a potentially taxable base that is comparable across countries. This is only a summary indicator for the whole private sector which is sometimes not straightforward to interpret. Its interpretation would profit from a breakdown into tax ratios which are closer to tax legislation concepts. Therefore, this paper presents a split of the ITR on capital income between ITR on capital income of households and ITR for capital income of (financial and non-financial) corporations.

Such a split is preferable from a policy maker perspective. It can deliver an international comparable indicator on the average effective tax burden levied on (financial and non-financial) corporations in past years. In any case it is not meant to be a measure or a proxy for a marginal tax rate on investment capable to measure incentives and disincentives for investment projects, and can therefore not be directly compared to these kinds of indicators. Implicit tax rates take into account both incentives and the reactions by economic agents.

The paper is organised as follows: Chapter 2 recapitulates the definition of the ITR on total capital income with its most important drawbacks that have to be kept in mind when commenting trends of such indicators. Chapter 3 deals with the question of splitting the ITR on capital income between corporations and households. While the split of tax revenues is comparatively easy in most Member States, problems arise when dividing the ITR denominator. One problem is related to the treatment of unincorporated companies in national accounts on one hand, and in tax legislation on the other. The other problem concerns property income of insurance companies and pension funds that they earn on behalf of policy holders. Recently, in the Eurostat database for national accounts a split of the taxes on the income or profits of corporations between non-financial and financial corporations became available.² These data are used to define ITRs for these two sectors. Moreover, the denominators for these indicators are more straightforward compared with the definition for all corporations since problems of consolidation of flows, encountered when referring to the corporations sector in total, do not appear.

Chapter 4 compares the ITR on non-financial corporate income with indicators based on accounting data of the BACH database (Bank for the Accounts of Companies Harmonised) of the European Commission and with the all-in top statutory tax rate. Firstly, some differences between profit determination in company accounts and national accounts are investigated. There exist important conceptual discrepancies of the two accounting frameworks leading to differences of the implicit tax rates compiled with national accounts and the Bach database. Secondly, in order to illustrate the importance of these differences, an additional ITR within the Bach framework is defined that reveals a more similar approximation of potentially taxable profit compared to the ITR based on national accounts. In most Member States, ITR for non-financial corporations lies in a reasonable order of magnitude compared to the other indicators. When comparing the developments of the different indicators over time, the picture is more mixed. Chapter 5 concludes.

² With the exception of Ireland and Luxembourg for which the full set of sectoral accounts is still not available.

1. THE ITR ON CAPITAL INCOME AND ITS MERITS AND DRAWBACKS

One major improvement in the 2003 edition of the ‘Structures of the taxation systems in the European Union’ (European Commission 2003) was to move away from a residual concept of an ITR on ‘other production factors’ of the previous edition (European Commission 2000) to ITRs on capital and capital income (box 1). Capital is defined in a broad sense, including physical capital, intangibles and financial investment and savings. Corporations and households (including self-employed) both pay taxes on capital. Taxes on *capital and business income* that economic agents earn or receive from domestic resources or from abroad are therefore calculated for the whole private sector. This includes taxes on income or profits of corporations, taxes on income and social contributions of the self-employed, plus personal income tax raised on capital income of households (rents, dividends and other property income). In practice, this is mainly the personal income tax paid on dividend, interest and entrepreneurial activity (part of D51A, in the terminology of ESA95 codes) and corporate income tax (D51B) as well as capital gain taxes (D51C).

The new method to allocate the personal income tax revenues to the different sources of income (labour, capital, self-employment and transfers) can be regarded as another major improvement in measuring the effective average tax burden on capital and business income. Under an approach using only aggregate data from national accounts, total personal income tax raised on labour or capital income is often estimated using the proportion of aggregate labour or capital income in the aggregate taxpayer income (Mendoza et al 1994; Martinez-Mongay 2000). This approach basically assumes that effective average rates of personal income tax are equal across different taxable income sources and across different groups of taxpayers. This assumption is generally unrealistic, and this has called for a new approach using more detailed income tax statistics from national tax departments. Actually, allocating the income tax revenues to different taxable income sources is complicated, both conceptually and in practice. Member States used the best methods available to them. A majority of Member States has used data sets of individual taxpayers to estimate the allocation of the personal income tax. Of course, the remaining heterogeneity in the splitting methods by Member States is more discernible for the category capital and self-employed compared to the labour category. This can lead to distortions in cross-country comparisons.

Box 1 Definition of the implicit tax rate on capital and business income

Implicit tax rate on capital and business income (ESA95)	$\frac{\text{Taxes on capital and business income /}}{\text{B2n_S11-12} + \text{B2n_S14-15} + \text{B3n_S14} + \text{D41_S11-12rec} - \text{D41_S11-12pay} + \text{D45_S11-12rec} - \text{D45_S11-12pay} + \text{D42_S11-12rec} - \text{D42_S11-12pay} + \text{D42_S13rec} + \text{D42_S2rec} + \text{D41_S14-15rec} - \text{D41_S14-15pay} + \text{D45_S14-15rec} - \text{D45_S14-15pay} + \text{D42_S14-15rec}}$
<u>Numerator:</u>	
D51A	Taxes on individual or household income (part paid on capital and self-employed income)
D51B	Taxes on the income or profits of corporations
D51C	Taxes on holding gains
D51D	Taxes on winnings from lottery and gambling
D51E	Other taxes on income n.e.c.
D6113	Social contributions of self-employed
<u>Denominator:</u>	
B2n_S11-12 (incl.	Net operating surplus of non-financial and financial corporations quasi-corporations)
B2n_S14-15	Imputed rents of private households and net operating surplus of non-profit institutions
B3n_S14	Net mixed income of self-employed
D41_S11-12rec	Interest received by non-financial and financial corporations
D41_S11-12pay	Interest paid by non-financial and financial corporations
D45_S11-12rec	Rents on land received by non-financial and financial corporations
D45_S11-12pay	Rents on land paid by non-financial and financial corporations
D42_S11-12rec	Dividends received by non-financial and financial corporations
D42_S11-12pay	Dividends paid by non-financial and financial corporations
D42_S13rec	Dividends received by general government
D42_S2rec	Dividends received by rest of the world
D41_S14-S15rec	Interest received by households, self employed and non-profit organisations
D41_S14-S15pay	Interest paid by households, self employed and non-profit organisations
D45_S14-S15rec	Rents on land received by households, self employed and non-profit organisations
D45_S14-S15pay	Rents on land paid by households, self employed and non-profit organisations
D42_S14-15rec	Dividends received by private households, self-employed and non-profit organisations

The definition of the ITR tax base is fully exploiting the sector accounts of ESA95, resulting in an improved measurement of the tax burden on capital. It aims to approximate the world-wide capital income of its residents for domestic tax purposes. This does not mean that on the side of companies profits of foreign affiliates are consolidated within the (domestic) parent company. National accounts disregard the foreign ownership of subsidiaries located on the economic territory when the generation of profits is recorded. They are simply treated as domestic companies.³ However, the

³ The profits of foreign affiliates are recorded in the distribution of income as 'reinvested earnings on foreign direct investment' (D43) between the parent and subsidiary company. The flow D43 paid in

base of the ITR does not measure the actual base of tax legislation, which drives tax revenues. So in practice it is not easy to link developments in the overall ITR on capital and business income to the various statutory tax rates and other policy changes.

One of the great advantages of this backward-looking indicator is the comparability due to the consistency and harmonised computation of ESA95 national accounts data. This can only be exploited by using the same denominator for all countries, and not accounting for country specific peculiarities in national tax legislation. The attractiveness of this approach lies in the fact that all elements of taxation are implicitly taken into account, such as the combined effects of statutory rates, tax deductions and tax credits. They include also the effects on tax revenues of the composition of income, or the distribution of companies. Further, effects of tax planning, as well as the tax relief available (e.g., tax bases which are exempted below a certain threshold, non-deductible interest expenses), are also taken implicitly into account.

These advantages are accompanied by some shortcomings. Any timing differences that arise because of lags in tax payments and business cycle effects may give rise to significant volatility in these measures. They will also vary to the extent that the denominator diverges from the legislative tax base. It is therefore sometimes not straightforward to explain trends in these measures. But this does not mean they are meaningless: they are a reduced model of all variables influencing taxation, tax rates and tax bases.⁴

Capital and business income according to national accounts is defined as profits and property income. Profits are defined as net operating surplus (B2n) of the private sector including corporations (and quasi-corporations), private households, and non-profit institutions and mixed income (B3n) of the self-employed. The net operating surplus of the government sector is excluded, because losses or profits of the government are not subject to taxation. The gross operating surplus of the private sector also includes the net operating surplus of financial institutions including interest based profits measured by the aggregate Financial Intermediation Service (FISIM) in national accounts⁵.

There is no simple way of approximating the tax base for property income (mainly interest and dividends) for the whole private sector. Compared to the 'Structures' based on ESA79 data, we switched from net interest payments of the government to a specifically defined balance of property income of the private sector (received minus paid). The objective for the definition of this balance was to approximate the potentially taxable profit of a company and the taxable capital income of private households.

Taxable profits of companies consist of net operating profit and property income received (financial income) less certain deductible elements of property income paid. The property income deductible from the tax base includes interest (D41), property income attributed to insurance policy holders (D44) and rents on land (D45). Dividends (part of distributed income of corporations - D42) are part of the financial income but they cannot

national accounts means that subsidiaries in the host country have retained profits and this is attributed to the parents abroad in national accounts. The flow D43 received consists of retained profits of subsidiaries abroad attributed to the parents companies in the investigated country. Both flows can have a negative sign in the case of losses of the subsidiaries. The solution for the ITR tax base is not taking reinvested earnings on foreign direct investments into account. On the one hand the profit (or loss) of a parent earned abroad is not counted. On the other hand the retained profits (or losses) of foreign subsidiaries in the home country is not deducted from the ITR tax base.

⁴ An excellent overview of the advantages and drawbacks of different tax indicators gives OECD (2000)

⁵ This aggregate nets off when the profit of the whole economy is considered. This is another reason for limiting the tax base to the private sector.

be deducted to calculate the taxable base in national tax legislation⁶. For private households, the taxable capital income consists almost completely of interest and dividend payments received and of property income attributed to policy holders received from insurance companies and pension funds.

The balance of D44 received minus paid usually nets off for the whole private sector. The definition takes into account the received property income from abroad and improves the measurement of profits from banks and insurance companies. However, for the ITR on capital several sources of bias compared to taxable profits remain:

- Since the calculation of depreciation of fixed capital in national accounts uses prices of the current period, it differs a lot from methods used in profits and loss accounts. Additionally, the calculation of consumption of fixed capital is not comparable across countries. This could lead to additional biases in measuring the effective tax burden on capital.
- Capital gains are not part of profits in national accounts because they are not related to the production process. This important part of taxable profits of (financial) companies is disregarded in calculating the denominator and leads to an overestimation of the ITR on capital and business income as far as capital gains are taxed.. The same is true as regards the capital gains of private households, which are often taxed under the personal income tax. All this is likely to affect international comparability, as some countries have a greater share of financial company profits including gains.
- Central banks are part of the financial corporations sector in national accounts. The inclusion of their (non-taxable) profits in the denominator leads to an underestimation of the ITR on capital and business income.
- For taxable third-pillar private pension benefits, treated as income from capital in the split of the personal income tax (PIT), no corresponding income flow is recorded in national accounts. Ignoring these benefits in the potentially taxable capital and business income in the denominator leads to an overestimation of the ITR.
- In the Eurostat data of national accounts for the EU Member States, interest payments by private households and self-employed are not available separately. Taking the total net interest as part of the denominator accounts for tax deductible interest payments of self-employed but leads to an overestimation of the ITR on capital because interest payments for mortgage and consumer loans are not tax-deductible in most Member States.
- Unlike net operating surplus, taxable profits and tax revenues are reduced by losses carried forward, causing a cyclical mismatch with the base and cyclical fluctuation in the ITR, which sometimes makes the trend difficult to interpret. This may also distort international comparisons. In addition, the difference in the measurement of imputed rents on owner-occupied dwellings between national accounts and tax legislation is another source of bias.

⁶ The ITRs for the whole private sector avoids a double counting of dividends that are distributed by domestic companies out of their operating profits by deducting dividends paid to domestic private households or other domestic companies are from the capital ITR tax base.

2. SPLITTING THE ITR ON CAPITAL INCOME BETWEEN CORPORATIONS AND HOUSEHOLDS

The overall ITR on capital and business income for corporations and households is influenced through various channels. Therefore, developments of this indicator are sometimes difficult to explain. Although difficulties of interpretation stemming from the backward looking character of the data will remain, the reading of separate ITRs for the corporations sector and household sector is easier: The numerator of the overall ITR can be split using the allocation of taxes to the category 'income corporations', '(capital) income households' and 'income self-employed' presented in the 'Structures'⁷. In most countries, tax revenues raised on corporate income equal the aggregate D51B 'Taxes on the income or profits of corporations', although in some countries like Germany, Italy and Austria revenues from local or regional business taxes are added. In general, the other tax categories of the overall ITR numerator are allocated to the household sector.

The denominator of the ITR on capital and business income for households includes mixed income of self-employed, net operating surplus of households, dividends received and the balance of received and paid interest and rents (see annex box-A2) . The denominator for corporations consists of their net operating surplus, their balance of received and paid interest and rents and a specific balance of dividends (see annex box A1).

In principle, dividends are part of the taxable financial income of a company. They are subject to double taxation because corporate taxes have been levied on the profit at the level of the distributing company. In order to limit or offset the double taxation at the level of the shareholder (corporation or individual) Member States apply different taxation schemes (imputation or exemption). However, most countries do not offset fully the double taxation.⁸ If the dividends received are part of the potentially taxable base, the ITR on corporate income will be lower in those countries which give greater relief for the double taxation of dividends compared to a country that fully applies the classical system.

However, it would be too simple to count only the dividends received by financial and non-financial corporations. Dividends would be partly counted twice because they are distributed out of the net operating surplus that is already part of the denominator. Dividends distributed by a company belonging to the sector of financial or non-financial corporations should not be counted. Only dividends received from abroad should be taken into account when constructing the ITR for all corporations.

Unfortunately, the amount of dividends distributed from the rest of the world to domestic corporations is not available in the Eurostat database of national accounts. For dividends (and nearly all other flows in national accounts), we only know what a specific sector receives from all other sectors and what it pays to all other sectors. But also with this information the dividends received by corporations from abroad can be approximated: From the total sum of dividends received by corporations (D42rec_S11-12) we deduct the dividends distributed by domestic corporations (D42pay_S11-S12) in order to avoid double counting.

⁷ Annex B of 'Structures of the taxation system in the European Union' shows for each Member State a detailed classification to the different categories (European Commission 2004).

⁸ For an overview of the schemes that apply for the individual shareholder see European Commission 2003b

However, this deduction is too big. Only the dividends distributed to domestic corporations should be subtracted. Therefore, dividends received by the government (D42rec_S13), the rest of the world (D42rec_S2) and households (D42rec_S14-15) are added to the denominator. This approximation is only fully correct under the assumption that the government and households do not receive dividends directly from abroad but through domestic banks and insurance companies. While this assumption seems reasonable for the government, it can be expected that households receive a certain part of dividends from abroad, meaning that the dividends included in the denominator are overestimated.

Because of the double taxation of dividends at the company level and at the shareholder level these payments (or the underlying profits) need to be included in both indicators, for corporations and for households. With these definitions the implicit tax rates on capital and business income for households and on corporate income do not sum up to the overall implicit tax rate. For the overall implicit tax rate on business and capital income the dividend payments between the corporation and the household sector need to be consolidated.

2.1. Sectoral mismatch of recording partnerships' economic activity and their tax payments

The corporation sector in national accounts also comprises partly unincorporated enterprises, the so-called quasi-corporations. These quasi-corporations have no independent legal status and keep a complete set of accounts. However, they have an economic and financial behaviour that is different from that of their owners and similar to that of corporations. Therefore, they are deemed to have autonomy of decision and are considered as distinct institutional units (ESA 1995)

In many countries, these quasi-corporations also have to pay corporate income tax. However, there are some important exceptions. In Germany, a big part of all companies consists of partnerships (mainly "Personengesellschaften") that are treated as quasi-corporations. Their production and profits etc. are recorded in the corporations sector in national accounts. Because they do not have an independent legal status, their owners are taxed under the PIT scheme. The related tax payments are recorded within the household sector in national accounts⁹. In the 'structures'-classification, they are reported within 'taxes on self-employed'.

Actually, this means that tax revenues are booked in a different sector than the underlying business income. Ignoring this booking principle by calculating ITRs on capital income for corporations or households (including self-employed), using the sector information of national accounts without corrections would lead to biased ITRs. Similar problems like in Germany exist in Luxembourg, Austria, Finland and Portugal.

For Germany, a correction of the ITR on corporations has been introduced by using additional information from the Statistical Office. A fraction of PIT for owners of these quasi-corporations is not available. Therefore, the part of PIT from self-employed that includes the taxation of profits from partnerships is extracted from the ITR on households and allocated to the corporation sector¹⁰. At the same time, the approximation of the tax base for self-employed is also assigned to the corporation sector. This tax base consists of mixed income minus interest payments of self-employed. By making this

⁹ PIT revenues are also recorded in the government sector which receives the payments.

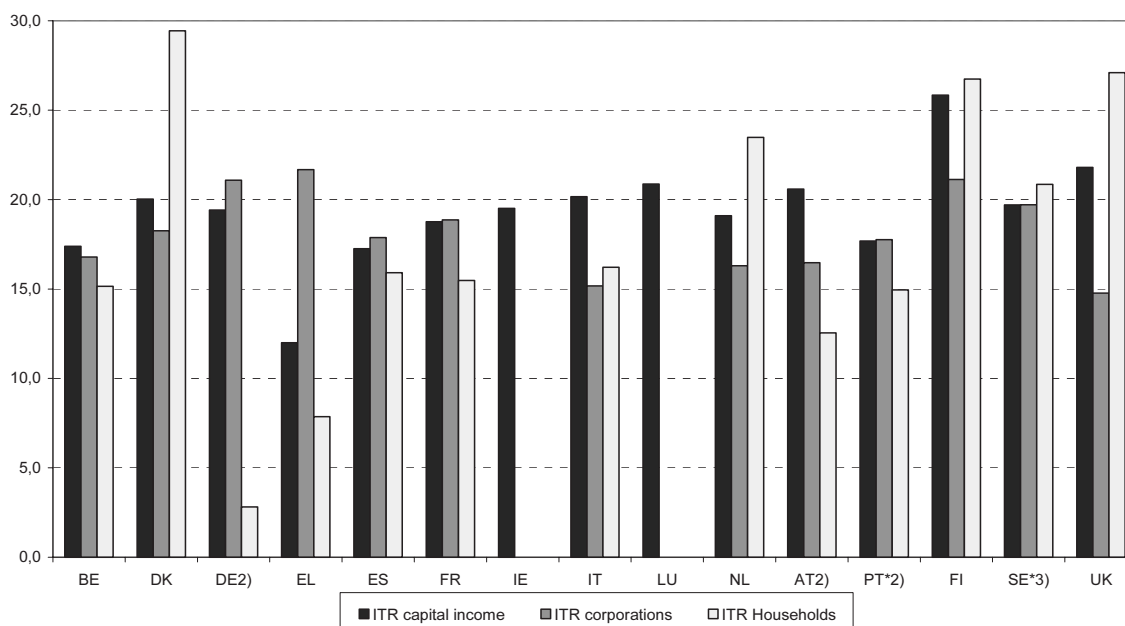
¹⁰ Since we have no information on whether these partnerships belong to the non-financial or financial sector, we assume that the dominant part are non-financial companies and allocate PIT from self-employment and the share of the mixed income to the respective sector.

correction for Germany, an ITR for all companies including incorporated and unincorporated businesses results.

For Austria, although partnerships are less important compared to Germany¹¹, a similar correction is calculated. According to Statistics Austria, all mixed income is related to self-employed. A split of interest payment of the household sector between private households and self-employed is not available. Assuming that the interest payments of households are mainly related to the debt of the self-employed we allocate mixed income less interest payments of households and the PIT of self-employed to the corporation sector in order to calculate the corrected ITR. The same amendments are applied to compile a corrected ITR for Portugal. According to information from Statistics Finland, the bias in Finlands ITRs is of minor importance.

Leaving the peculiarities in these countries aside, a split of the ITR on capital and business income between corporations and households is rather simple. For Ireland and Luxembourg, due to lack of a full set of sectoral accounts, such a split is not available up to now. For these two countries, a simplified definition for the ITR on capital has to be used referring to the total net property income of the private sector. Looking at the results of the preliminary ITR split for the average between 1995 and 2002 (graph 1), a majority of Member States have a higher ITR on corporations compared to the ITR on capital and business income of household. For Denmark, the Netherlands, Italy, Finland, Sweden and the United Kingdom, however, the first estimations result in a higher capital ITR on households.

Graph 1 Split of the ITR on capital and business income between corporations¹⁾ and households
Average 1995 - 2002 in %



1) incl. quasi-corporations. - 2) self-employed allocated to corporations. - 3) incl. net reinvested earnings from foreign direct investment.
* 1995 - 2000.

¹¹ According to turnover tax statistics partnerships in Austria account for 15% of total turnover in 2000 whereas in Germany the account for about 30%.

2.2. Assigning capital income to financial corporations or households

When splitting the ITR on capital income for (non-financial and financial) corporations and households, the flows of property income between these two sectors are of particular importance. A clear split can be made for the national accounts categories interest payments (D41) and rents (D45). Because of the double taxation of dividends at the company level and at the shareholder level these payments (or the underlying profits) need to be included in both indicators, for corporations and for households. But with the 'property income attributed to insurance policy holders (D44)' there exists another income flow for distributing profits from financial corporations to private households.

Insurance companies and pension funds collect contributions related to their insurance policies or schemes, and after deducting their operating costs they invest them in the capital market or in other assets. From this (financial) investment they receive property income in the form of interest, dividends or rents as well as capital gains through trading stocks, bonds etc. This return on investment constitutes partly the profit of the insurance companies, partly it belongs to the insurance policy holder as laid down in the insurance contract. It is that part attributed to the policy holders (excluding capital gains)¹² that in national accounts is transferred via the D44 mainly to private households in the period when this property income accrued.

In principle, most EU-Member States provide a tax exemption of this income in the hands of the financial institution. Several methods are used. In some cases, the institution is tax-exempt (certain pension funds), in other cases income is exempt or neutralised in the profit-calculation by deducting an insurance technical reserve. However, some Member States levy a withholding/capital yield tax on this income which is not always neutralised on the level of the company.

With the preliminary split of the ITR on capital income for corporations and households, not explicitly referring to the flow D44, the return on investment was fully allocated to financial corporations. It was based on the fact that there is no actual flow of income in the period in which insurance companies earn income on behalf of policyholders. In national accounts, income received by insurance companies or pension funds by investing their technical reserves in financial assets or buildings is only 'attributed' to policy insurance holders. It is 're-collected' afterwards through imputed higher insurance contributions. Because these flows are purely imputed within national accounts, no taxes - at this stage - are raised on the level of the insurance policy holder.

The ITR tries to measure the effective tax burden on an internationally comparable potentially taxable base in the economy. In some countries, capital yield taxes are levied on this kind of income on the company level. These taxes are allocated to the corporation sector within national accounts. This is another argument for including all property income of insurance companies in the ITR tax base even if neutralised through building of technical reserves. In those countries where D44 would be fully tax exempted at the company level, the ITR would be simply lower compared to other countries.

Another possibility for constructing the ITR tax base for corporations would be to exclude D44 from the denominator of the implicit tax rate on (financial) corporations because the tax exemption of such earning is the dominant regime for the taxation of pension funds and insurance companies in Europe. It would mean that D44 paid by financial corporations has to be deducted from the ITR tax base. In the countries where

¹² The capital gains are not recorded in the generation and distribution of income accounts. Some information can be found in the revaluation accounts. Up to now we have not tested whether these data could be used for our purposes.

capital yield taxes are levied on these earnings and the tax revenues are allocated to corporations, the ITR on corporations would be overestimated.

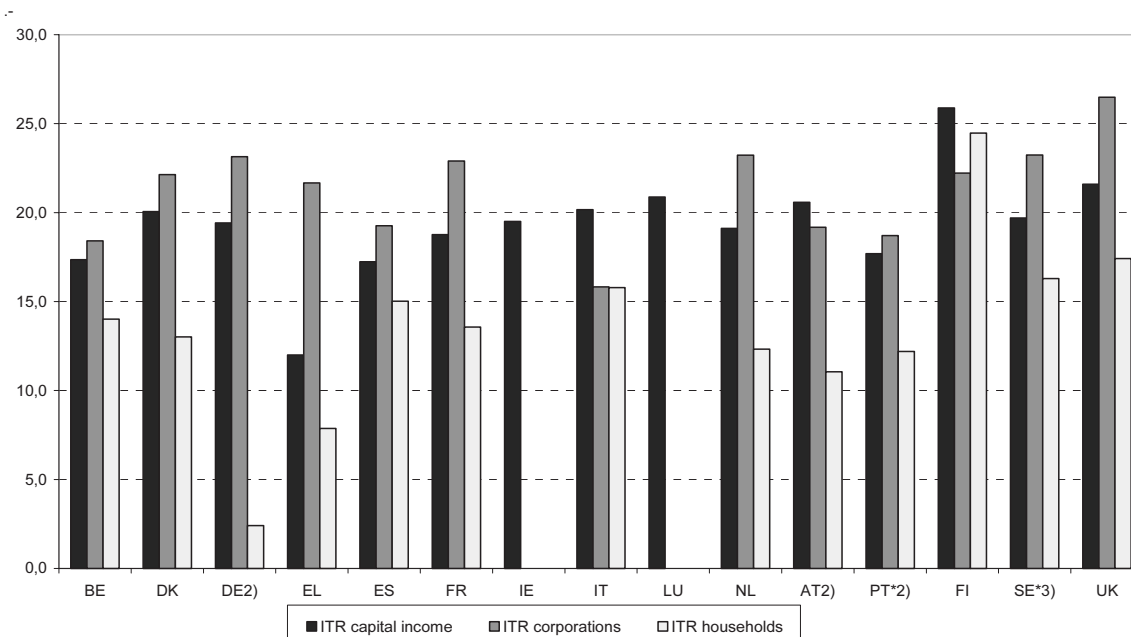
In turn, D44 would be added to the ITR tax base for the capital income of the household sector. In most countries, private households are taxed on the benefits or distributions by pension funds or insurance companies when the payoff period starts. This can be an amount of capital or an annuity. For the definition of an ITR on capital income for households this means that we encounter a problem of periodicity. With the property income earned on behalf of the policy holder period by period, insurance companies build up reserves (liabilities) in order to pay the benefits in later periods. However, D44 could be regarded as proxy for the taxable part of pension benefits and insurance payoffs, which would not include the initial contributions or premiums.

For the private sector as a whole, including or excluding D44 (received minus paid) from the tax base has no major empirical impact on the ITR on capital income since the net D44 is close to 0 and represents nearly exclusively a flow from financial corporations to households (table A.1 and A.1a in the annex). But this imputed flow is important when we split our implicit tax rate on capital and business income between corporations and households, because it is mainly paid by domestic insurance companies and received by households. Graph 1 shows that in most Member States the average implicit tax rate for corporate income is higher than the implicit tax rate on capital income of households. The exceptions are Denmark, Italy, the Netherlands, Finland Sweden and the UK. Most of them are countries in which the second and third pillar pension schemes play an important role. Consequently, returns on investments on behalf of insurance policy holders that are included in the denominator of the ITR on corporations represent a significant share.

Graph 2 presents the average ITRs for the income of corporations and households computed on the principle of the second possibility for allocating D44. Now, with this other definition of the denominators (D44 corrected in box A-1 and A-2), in all countries the ITR on corporate income is higher than the ITR for capital income of households. The reallocation of D44 seems to have only a limited impact on the average ITRs for Belgium, Greece, Spain, Austria, Portugal and Finland. In Germany and Italy, only the ITR on corporations seems to be affected. A major change can be observed in Denmark, France, the Netherlands, Sweden and the United Kingdom; with the exception of France, all countries where (funded) 2nd and 3rd pillar pension schemes play an important role.

From a methodological point of view there are justifications for both possibilities of allocating D44 to households or leaving it a part of the ITR tax base for financial corporations. However, from the perspective of the order of magnitude for the different ITRs, the second allocation seems to be more reasonable in most of the countries. This has to be investigated in more detail, taking into account the different tax provisions of Member States for the taxation of insurance companies and pension funds. At the same time, this allocation might be affected by the re-examination of classifications for pension schemes in national accounts currently under way at the European and international level (IMF, Eurostat).

Graph 2 New split of the ITR on capital and business income between corporations and households by reallocating D44
Average 1995 - 2002 in %



1) Split corporations - households not available.- 2) incl. net reinvested earnings from foreign direct investment.- 3) self-employed allocated to corporations.
* 1995 - 2001.

2.3. Splitting between non-financial and financial corporations

Recently, the splitting of tax revenues for the category D51B 'Taxes on the income or profits of corporations' between non-financial and financial corporations became available in national accounts. By applying the respective fraction to tax revenues allocated to the 'income corporations' category in the 'Structures', the numerator of ITRs on corporate income for the sectors non-financial corporations (S11) and financial corporations (S12) can be compiled. Such ITRs are more relevant for tax policy and in particular the ITR on non-financial corporations can be better contrasted and compared with other effective tax rates, often limited to manufacturing.

From a methodological point of view this makes things easier, because we can directly refer to the sector delimitation of national accounts. The problem of double counting encountered in defining an ITR tax base for the whole private sector by summing up sector specific dividend flows can be avoided. By simply summing up the dividends received for the whole private sector or all corporations, the same flow would be counted twice (double counting), meaning that the ITR tax base would be artificially inflated. In order to avoid double counting, the dividends received minus dividends paid to companies or households were included in the denominator for the private sector, even though the latter are in general not tax deductible.

Box 2 Implicit Tax Rate on non-financial corporate income

Implicit Tax Rate on non-financial corporate income (D44 corrected)	Taxes on non-financial corporate income/ B2n_S11 + D41_S11rec - D41_S11pay + D45_S11rec - D45_S11pay + D42_S11rec + (D44_S11rec)
<u>Numerator:</u> D51B_S11	Taxes on income or profits of non-financial corporations
<u>Denominator:</u> B2n_S11	Net operating surplus of non-financial corporations (incl. quasi-corporations)
D41_S11rec	Interest received by non-financial corporations
D41_S11pay	Interest paid by non-financial corporations
D45_S11rec	Rents on land received by non-financial corporations
D45_S11pay	Rents on land paid by non-financial corporations
D42_S11rec	Dividends received by non-financial corporations
(D44_S11rec	Insurance property income attributed to policy holders received by non-financial corporations)

When constructing a separate ITR for non-financial corporations, only dividends received as part of financial income have to be incorporated in the denominator (box 2). There is no problem of double counting, and the approximation of the potentially taxable base remains closer to the guidelines of tax legislation. This holds also for the separate ITR on financial corporations. Following this rule would mean that the sectoral tax bases do not sum up to the ITR tax base for the whole sector of all corporations. Table 1 illustrates the relationship between the denominators for the different ITRs for the average 1995 to 2002. The difference represents the sum of dividends that were paid between domestic financial and non-financial corporations.

Table 1 ITR tax base for the corporate sector, non-financial and financial corporations¹⁾

Average 1995 to 2002, in % of GDP

	All corporations (S11 & S12)	Non-financial corporations (S11)	Financial corporations (S12)	Difference
BE	16.5	14.1	7.0	-4.5
DK	15.3	10.5	5.6	-0.8
DE ²⁾	21.6	17.0	6.6	-1.9
EL	15.4	9.6	5.4	0.4
ES	14.4	8.9	6.7	-1.3
FR	10.7	9.3	5.0	-3.6
IT	20.7	14.8	6.8	-0.9
NL	18.1	12.6	6.9	-1.4
AT ²⁾	26.8	20.8	7.8	-1.8
PT* ²⁾	23.4	17.6	7.1	-1.3
FI	17.8	15.1	4.2	-1.6
SE**	13.7	9.2	6.4	-1.9
UK	12.9	14.6	7.2	-8.9

*1995 to 2001.- **1995 to 2000.

1) D44 corrected. - 2) including self-employed.

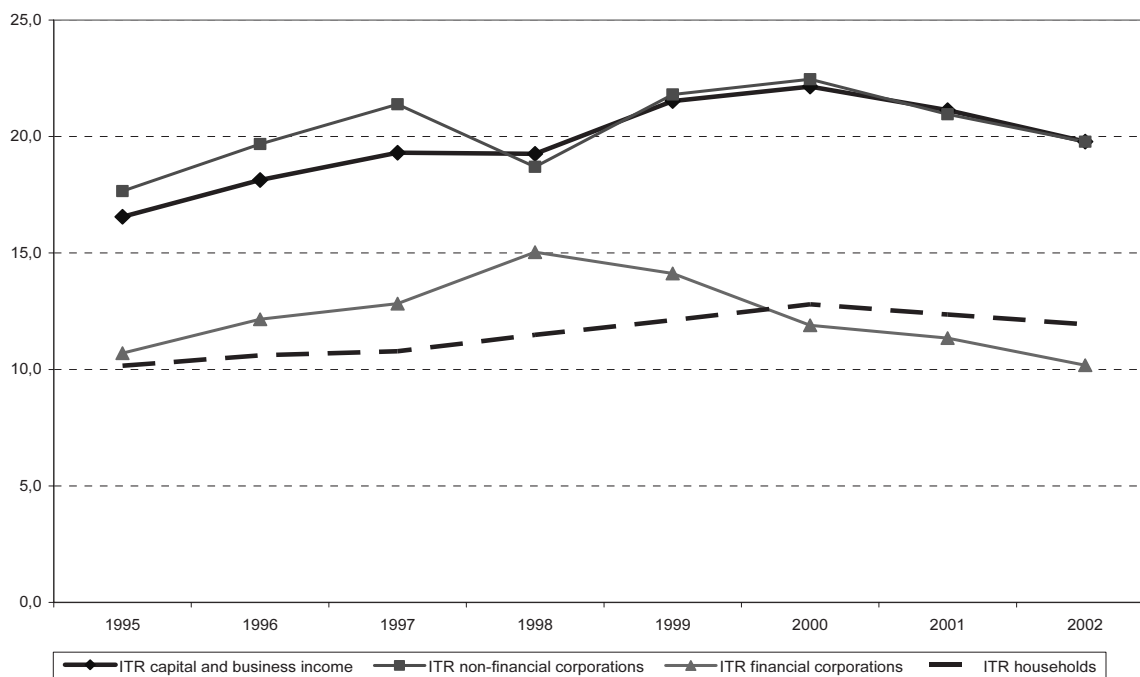
The measurement of profits from financial corporations as reported in the gross or net operating surplus in national accounts is quite different from the rules according to tax legislation. Income and profits in national accounts are generated only through operating a business or another activity that produces goods or services. All capital gains (and losses) that arise from speculating or arbitrage, that is buying and selling an asset at different prices, are not regarded as income in the system of national accounts.¹³ The capital gains normally account for a substantial part of profits of insurance companies and banks. Part of the overall profit of these companies comes from dealing in credits and getting interest payments for it. In national accounts, this is treated as distribution of income. Interest payments are reported in the 'allocation of primary income account' but not in the 'generation of income account'.

All in all, it has to be stated that the measurement of financial profits is – by definition – rather limited in national accounts compared to profit and loss accounting. On the other hand, the sector S12 consists of profits that are to a large part tax exempt. These are profits of central banks and profits of private pension funds that are earned on behalf of insurance policy holders. These limitations have to be kept in mind when interpreting trends in the ITR on capital and business income or the ITR on corporate income. In addition, due to these limitations we restrict a detailed investigation and comparison to other tax burden indicators to the sector of non-financial corporations in national accounts¹⁴. For the European Union graph 3 shows the development of the overall ITR and the ITRs for the subsectors of non-financial and financial corporations as well as households including self employed.

¹³ The same is true for the extraordinary income or the value adjustments on financial assets stated in the scheme of profit and loss account in diagram 1.

¹⁴ With the correction for unincorporated companies in some countries.

Graph 3 Split of implicit tax rate on capital and business income for the EU¹⁾
in %



1) D44 corrected without Ireland and Luxembourg. The ITR on non-financial corporations includes the corrections concerning partnerships and self-employed for Germany, Austria and Portugal.

3. COMPARISON OF THE ITR ON NON-FINANCIAL CORPORATE INCOME WITH OTHER TAX INDICATORS

In this section the focus lies on the investigation of the ITR on non-financial corporations. Although this indicator is also affected by all the disadvantages of backward-looking indicators based on national accounts, the measurement problems seem to be less pronounced compared to the ITR for financial corporations. First, we try to describe the developments between 1995 and 2001 and test if they are similar to the general ITR on capital and business income described in the ‘Structures’. In addition, we try to compare the ITR with an average tax rate indicator based on companies accounting data.¹⁵

3.1. Developments from 1995 to 2001

The ITR on non-financial corporate income shows in almost all countries an increase during the period 1995 to 2001, indicated by the estimated average growth rate as well as by the difference of the ITR between 1995 and 2001 (table 2 and A.5a in the annex). In Denmark, the increasing trend was reversed much earlier than in other countries due to legislative changes in the corporate income tax system (European Commission 2003a: 113); in Finland, the downward change in 2001 was particularly strong. The increase in the effective tax burden of non-financial corporations is stronger than for capital and business income of financial corporations or households (table A.5a, A.4a. and A.3a in the annex). Compared to 1995, only in Denmark, Finland and the UK the ITR on non-financial corporations is lower in 2001 (table 2), although also in these countries the indicator increased during the first years of the period.

¹⁵ The investigation is limited to the years 1995-2001 because the companies accounting data for 2002 is only available for some countries up to now.

With the exception of the UK, all countries saw a relative increase in tax revenues on non-financial corporate income in relation to GDP (table 2). At the same time, the approximation of the potentially taxable income of non-financial corporations measured by the ITR tax base increased in most of the countries. Only in Spain and the UK the taxable base remained almost unchanged, while Greece and Sweden witnessed a decrease.

Table 2 Elements of development of the ITR on non-financial corporate income¹⁾

	ITR		Numerator		Denominator	
	2001	Diff. 01 to 95	2001	Diff. 01 to 95	2001	Diff. 01 to 95
	%	%-points	% -points of GDP			
BE	16.2	0.8	2.5	0.5	15.6	2.3
DK	20.6	-3.8	2.5	0.3	12.3	3.1
DE ²⁾	22.1	4.0	4.0	0.6	18.0	2.0
EL	32.6	10.7	3.2	0.8	9.7	-0.9
ES	30.8	14.3	2.6	1.1	8.3	-0.4
FR	22.1	2.9	2.4	0.9	10.9	2.8
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IT	16.8	3.3	2.6	0.7	15.2	1.4
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NL	28.7	5.5	3.7	1.0	12.8	1.1
AT ²⁾	28.9	9.8	5.9	1.4	20.4	1.9
PT ²⁾	25.2	7.5	3.9	0.8	15.5	0.2
FI	19.4	-0.8	3.8	1.6	19.6	8.8
SE*	22.8	37.8	2.8	0.3	8.1	-1.9
UK	16.8	-0.4	2.4	-0.1	14.2	-0.4

* 2000 to 1995

1) D44 corrected 2) Including self-employed

The growth of the potentially taxable base was related to increases in property income in all countries, while the net operating surplus (NOS) increased significantly only in Austria and Finland (table 3). The relative decrease of the net operating surplus in relation to GDP is somewhat remarkable in the expansionary phase in the second half of the nineties. The decreasing share was sometimes enforced by a growing share of consumption of fixed capital (depreciation). However, also the relative share of the gross operating surplus has not increased in this period with the exception of Austria, Finland and Germany.

In the 2003 edition of the 'Structures of the taxation systems in the European Union', four main channels were identified that could be relevant for explaining the increase in the overall ITR in most Member States and that also might play a role for non-financial corporations:

The ITR on capital and business income is sensitive to the business cycle. This is even more true for the specific indicator for non-financial corporations. Due to the asymmetric influence of company losses from previous and current years, in principle no clear direction in the cycle can be identified from the outset. In the relatively long-lasting expansionary phase of 1995 to 2000, however, an increase in the ITR might be expected. This relates to the fact that more and more companies make profits in combination with diminishing loss carry-over possibilities.

Another element of the explanation for the rise of the overall ITR are increasing capital gains and the corresponding rise of tax revenues in the second half of the 1990s due to the booming stock markets across-the-board. This development clearly leads to an overestimation of the average effective tax burden on capital and business income for some Member States, as it is not possible to include the capital gains in the denominator of the ITR. However, it can be expected that capital gains are less important explaining the increase in the measured tax burden on non-financial corporations.

Table 3 Development of denominator ITR on non-financial corporate income¹⁾

	Differences 2001 to 1995				
	Denominator				
	Total	Property inc.	NOS	Deprecation	GOS
	% -points of GDP				
BE	2.3	3.5	-1.1	0.9	-0.3
DK	3.1	2.8	0.3	-0.2	0.1
DE ²⁾	2.0	1.5	0.5	0.0	0.5
EL	-0.9	0.7	-1.6	-0.6	-2.2
ES	-0.4	1.1	-1.4	-0.2	-1.7
FR	2.8	2.7	0.1	0.1	0.2
IE	n.a.	n.a.	n.a.	n.a.	n.a.
IT	1.4	2.2	-0.8	-0.4	-1.2
LU	n.a.	n.a.	n.a.	n.a.	n.a.
NL	1.1	1.8	-0.7	-0.3	-1.0
AT ²⁾	1.9	0.8	1.1	0.9	2.1
PT ²⁾	0.2	2.1	-1.9	0.6	-1.3
FI	8.8	6.6	2.2	-1.5	0.7
S*	-1.9	4.2	-6.1	1.4	-4.7
UK	-0.4	0.3	-0.7	-1.3	-2.0

* 2000 to 1995

1) D44 corrected

In addition, structural changes in the financing of companies have led to an increase in the ITR on capital and business income: empirical evidence suggests that companies changed their way of financing (and their distribution of profits) with less interest and more dividend payments. This happened against the background of falling interest rates. Most tax systems in the EU are not neutral towards different forms of financing of investment, and allow deductions for interest payments when calculating the taxable profits. The relative shift towards more dividend distributions results on average in a higher tax burden on companies' profits, as a consequence of this characteristic of tax legislation. As table 4 suggests, this seems to be also important for non-financial corporations.

The factors mentioned above have disguised the influence of recent tax policy measures aimed at reducing the tax burden of corporations and at improving the functioning of capital markets. However, cuts in the nominal statutory tax rates on corporations were often at the same time accompanied by measures that broadened the taxable base (*e.g.* by reducing the rates of capital depreciation allowances), offsetting at least to some extent the effects of the reductions in the statutory rates that most of the Member States implemented between 1995 and 2001.

Another explanation for the rise of the ITR in the years 1995-2001 has to do with the collection mechanism of taxes. Companies have to make prepayments of taxes based on the profits of the last tax assessment. Tax revenues in national accounts, though recorded according to the accrual principle, are in practise often cash-based figures shifted backwards for a few months. When within the economic cycle the performance of companies starts to deteriorate and profits decline, the ITR will initially indicate a higher tax burden due to the unchanged prepayments. In most of the countries the downswing in the business cycle started at the end of 2000 or in 2001 but the ITR continued to rise. Devereux and Klemm (2003) use real accrual data from the Inland Revenues Statistics of the UK to compile an ITR on corporations that is much less volatile than the ITR based on (cash-based) tax revenues. Unfortunately, such data are not available or at least not accessible for all Member States on an international comparable basis.

Elements of the development on property income of non-financial corporations

Difference 2001 to 1995, in %-Points of GDP

	Property Income							Dividends (D42) paid
	Net	Paid			Received			
		Total	Interest (D41)	other	Total	Dividends (D42)	Interest (D41)	
BE	3.5	1.0	1.0	0.0	4.5	2.5	2.0	2.5
DK	2.8	0.1	0.0	0.1	3.0	2.6	0.4	2.4
DE ²⁾	1.5	0.7	0.7	0.0	2.2	1.7	0.4	5.4
EL	0.7	-1.5	-1.5	0.0	-0.9	-0.3	-0.6	-0.1
ES	1.1	-1.2	-1.2	0.0	-0.1	0.3	-0.4	1.2
FR	2.7	-0.9	-0.9	0.0	1.8	2.2	-0.4	2.8
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IT	2.2	-2.3	-2.3	0.0	-0.1	0.4	-0.5	0.7
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NL	1.8	-0.2	-0.2	0.0	1.6	1.4	0.2	1.1
AT ²⁾	0.1	1.5	1.4	0.1	1.7	1.5	0.2	3.9
PT ²⁾	1.8	-2.1	-1.9	-0.2	-0.3	0.1	-0.3	0.7
FI	6.6	-1.0	-1.0	0.0	5.7	5.2	0.5	3.5
SE* ¹⁾	4.2	-3.0	-3.0	0.0	1.2	n.a.	n.a.	-0.8
UK	0.3	0.6	0.5	0.1	1.0	0.9	0.1	0.6

* 2000 to 1995

1) Denominator including D43net. 2) including self-employed

3.2. An implicit tax rate based on accounting data

The question is whether the increasing trend of the tax burden on non-financial corporations (including quasi-corporations) can be supported by empirical evidence from other sources or other indicators. In most EU Member States, profits in national accounts are compiled as a residual on an aggregate sectoral level using measures on production and factor input (Luh 1999). Another possibility would be to refer to direct measures of profits by using accounting data of companies. The BACH-database (Bank for the Accounts of Companies Harmonised) of the European Commission and the European Committee of Central Balance Sheet Offices offers balance sheet and profit and loss account data for non-financial enterprises of 11 EU countries, the US and Japan.

The sampling methods and representativeness of the data differs between countries: while Belgium uses an exhaustive survey, Denmark, Finland and Sweden use statistical sampling methods in connection with an expansion procedure. According to the BACH user guide, these 'variable samples' can be regarded as representative samples that are

not affected by changes in the composition of the sample population and can be directly compiled as time series. The data for Germany, Spain, France, Italy, the Netherlands, Austria and Portugal are not statistically representative, and the composition of the sample in these countries changes from year to year. By drawing a number of two-year overlapping sliding balance samples from the base material, the problems of the sample composition and also the survivor bias can be substantially reduced. For these countries, variable samples can be approximated by taking the data of the second year of a 2-year sliding sample. However, the balanced samples are more or less dominated by the largest companies in the sample (BACH 2001: 17).

Because the harmonisation of balance sheet and profit and loss accounts data is limited (Deutsche Bundesbank 1997), the Bach guide states severe reservations against cross-country comparisons in levels. It recommends to focus more on trend comparisons (BACH 2001:3) and to use variable samples when investigating time series. We take this advises into account by focussing on the comparison of different indicators within the different countries.

Diagram 1 shows in the left column a stylised and harmonised profit and loss account for the BACH-database in which the main items are comparable although accounting rules and balance sheet statistics differ across countries. The BACH user guideline (BACH 2001) contains a detailed description of conversion tables between the national and the BACH layout of profit and loss accounting. The simplest way of defining an ITR on non-financial companies based on accounting data is to relate taxes on profits (line 14) to the profit or loss of the financial year (line 15). We will refer to this indicator as ‘ITR Bach’ (box 3).¹⁶

Box 3 Implicit Tax Rate Bach

Implicit Tax Rate Bach	$Y/(Y + 21.)$
<u>Numerator:</u>	
Y	Taxes on profits
<u>Denominator:</u>	
Y	Taxes on profits
21.	Profit or loss for the financial year

3.3. Comparison of indicators

3.3.1. Conceptual differences

The first step for comparing different ITRs on corporate income (including quasi-corporations) is to compare how the (taxable) profit is determined in the different account frameworks. In diagram 1, the different steps in profit and loss accounts are compared to those in national accounts. In the comparison of accounting schemes for non-financial companies only the big differences were taken into account. That means that even if on a first glance both systems seem to have the same definition for a specific

¹⁶ Nicodème (2001) used the gross operating profits as denominator for an average effective tax rate on corporations based on the Bach database.

item, there might be still (slight) differences. For a detailed investigation of these differences one has to refer to a specific national legislation.¹⁷

The most important differences between the two accounting schemes to determine (taxable) profits are indicated in grey shaded cells in the diagram. Intermediate consumption (line 2) in national accounts not only comprises raw materials and consumables used for production, but also part of the 'other external charges' position in profit and loss accounts. But there are some parts of other external charges that are not reported or in another item in national accounts. These include e.g. operating taxes, losses on disposal of operating tangible assets and trade debtors, capitalised restructuring costs, transfers to special reserves and operating extraordinary expenses (BACH 2001: 40). The experience from Germany shows that these differences are not negligible especially after the mid eighties (Görzig/Schmidt-Faber 2001: 20).

Other subsidies on production (line 5) stated in national accounts are not explicitly reported in the Bach profit and loss accounts as a separate item. However, in most countries they are reported as 'operating grants and subsidies' included in total operating income. Again, the experience for Germany shows that the extent to which subsidies are included in the Bach scheme is not clear, but in principle both systems take them into account.

As follows from line 6, profit and loss accounts report the depreciation of fixed assets while in national accounts the consumption of fixed capital is recorded. If this consumption of fixed capital would be invested, it would be possible to keep the production capabilities, i.e. the capital stock of an economy, intact. This would allow generating the same income in the next period. This 'consumption of fixed capital' is consequently valued at purchasers' prices of the current period. According to the guidelines of national accounts, it should be estimated on the basis of the stock of fixed assets and the probable economic life of the different categories of those goods.¹⁸ Hence, consumption of fixed capital differs from the depreciation allowed for tax purposes or the depreciation of fixed assets (line 6 of diagram 1) shown in profit and loss accounts.

¹⁷ For a detailed comparison between national accounts and profit and loss accounts for Germany see Görzig/Schmidt-Faber 2001.

¹⁸ Also, intermediate consumption will be valued at prices of the current period even if the goods were purchased some years before they were used for production. If prices of intermediate consumption goods have increased in the time of storage, profits earned by using these goods are lower in national accounts in comparison to the profit and loss accounts of the corresponding enterprises. For more details on the subject of comparing profits in national accounts and commercial accounts see e.g. Görzig/Schmidt-Faber 2001.

Diagram 1:
Calculation of profits and their taxation in national accounts and profit and loss account¹⁹

Line	National Accounts		Profit and Loss Account	
1		Output (P1)		Total operating income (S.)
2	-	Intermediate Consumption (P2)	-	Raw materials and consumables (5.a) Other external charges (5.b)
3	-	Compensation of employees (D1)	-	Staff costs (wages and salaries and social security costs) (6.)
4	-	Other taxes on production (D29)	-	Other operating charges and taxes (8.)
5	+	Other subsidies on production (D39)		?
6	-	Consumption of fixed capital (K1)	-	Depreciation on intangible and tangible assets (7.a)
7		-	-	Other value adjustments and provisions (7.c)
8	=	Net operating surplus (B2n)	=	Net operating profit (V.)
9	+	Property income received (from other sectors) (D41, D42, D45 received)	+	Financial income (9/11.)
10	-	Interest and rent (D41 and D45 paid)	-	Interest and similar charges (13.)
11		-	-	Value adjustments on financial assets (12.)
12	=	Entrepreneurial income (B4 - D43rec)	=	Profit on ordinary activities before taxes (X.)
13		-	+	Net extraordinary income (16. - 17.)
14	-	Taxes on the income or profits of corporations. (D51B)	-	Taxes on profits (Y.)
15	=	Entrepreneurial income after tax (B4-D43rec-D51B) ⁴	=	Profit or loss for the financial year (21.)
16	-	Distributed income of corporations (D42) Net reinvested earnings on direct foreign investment (net D43)		
17	=	Primary income after tax (B5-D51B)		

¹⁹ For non-financial corporations, profit and loss account according to BACH (2001).

Three items of profit and loss accounts are missing in the national accounts accounting scheme: other value adjustments and provisions (line 7), value adjustments on financial assets (line 11) and net extraordinary income (line 13). This has to do with the definition of production and income in national accounts.²⁰

From the comparison of the accounting schemes it became evident that the profits according to Bach include elements that could not be measured by national accounts and the ITR on non-financial corporate income. This divergence in methodology might be responsible for differences in the ITR Bach and the ITR on non-financial corporate income based on national accounts. In order to illustrate the deviation of profit determination on the company level and at the macroeconomic level with the tool of national accounts, a second ITR with companies accounts data is defined, the 'ITR Bach (NA)'. Its denominator is much closer to the measurement of profits in national accounts. The 'ITR Bach (NA)' determines taxable profits by deducting from the total operating income the raw material and consumables, the staff costs and the other operating charges and taxes and by adding financial income minus interest and similar charges (box 4). By comparing this indicator to the ITR NA and ITR Bach it can be decided whether the different measurement concepts of determining profits, or discrepancies of the Bach company samples to the total of corporations and quasi-corporations captured by national accounts are more important to explain different trends in the implicit tax burden measured by national accounts or the Bach database.

Box 4 Implicit Tax Rate Bach (NA) with profits similar to National Accounts

Implicit Tax Rate Bach	$Y / (S. - 5.a - 6. - 8. - 7.a + 9/11. - 13.)$
<u>Numerator:</u>	
Y	Taxes on profits
<u>Denominator:</u>	
S.	Total operating income
5.a	Raw materials and consumables
6.a	Staff costs
8.	Other operating charges and taxes
9/11.	Financial income
13.	Interest and similar charges

²⁰ Besides deviations and missing items in one of the two accounting systems, from the comparison in diagram 1 it becomes clear that the net operating surplus is not an appropriate approximation of the tax base of companies. The taxable base of a company is more or less equal to the 'profit of the financial year before tax' according to profit and loss accounts. It consists of the net operating profit and financial income less certain deductible payments. The national account concepts of net operating surplus and net property income can be linked to, respectively, the concepts of net operating profit and financial income at the company level. The approximation of financial income of non-financial corporations to be considered for tax purposes includes interest received (D41), dividends received (D42) and rents on land received (D45). The corresponding expenditures deductible from the tax base are interest paid by companies (D41) and rents on land paid by companies (D45). Dividends paid by companies (part of distributed income of corporations - D42) are not tax deductible.

Table 5 reports for the average between 1995 and 2001 the differences of the denominators for the two ITRs based on company accounting data, as a percentage of aggregate turnover. Both ITRs represent averages for the available aggregate non-financial sectors²¹ weighted with their respective turnover. For extraordinary income and extraordinary charges, the net position is calculated. Although the calculation of averages can smooth the differences between the two denominators, they are still quite substantial in many cases. In France and Italy ‘other value adjustments and provisions’ play an important role; in Spain and France ‘value adjustments on financial assets’ are of great influence. In Belgium, the Netherlands, Austria and Sweden, the differences can mainly be explained by the net extraordinary income. Also this comparison seems to indicate that the accounting schemes between countries are not fully harmonised. On a year to year basis, the total differences of the denominators that translate into respective differences of the ITRs are presented in graph 4 and A-1 in the annex.

Table 4 Relation of denominators of different ITRs based on accounting data from BACH

Average 1995 to 2001, in % of turnover

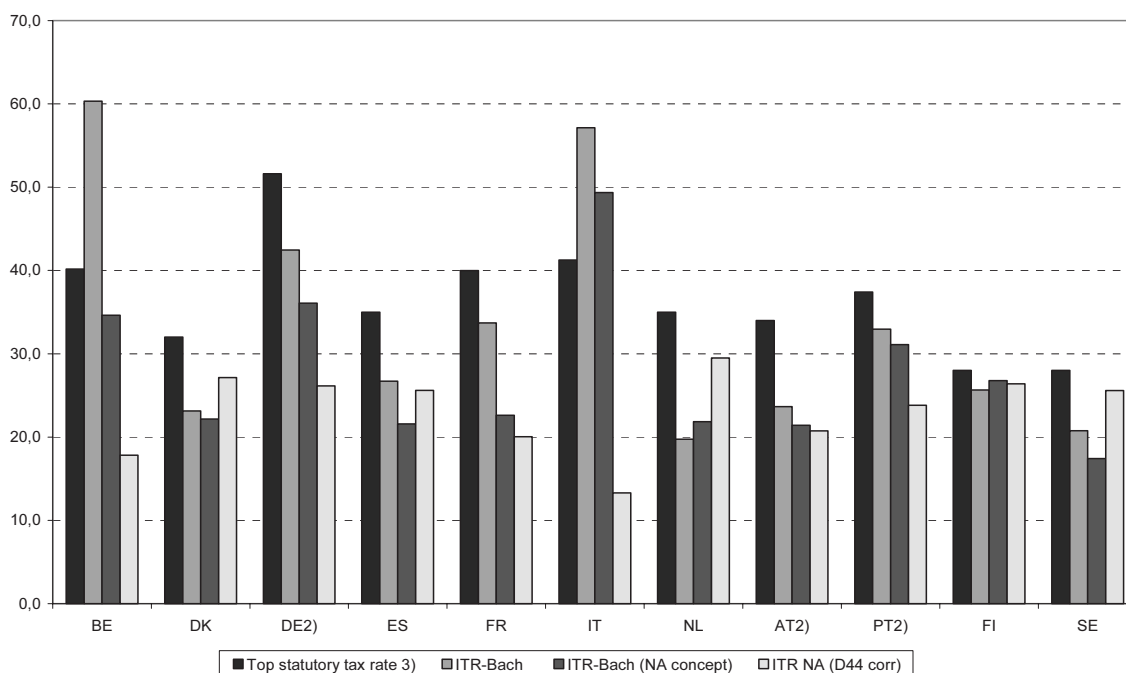
	BE	DK	DE	ES	FR	IT	NL	AT	PT	FI	SE
ITR tax base (NA concept)	4.9	7.7	3.2	6.5	5.6	4.9	8.2	4.3	5.3	8.1	7.8
- Other value adjustments and provisions	0.4	0.0	0.1	0.2	1.9	0.9	0.0	0.0	0.7	0.1	0.2
- Value adjustments on financial assets	0.0	0.3	0.4	1.2	0.6	0.1	0.1	0.0	0.2	0.2	0.0
+ Net extraordinary income	0.9	0.1	0.1	-0.2	-0.1	-0.3	0.8	-0.3	1.0	0.1	-0.6
Extraordinary income	2.1	0.5	0.5	3.4	3.0	0.9	1.6	0.6	2.4	4.1	2.3
Extraordinary charges	-1.3	-0.4	-0.4	-3.6	-3.1	-1.2	-0.8	-0.9	-1.4	-3.9	-2.9
ITR tax base (BACH)	5.3	7.5	2.8	5.0	3.0	3.7	8.9	4.0	5.3	8.0	7.0

3.3.2. Empirical differences

Graph 4 presents a comparison of all indicators for the year 1999, including the all-in top statutory tax rate on corporate income. Of course, the statutory rate is known to be not a measure of the effective tax burden. It would be preferable to compare the ITRs to forward-looking indicators like the effective average tax burden (EATR) according to the method by Devereux-Griffith (Devereux/Griffith 1998). Devereux/Klemm (2003) and Valenduc (2003) took this approach by calculating time series of EATRs for the UK and Belgium by using the actual discount and inflation rate. However, according to the company tax study (European Commission 2001), the statutory rate is the main driver of the EATR. This is why this simple measure as standard of comparison is used here. In order to smooth somewhat the asymmetric influence of losses by which all the backward looking indicators are affected, the average of 1998 to 2000 is presented.

²¹ The Bach sector grouping includes at an aggregate level energy and water, manufacturing, building and civil engineering, trade, transport and communication, other services n.e.c.

Graph 4 Comparison of different tax burden indicators for non-financial companies¹⁾
1999 in %

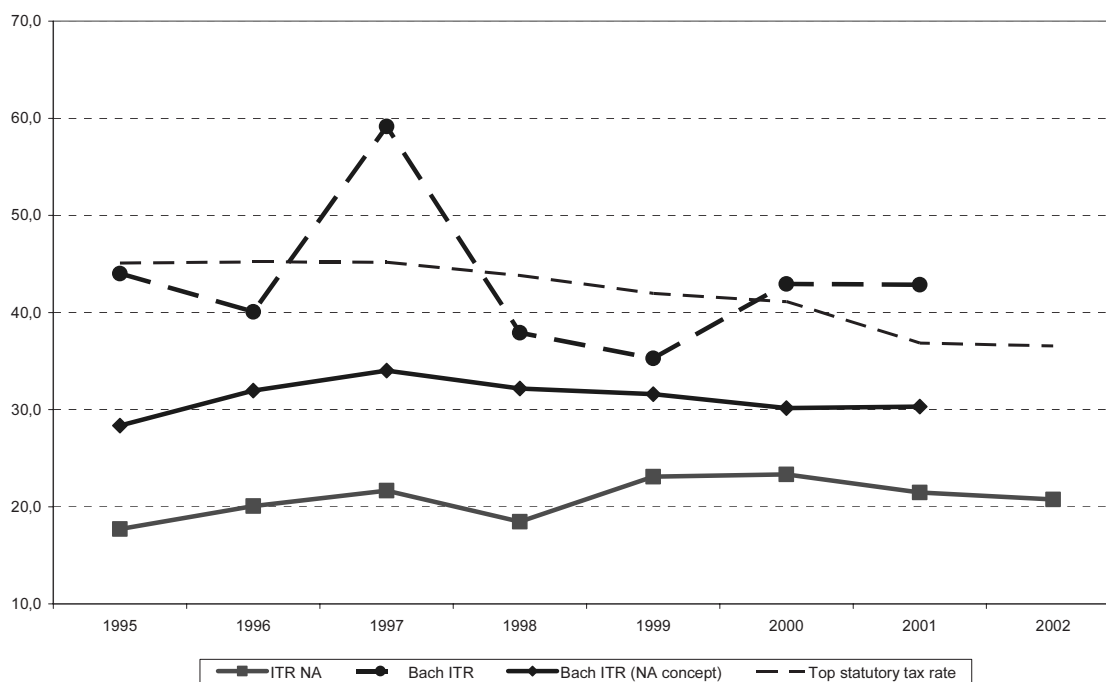


1) For the backward-looking indicators (ITR Bach, ITR Bach (NA concept), ITR NA) average for 1998 to 2000. - 2) including self-employed businesses. - 3) All-in top statutory corporate tax rate including surcharges and local taxes.

At first sight, it seems that the ITR on non-financial corporate income of national accounts lies within the range of other indicators in most countries. Belgium, Germany, Italy and to a lesser extent Portugal are exceptions in this respect. In Germany and Portugal this can be explained by the inclusion of self-employed businesses mainly needed to correct the mismatch of tax recordings of partnerships in national accounts (chapter 2.1). The same holds for Austria. The high level of the ITR Bach in Belgium is related to an outlier in 2000 in the transport and communication sector. Nevertheless, the ITR NA (D44 corrected) is quite low compared to both the ITR Bach (NA concept) and the top statutory rate. In Italy, the spread between the different indicators is even more pronounced.

Graph A-1 in the annex compares the different indicators by Member States, in some countries even for a longer time period than 1995-2001. The aim is to investigate whether the different indicators show the same development. As already pointed out, the top statutory rate was only included as a rough reference. Changes of corporate tax rates can be observed immediately, while the response of backward looking indicators is lagging behind. Graph 5 summarises the comparison for the EU average.

Graph 5 Comparison of different tax burden indicators for non-financial companies for the EU¹⁾
in %



1) Without the countries where no accounting data are available in the Bach database: Greece, Ireland, Luxembourg and the UK. All ITRs and the average statutory rate are weighted by GDP.

Not surprisingly, the ITR Bach is the most volatile indicator. It oscillates around the weighted average of the all-in top statutory corporate tax rate. A slight downward trend is visible in the statutory rates from 1998 on. The development of the ITR Bach with a denominator that is conceptual more comparable with the approximation of taxable profits in national accounts, is much smoother. Together with the ITR NA it increased until 1997. Afterward, both indicators went down. The ITR Bach (NA concept) kept on decreasing until 2000 and went up in 2001. Instead, the ITR NA increased until 2000, and decreased slightly in 2001 and 2002. All in all, the developments for the EU average²² reveal a peculiar development: ITR Bach and statutory rates on average decreased between 1995 and 2001, whereas in the same period the ITR Bach (NA concept) and ITR NA have increased slightly. The methodological divergence in determining profits between the ITR Bach and ITR Bach (NA) seems to be quite important. Not only on a year to year basis they are substantial differences, but also the trend of the EU average points in the opposite direction. This means that the tax burden on companies is partly driven by elements that are out of the scope of national accounts and the increase measured by the ITR NA is overestimated.

Developments are even more diverse when referring to the specific Member States. As a summary measure, the annual estimated growth rate between 1995 and 2001 of the indicators time series is presented in table 6. Only in 3 out of 11 countries the estimated average annual growth rate of the ITR Bach point in the same direction than the ITR NA. Referring to the ITR Bach (NA concept) that is more comparable to the ITR based on national accounts concerning the approximation of taxable profits, in 8 out of 11

²² Without the countries where no accounting data are available in the Bach database: Greece, Ireland, Luxembourg and the UK.

countries, the rate for the ITR Bach NA has the same algebraic sign as the ITR. Only in Belgium, Finland and Sweden, the ITR Bach has the same algebraic sign as the ITR NA. Until 2000 this is also the case for Denmark. These are the countries for with the Bach data can be regarded as representative according to the Bach user guide (BACH 2001: 16)²³.

Taking the question of the statistical representation of the Bach samples into account, the judgement about the ITR NA is less simple. Of course the measurement problems of national accounts in regard to taxable profits lead to a biased ITR. But the errors that relate to biased Bach samples might be of equivalent importance. Therefore it seems difficult to clearly prefer one of backward-looking indicator ITR NA or ITR Bach to measure the average effective tax burden.

Table 5 Estimated annual average growth rates 1995 to 2001 for implicit tax rates

Annual average estimated growth rates in %				Correlation ITR NA
	ITR NA	ITR Bach NA	ITR Bach	ITR Bach NA
BE	1.0	2.7	8.3	-0.3
DK	-5.4	-1.2	6.0	0.7
DE	5.2	-3.7	-6.1	-0.1
ES	10.8	-5.4	-7.0	-0.8
FR	2.1	5.3	-3.8	0.4
IT	0.4	1.4	-2.2	-0.3
NL	2.3	-5.2	-4.3	-0.1
AT	4.3	-0.3	-1.1	0.2
PT	6.2	-8.3	-12.8	-0.9
FI	1.5	5.1	2.3	0.9
SE *	7.4	2.5	3.2	0.6

* 2000 to 1995.

4. CONCLUSIONS

The paper has recapitulated the definition of the ITR on capital and business income used in the 'Structures of the taxation systems in the EU' with its main merits and drawbacks. A split of this summary indicator was developed for non-financial and financial corporations (including quasi-corporations) and households (including self-employed). With this split problems arise concerning the sectoral mismatch of recording partnerships' economic activity and their tax payments that leads to biased indicators. In particular in Germany, Austria and Portugal the ITR on (financial and non-financial) corporations would underestimate the average effective tax burden. The only possible correction leads to implicit tax rates on capital and business income that take into account all companies including the self-employed. The other major problem in splitting the ITR concerns the allocation of the income of financial corporations that they earn on behalf of insurance policy holders. Mainly life insurances and private pensions of households are of importance here. The paper presented two possible solutions in defining the ITR for households and (financial) corporations. Basically, the ITR on non-financial corporate income is not affected by this problem.

²³ In addition, for some countries the relationship of the indicators with a comparable concept of the denominators seems to be more closer when looking at the full time series than indicated by the growth rates in table 5.

For the European average an increasing trend of the ITR on non-financial corporate income is discernible between 1995 and 2001. The development is very similar to the overall ITR on capital and business income. Moreover, an investigation of the developments by decomposing the ITR similar driving forces seems to be at work. The rest of the paper focuses on the comparison of this ITR on non-financial corporations with tax burden indicators based on accounting data of the BACH database and with the all-in top statutory tax rate. First some differences of profit determination in company accounts and national accounts are investigated, illustrating the elements of taxable profit determination that or out of the scope of national accounts. These elements could lead to measurement errors when relating the actual tax payments to a biased proxy of taxable profits with national accounts. To test whether this measurement error is empirically important and to check whether the information content of the Bach samples is comparable to the information recorded in national accounts an ITR Bach is defined that uses a similar taxable profit determination compared to the ITR on non-financial corporate income.

Devereux/Klemm (2003), in comparing a wide variety of different tax indicators on the tax burden on capital income, came to the conclusion that “the appropriate choice of methodology and careful use of data are both vital in the construction and use of tax rates”. This is confirmed by the analysis presented in this paper.

On the other hand, the paper shows that with a careful choice of methodology in defining implicit tax rates based on national accounts and accounting data, the indicators have more in common than could be expected from the outset. The conceptual discrepancies in the accounting frameworks of profit and loss accounts and national accounts could explain an important part of the differences in the implicit tax rates. However, at least the level of the ITR on non-financial corporate income lies in a reasonable order of magnitude compared to the indicators based on Bach and the top statutory rate. Belgium and Italy seem to be exceptions in this respect. Concerning the movement of the indicators, the relationship is much weaker. But, in 8 out of 11 countries the estimated average annual growth rate of the ITR Bach (NA concept) has the same algebraic sign as the ITR NA.

With the exception of Belgium, the relationship measured by the correlation coefficient is stronger in countries where the data are representative according to the BACH user guide (Denmark, Finland and Sweden). The samples of companies used to feed the Bach database tend to be biased towards larger companies. In contrast, national accounts tries to capture all corporations and quasi-corporations. In conclusion, the ITR Bach seems not to be the preferable indicator per se. Taking the greater international comparability of national accounts into account, the ITR on non-financial corporate income (NA) still seems to be a useful tool in assessing the average effective tax burden for the whole sector of non-financial corporations.

However, the main drawbacks of this backward looking indicator have not been overcome. The asymmetric influences of losses and the timing difference between (time-shifted) tax revenues and the approximation of taxable profits remain. Only with (confidential) micro data these problems could be solved.²⁴ It will be difficult to get such representative data that also need to be comparable for all countries. To disentangle the influence of different tax provisions, it would be preferable to refer in addition to other indicators like forward looking effective average tax rates, although they are not able to capture all important tax provisions.

²⁴ On an experimental basis this was done for some countries in OECD (2001). But even with these micro data sets a substantial volatility in the indicators remain.

5. ANNEX

Box A-1

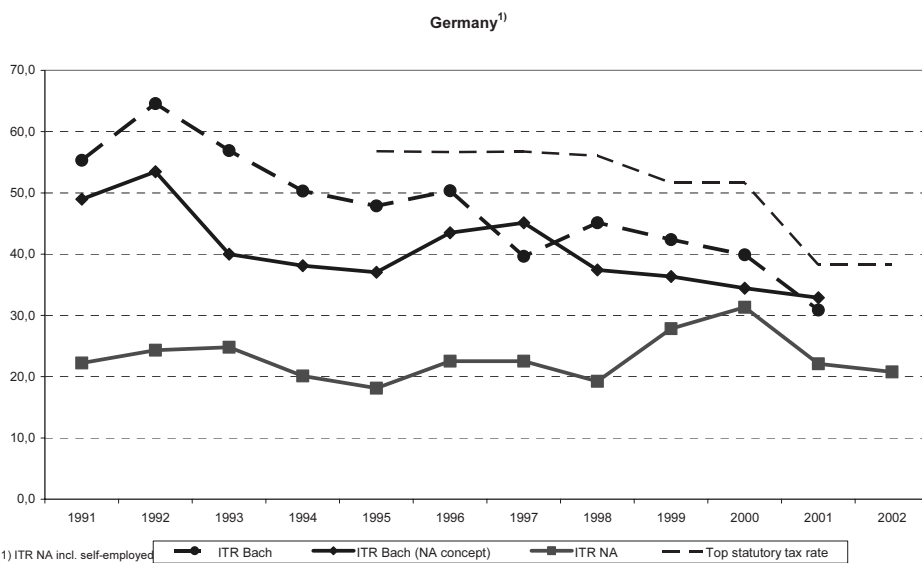
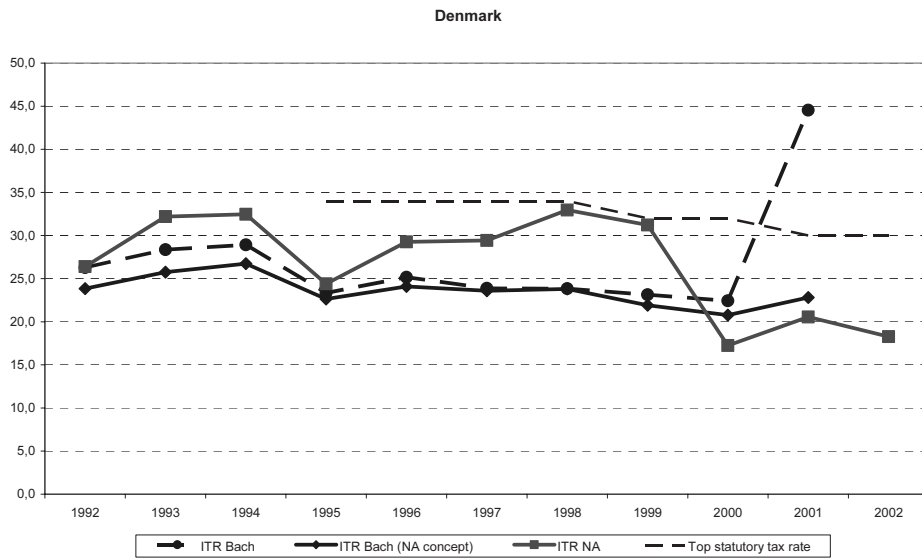
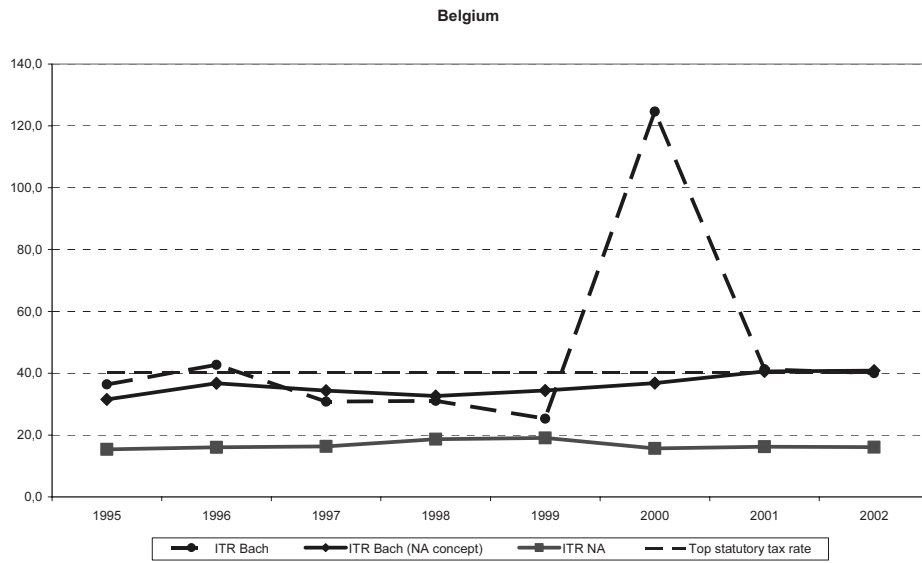
<p>Implicit Tax Rate on corporate income (D44 corrected)</p>	<p>Taxes on corporate income/ B2n_S11-12 + D41_S11-12rec - D41_S11-S12pay + D45_S11-12rec - D45_S11-12pay + D42_S11-12rec - D42_S11-12pay + D42rec. by S13 + D42rec. by S2 + D42rec. by S14-15 (D44_S11-12rec – D44_S11-12pay)</p>
<p><u>Numerator:</u> D51B Taxes on the income or profits of corporations</p> <p><u>Denominator:</u> B2n_S11-12 Net operating surplus of non-financial and financial corporations (incl. quasi-corporations)</p> <p>D41_S11-12rec Interest received by non-financial and financial corporations D41_S11-12pay Interest paid by non-financial and financial corporations D45_S11-12rec Rents on land received by non-financial and financial corporations D45_S11-12pay Rents on land paid by non-financial and financial corporations D42_S11-12rec Dividends received by non-financial and financial corporations D42_S11-12pay Dividends paid by non-financial and financial corporations D42_S13rec Dividends received by general government D42_S2rec Dividends received by rest of the world D42_S14-15rec Dividends received by households, self-employed and non-profit institutions (D44_S11-12rec non- Insurance property income attributed to policy holders received by financial and financial corporations D44_S11-12pay Insurance property income attributed to policy holders paid by non-financial and financial corporations)</p>	

Box A-2

<p>Implicit Tax Rate on capital and business income of households (incl. self-employed) (D44 corrected)</p>	<p>Taxes on capital and business income of households/ $B2n_S14-15 + B3n_S14 +$ $D41_S14-15rec - D41_S14-15pay$ $D45_S14-15rec - D45_S14-15pay$ $D42_S14-15rec + (D44_S14-15rec)$</p>
<p><u>Numerator:</u></p>	
<p>D51A</p>	<p>Taxes on individual or household income (part paid on capital and self-employed income)</p>
<p>D51C</p>	<p>Taxes on holding gains</p>
<p>D51D</p>	<p>Taxes on winnings from lottery and gambling</p>
<p>D51E</p>	<p>Other taxes on income n.e.c.</p>
<p>D6113</p>	<p>Social contributions of self-employed</p>
<p><u>Denominator:</u></p>	
<p>B2n_S14-15</p>	<p>Imputed rents of private households and net operating surplus of non-profit institutions</p>
<p>B3n_S14</p>	<p>Net mixed income of self-employed</p>
<p>D41_S14-S15rec</p>	<p>Interest received by households, self employed and non-profit organisations</p>
<p>D41_S14-S15pay</p>	<p>Interest paid by households, self employed and non-profit organisations</p>
<p>D45_S14-S15rec</p>	<p>Rents on land received by households, self employed and non-profit organisations</p>
<p>D45_S14-S15pay</p>	<p>Rents on land paid by households, self employed and non-profit organisations</p>
<p>D42_S14-15rec</p>	<p>Dividends received by private households, self-employed and non-profit organisations</p>
<p>(D44_S14-15rec)</p>	<p>Insurance property income attributed to policy holders received by private households, self-employed and non-profit organisations)</p>

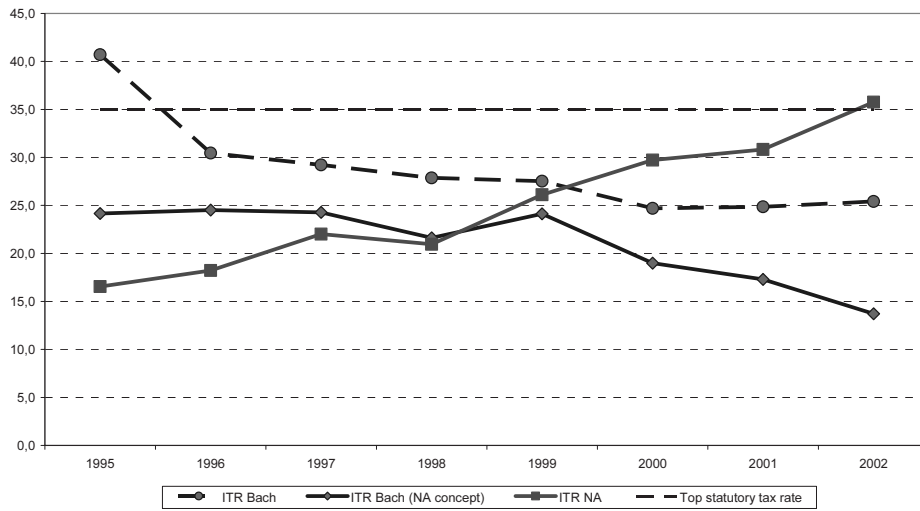
Graph A-1: Comparison of different tax burden indicators for non-financial companies by Member State

in %

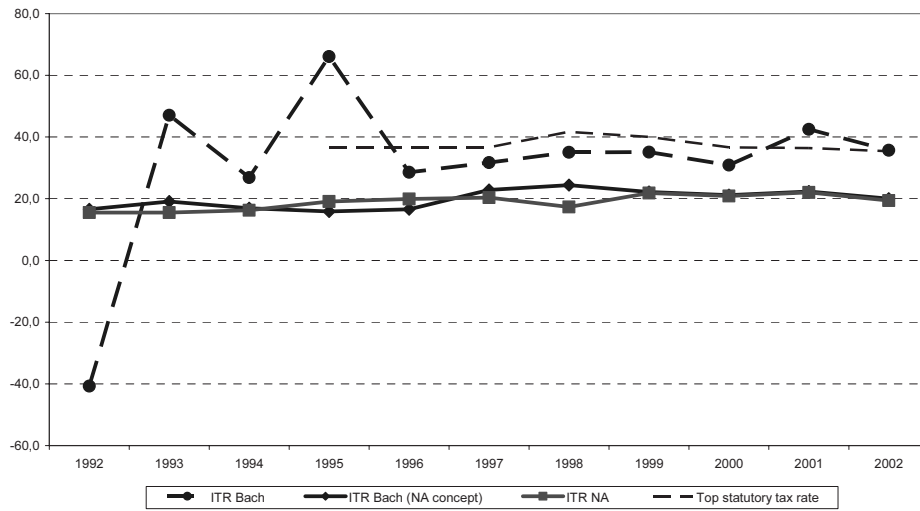


1) ITR NA incl. self-employed

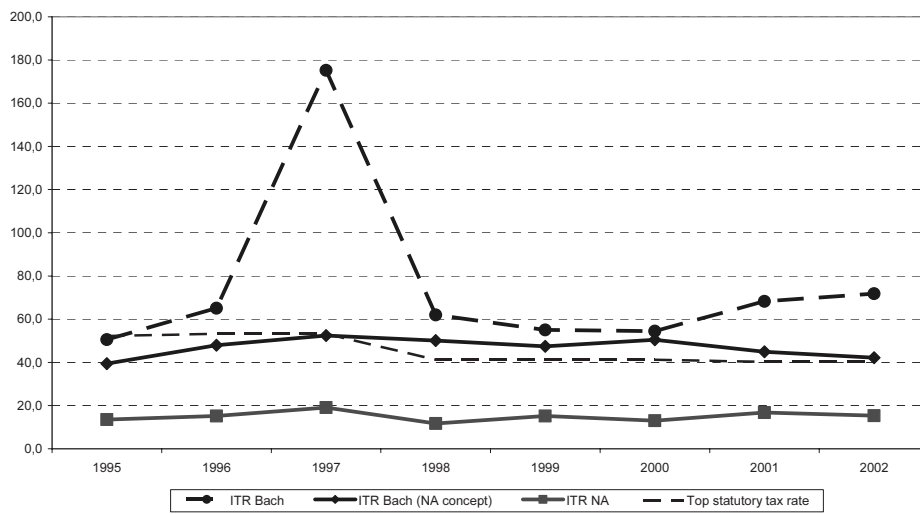
Spain



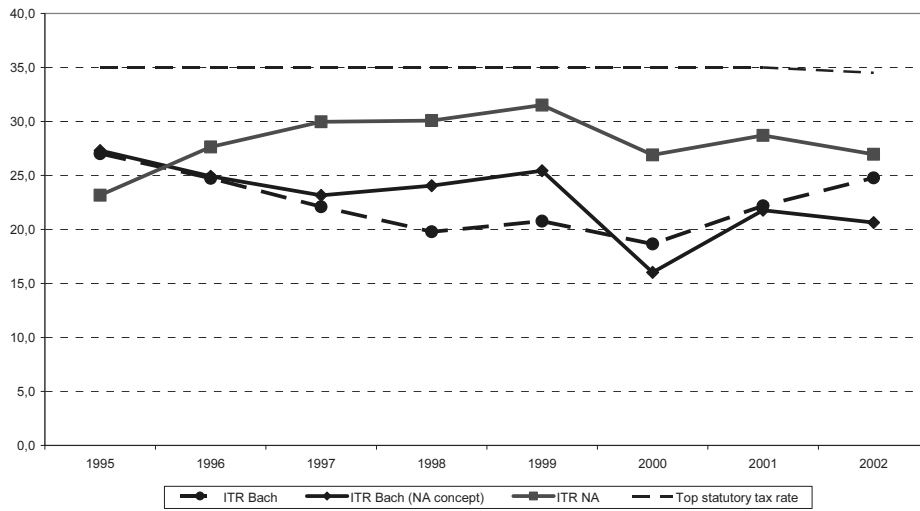
France



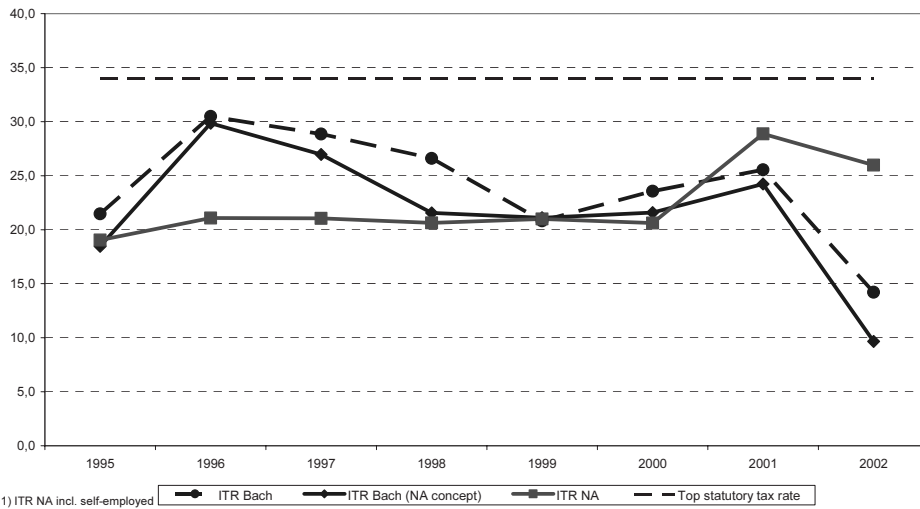
Italy



Netherlands

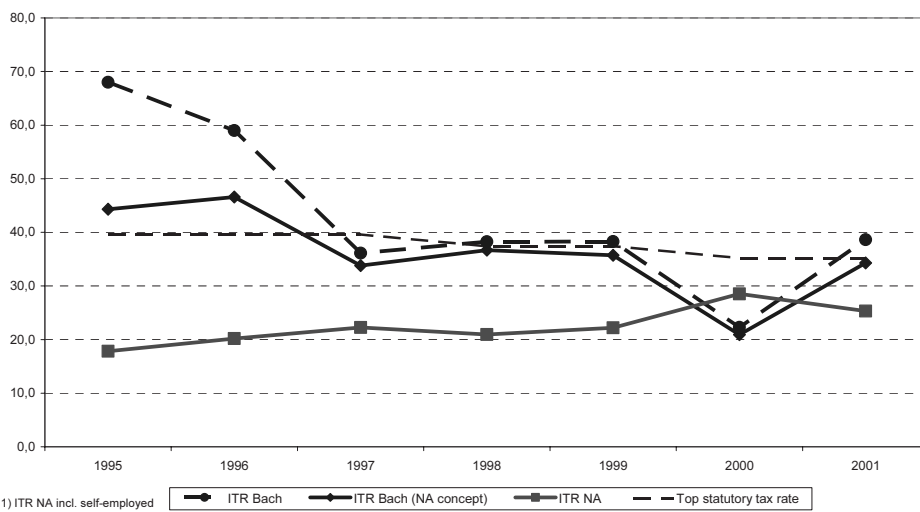


Austria¹⁾



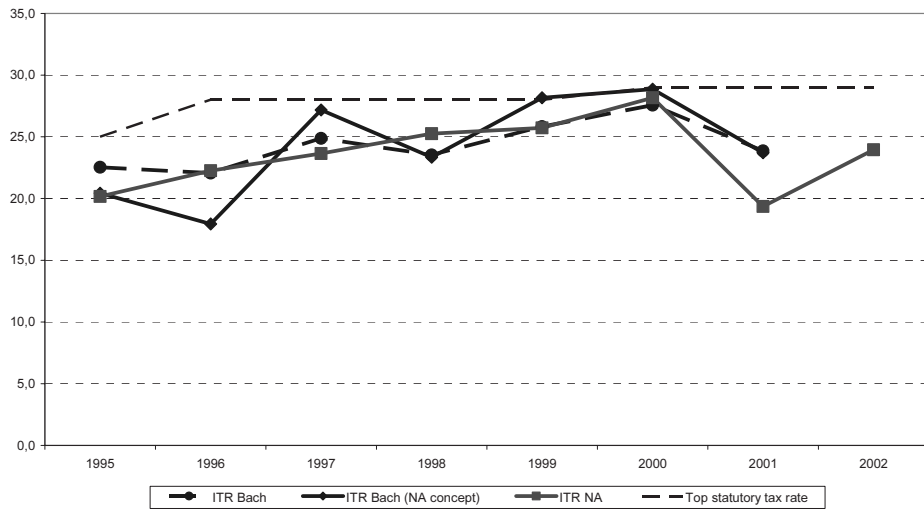
1) ITR NA incl. self-employed

Portugal¹⁾



1) ITR NA incl. self-employed

Finland



Sweden

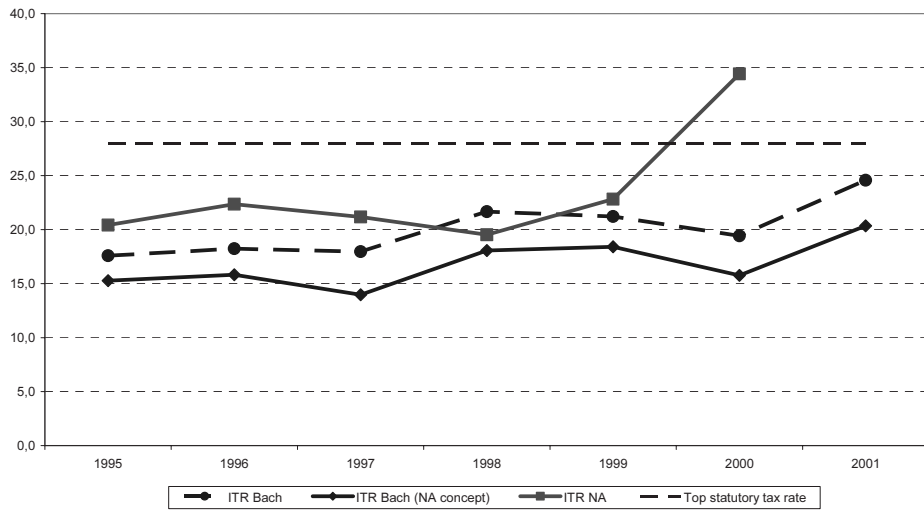


Table A.1: Implicit tax rates in %: Capital and business income

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	15,7	15,9	16,4	17,9	17,9	18,0	18,5	19,0	17,2	2,9	2,8
DK	17,6	18,9	20,2	24,2	27,2	17,7	18,3	16,1	20,6	1,0	0,7
DE	16,9	19,5	18,9	19,7	21,9	23,5	18,2	16,9	19,8	2,7	1,3
EL	9,1	8,6	9,9	12,5	13,5	15,5	13,4	13,5	11,8	9,5	4,3
ES	13,7	14,2	16,3	16,4	18,8	19,7	18,6	20,5	16,8	6,1	4,9
FR	15,1	16,9	17,6	17,9	19,9	21,1	21,9	19,5	18,6	6,0	6,8
IE	15,0	15,9	16,9	17,1	21,0	22,6	23,5	24,3	18,8	8,1	8,5
IT	17,3	18,4	20,8	19,1	21,3	21,6	21,9	20,9	20,1	3,7	4,5
LU	19,2	18,0	20,1	21,3	18,9	23,3	22,0	24,3	20,4	3,1	2,8
NL	16,1	18,2	19,2	19,1	20,2	18,4	21,2	20,3	18,9	3,2	5,1
AT	17,9	19,5	19,0	19,7	19,5	19,3	25,7	24,1	20,1	3,9	7,8
PT *	12,9	15,1	16,9	17,0	19,3	22,4	20,2	-	17,7	8,2	7,3
FI	22,4	24,3	25,1	26,7	27,9	31,6	23,4	25,3	25,9	2,7	1,0
SE	12,4	15,6	17,5	18,1	22,6	27,7	22,8	21,0	19,5	11,6	10,5
UK	18,8	19,6	21,6	22,7	23,6	23,5	23,9	20,7	22,0	4,2	5,2
EU (GDP weighted)	16,4	18,1	19,0	19,5	21,3	22,1	20,9	19,6	19,6	4,47	4,5
Euro12 (GDP weighted)	16,1	17,9	18,5	18,7	20,7	21,6	20,3	19,3	19,1	4,19	4,1
EU (Base weighted)	16,3	17,8	19,0	19,3	21,1	21,9	20,9	19,6	19,5	4,5	4,6
Euro12 (Base weighted)	16,0	17,6	18,5	18,6	20,5	21,4	20,3	19,4	19,0	4,3	4,2
EU (arithmetic average)	16,0	17,2	18,4	19,3	20,9	21,7	20,9	20,5	19,2	4,96	4,9
Euro12 (arithmetic average)	15,9	17,0	18,1	18,7	20,0	21,4	20,7	20,8	18,8	4,79	4,8
Ratio st.dev. and mean in %	19,8	19,4	17,5	17,8	16,9	18,7	14,8	17,3			-5,0
Difference max. and min.	13,3	15,8	15,2	14,2	14,5	16,1	12,3	11,8			-1,0

1) Estimated annual average growth rate in % - 2) in %-points

Source: Commission Services

*1995-2001

Table A.1a: Implicit tax rates in %: Capital and business income (D44 corrected)

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	15,7	15,9	16,4	17,8	17,8	17,9	18,4	18,9	17,1	2,9	2,7
DK	17,6	19,0	20,3	24,2	27,3	17,7	18,3	16,1	20,6	1,0	0,7
DE	16,9	19,5	18,9	19,7	21,9	23,5	18,2	16,9	19,8	2,7	1,3
EL	9,1	8,6	9,9	12,5	13,5	15,5	13,4	13,5	11,8	9,5	4,3
ES	13,7	14,1	16,2	16,3	18,7	19,7	18,6	20,5	16,8	6,2	4,9
FR	15,1	16,9	17,6	17,9	19,9	21,1	21,9	19,6	18,7	6,0	6,8
IE	15,0	15,9	16,9	17,1	21,0	22,6	23,5	24,3	18,8	8,1	8,5
IT	17,3	18,4	20,8	19,1	21,3	21,6	21,8	20,9	20,1	3,7	4,5
LU	19,2	18,0	20,1	21,3	18,9	23,3	22,0	24,3	20,4	3,1	2,8
NL	16,1	18,3	19,2	19,1	20,2	18,4	21,3	20,3	19,0	3,2	5,1
AT	17,9	19,5	19,0	19,7	19,5	19,3	25,7	24,1	20,1	3,9	7,8
PT*	12,9	15,1	16,9	17,0	19,3	22,5	20,2	-	17,7	8,2	7,3
FI	22,4	24,3	25,1	26,7	28,0	31,7	23,5	25,4	26,0	2,8	1,1
SE	12,4	15,6	17,5	18,1	22,6	27,7	22,8	21,0	19,5	11,6	10,5
UK	18,8	19,7	21,7	20,4	23,7	23,6	24,0	20,8	21,7	4,2	5,2
EU (GDP weighted)	16,4	18,1	19,1	19,1	21,4	22,1	21,0	19,6	19,6	4,5	4,6
Euro12 (GDP weighted)	16,1	17,9	18,5	18,7	20,7	21,6	20,3	19,3	19,1	4,2	4,1
EU (Base weighted)	16,3	17,9	19,0	19,0	21,1	21,9	20,9	19,6	19,4	4,5	4,6
Euro12 (Base weighted)	16,0	17,6	18,5	18,6	20,5	21,4	20,3	19,4	19,0	4,3	4,2
EU (arithmetic average)	16,0	17,2	18,4	19,1	20,9	21,8	20,9	20,5	19,2	5,0	4,9
Euro12 (arithmetic average)	15,9	17,0	18,1	18,7	20,0	21,4	20,7	20,8	18,8	4,8	4,8
Ratio st.dev. and mean in %	19,8	19,4	17,6	17,5	17,1	18,8	14,9	17,3			-4,9
Difference max. and min.	13,3	15,8	15,2	14,2	14,5	16,3	12,3	11,8			-1,0

1) Estimated annual average growth rate in % - 2) in %-points

Source: Commission Services

*1995-2001

Table A.2: Implicit tax rates in %: corporate income

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	13,1	14,7	15,9	18,1	17,7	17,6	18,3	18,9	16,5	5,2	5,2
DK	17,7	19,2	19,5	20,9	22,9	15,5	16,0	14,2	18,8	-2,0	-1,7
DE ³⁾	18,5	21,3	20,7	21,3	23,7	25,5	19,6	18,1	21,5	2,4	1,1
EL	15,1	13,1	18,5	21,9	26,1	31,5	23,7	23,4	21,4	12,3	8,6
ES	11,9	13,1	17,2	16,3	19,8	21,7	19,4	23,6	17,1	9,4	7,5
FR	13,8	16,1	17,5	17,0	20,2	21,4	23,9	21,1	18,5	8,4	10,1
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IT	13,5	15,5	17,8	13,4	15,6	13,9	16,3	15,2	15,2	0,8	2,8
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NL	12,9	15,9	17,3	17,3	17,6	16,2	17,3	16,0	16,3	3,3	4,4
AT ³⁾	15,4	15,1	14,7	15,5	15,2	15,1	20,8	19,9	16,0	3,3	5,4
PT ^{*3)}	14,2	16,3	17,4	16,7	18,5	21,8	19,4	-	17,8	5,7	5,3
FI	15,9	18,7	20,6	22,6	24,0	27,6	18,1	21,5	21,1	4,7	2,2
SE*	13,7	15,8	17,4	17,6	22,0	27,7	23,8	-	19,7	10,8	10,1
UK	12,6	13,9	16,7	15,9	15,7	15,5	15,5	12,5	15,1	2,8	2,9
EU (GDP weighted)	14,9	16,9	18,2	17,6	19,5	20,1	19,1	17,6	18,0	4,11	4,1
Euro12 (GDP weighted)	15,3	17,4	18,5	17,9	20,2	21,0	19,8	19,8	18,6	4,46	4,5
EU (Base weighted) ⁴⁾	14,8	16,7	18,1	17,4	19,2	19,4	18,5	17,0	17,7	3,7	3,8
Euro10 (Base weighted)	15,7	17,8	19,0	18,3	20,6	20,9	19,8	19,0	18,9	3,9	4,1
EU (arithmetic average) ⁴⁾	14,5	16,1	17,8	18,0	19,9	20,9	19,4	18,6	18,1	5,41	4,9
Euro10 (arithmetic average)	14,4	16,0	17,8	18,0	19,8	21,2	19,7	19,8	18,1	5,76	5,3
Ratio st.dev. and mean in %	13,4	14,4	9,5	16,0	18,7	29,8	15,9	21,9			2,5
Difference max. and min.	6,6	8,2	6,0	9,2	11,0	17,6	8,5	11,1			1,9

1) Estimated annual average growth rate in %. - 2) in %-points. - 3) including self-employed.- 4) without Ireland and Luxembourg

Source: Commission Services

*1995-2001

Table A.2a: Implicit tax rates in %: corporate income (D44 corrected)

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	14,3	16,1	17,5	19,8	19,4	19,2	20,1	21,0	18,1	5,2	5,8
DK	21,6	23,5	23,8	25,9	27,6	18,4	19,4	16,8	22,9	-2,3	-2,2
DE ³⁾	20,0	23,2	22,6	23,3	26,1	28,3	21,6	20,0	23,6	2,8	1,6
EL	15,1	13,1	18,5	21,9	26,1	31,5	23,7	23,4	21,4	12,3	8,6
ES	12,7	14,1	18,6	17,5	21,4	23,3	21,0	25,5	18,4	9,4	8,2
FR	16,4	19,5	21,2	20,5	24,6	25,9	29,1	26,0	22,5	8,7	12,7
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
IT	14,0	16,1	18,5	14,0	16,4	14,6	17,0	15,8	15,8	1,0	3,0
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NL	19,0	23,3	24,8	25,3	25,6	22,6	23,7	21,7	23,5	2,3	4,7
AT ³⁾	16,0	17,8	17,3	18,3	18,0	18,0	24,9	23,0	18,6	5,0	8,9
PT ^{*3)}	14,9	17,2	18,4	17,5	19,3	23,0	20,6	-	18,7	5,7	5,7
FI	16,7	19,6	21,6	23,6	25,0	29,6	19,1	22,7	22,2	4,9	2,4
SE*	15,7	18,2	20,0	20,5	25,2	34,2	29,0	-	23,2	11,9	13,3
UK	17,4	20,7	26,6	21,4	30,2	31,4	34,9	29,4	26,1	10,9	17,5
EU (GDP weighted)	17,1	19,8	21,8	20,5	24,3	25,4	24,9	22,9	22,0	6,20	7,8
Euro12 (GDP weighted)	17,0	19,6	20,8	20,2	22,9	23,8	22,5	22,6	21,0	4,74	5,5
EU (Base weighted) ⁴⁾	17,0	19,6	21,6	20,3	23,7	24,4	23,3	21,7	21,4	5,3	6,3
Euro10 (Base weighted)	17,4	19,9	21,3	20,5	23,2	23,6	21,7	21,3	21,1	3,9	4,3
EU (arithmetic average) ⁴⁾	16,5	18,6	20,7	20,7	23,4	24,6	23,4	22,3	21,1	6,20	6,9
Euro10 (arithmetic average)	15,9	18,0	19,9	20,2	22,2	23,6	22,1	22,1	20,3	5,83	6,2
Ratio st.dev. and mean in %	14,8	17,3	13,8	16,6	17,4	25,0	21,5	18,1			6,7
Difference max. and min.	8,9	10,4	9,2	11,9	13,7	19,6	17,9	13,5			9,0

1) Estimated annual average growth rate in %. - 2) in %-points. - 3) including self-employed.- 4) without Ireland and Luxembourg

Source: Commission Services

*1995-2001

Table A.3: Implicit tax rates in %: capital and business income of households

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	15,6	15,0	15,0	15,0	15,0	14,9	15,0	15,7	15,1	-0,5	-0,7
DK	14,2	14,9	20,3	37,3	50,2	32,4	34,9	31,3	29,2	18,4	20,7
DE ³⁾	2,6	3,2	2,7	3,0	3,0	3,1	2,5	2,3	2,9	-0,2	-0,1
EL	6,4	6,3	6,7	8,6	8,5	8,9	8,7	9,0	7,7	6,6	2,3
ES	14,6	14,4	14,8	15,7	16,9	17,2	16,8	16,8	15,8	3,3	2,3
FR	14,1	15,2	15,0	15,6	16,1	17,0	16,1	14,7	15,6	2,5	2,0
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
IT	14,1	14,3	15,5	15,9	17,1	18,7	17,4	16,9	16,1	4,5	3,3
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
NL	22,2	21,7	20,8	20,3	23,6	22,1	29,0	28,2	22,8	3,5	6,8
AT ³⁾	15,9	14,3	12,9	12,0	11,3	11,0	11,4	11,6	12,7	-5,9	-4,5
PT ^{*3)}	8,7	10,2	12,7	14,8	19,2	20,0	19,1	-	15,0	14,7	10,4
FI	26,3	27,0	26,5	27,3	26,4	28,3	27,6	24,6	27,0	0,9	1,3
SE*	9,9	16,1	18,8	19,8	26,4	33,1	22,3	-	20,9	15,1	12,4
UK	22,9	23,2	22,9	28,7	30,0	30,1	29,2	29,7	26,7	5,4	6,2
EU (GDP weighted)	12,4	13,1	13,6	15,4	16,7	17,3	16,7	16,1	15,0	5,89	4,3
Euro12 (GDP weighted)	10,7	11,2	11,3	11,8	12,5	13,1	13,0	12,9	12,0	3,54	2,3
EU (Base weighted) ³⁾	11,7	12,3	12,6	13,5	14,3	15,1	14,4	13,9	13,4	4,2	2,7
Euro10 (Base weighted)	10,8	11,3	11,4	11,8	12,4	13,0	12,5	12,0	11,9	2,9	1,7
EU (arithmetic average) ³⁾	14,4	15,1	15,7	18,0	20,3	19,7	19,2	18,3	17,5	5,93	4,8
Euro10 (arithmetic average)	14,0	14,2	14,3	14,8	15,7	16,1	16,4	15,5	15,1	2,91	2,3
Ratio st.dev. and mean in %	57,0	52,3	50,8	66,3	82,4	61,4	63,4	66,0			6,4
Difference max. and min.	23,7	23,7	23,8	34,2	47,2	30,0	32,4	29,0			8,7

1) Estimated annual average growth rate in %. - 2) in %-points. - 3) without self-employed. - 4) without Ireland and Luxembourg

Source: Commission Services

*1995-2001

Table A.3a: Implicit tax rates in %: capital and business income of households (D44 corrected)

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	14,6	13,9	13,9	13,9	13,8	13,8	13,8	14,4	14,0	-0,7	-0,9
DK	8,8	8,7	10,5	17,4	22,7	13,0	11,9	11,1	13,3	9,0	3,2
DE ³⁾	2,2	2,7	2,3	2,6	2,6	2,7	2,2	2,0	2,5	0,1	-0,1
EL	6,4	6,3	6,7	8,6	8,5	8,9	8,7	9,0	7,7	6,6	2,3
ES	13,9	13,7	14,0	14,8	15,9	16,2	15,8	15,9	14,9	3,1	2,0
FR	12,5	13,4	13,1	13,6	14,0	14,9	14,1	12,8	13,7	2,3	1,6
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
IT	13,8	14,0	15,2	15,4	16,5	18,1	16,9	16,4	15,7	4,3	3,1
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
NL	11,9	11,6	11,3	10,5	11,8	10,7	15,1	15,7	11,8	2,2	3,2
AT ³⁾	14,0	12,7	11,4	10,6	9,9	9,6	10,1	10,3	11,2	-6,0	-3,9
PT ^{*3)}	7,7	8,8	10,6	12,2	15,4	15,8	14,9	-	12,2	12,6	7,2
FI	24,5	24,9	24,5	25,2	24,7	24,9	24,7	22,4	24,8	0,1	0,2
SE*	7,6	12,7	14,8	15,8	21,3	24,7	17,1	-	16,3	14,8	9,6
UK	15,3	15,0	14,6	17,8	18,9	19,2	19,3	19,3	17,2	5,2	4,0
EU (GDP weighted)	10,1	10,6	10,8	11,9	12,8	13,3	12,8	12,4	11,8	4,77	2,8
Euro12 (GDP weighted)	9,4	9,8	9,9	10,3	10,8	11,4	11,2	11,1	10,4	3,24	1,8
EU (Base weighted) ³⁾	10,2	10,6	10,8	11,5	12,1	12,8	12,4	11,9	11,5	3,9	2,2
Euro10 (Base weighted)	9,7	10,1	10,2	10,5	11,0	11,5	11,0	10,8	10,6	2,6	1,3
EU (arithmetic average) ³⁾	11,8	12,2	12,5	13,7	15,1	14,8	14,2	11,5	13,5	4,06	2,4
Euro10 (arithmetic average)	12,2	12,2	12,3	12,7	13,3	13,5	13,6	11,9	12,8	2,27	1,5
Ratio st.dev. and mean in %	53,9	49,4	47,5	46,6	50,4	48,5	43,9	46,0			-10,0
Difference max. and min.	22,2	22,2	22,2	22,6	22,1	22,2	22,5	20,4			0,2

1) Estimated annual average growth rate in %. - 2) in %-points. - 3) without self-employed. - 4) without Ireland and Luxembourg

Source: Commission Services

*1995-2001

Table A.4: Implicit tax rates in %: income of financial corporations

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	4,7	7,6	8,7	8,8	6,8	9,8	8,1	9,9	7,8	6,9	3,4
DK	9,2	8,7	7,4	8,1	8,9	9,9	7,4	8,1	8,5	-0,7	-1,8
DE	16,6	16,1	14,1	20,3	12,0	7,3	6,3	6,4	13,2	-16,6	-10,3
EL	6,2	5,2	5,8	7,9	11,3	11,4	9,8	5,9	8,2	13,0	3,6
ES	5,6	5,4	8,6	7,4	7,2	7,3	5,1	6,9	6,7	0,4	-0,6
FR	3,0	6,9	7,8	7,9	7,9	9,3	10,3	9,4	7,6	15,3	7,2
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
IT	12,3	14,2	13,2	15,0	14,5	13,4	13,7	13,6	13,8	1,1	1,4
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
NL	3,8	4,5	4,5	4,4	4,4	4,7	5,0	4,5	4,5	3,0	1,2
AT	5,0	5,4	4,9	5,3	4,8	5,1	6,7	6,8	5,3	2,7	1,7
PT *	3,5	4,3	5,2	5,7	6,8	6,7	6,0	-	5,5	9,8	2,5
FI	3,5	5,1	6,6	6,3	7,8	14,7	8,3	7,9	7,5	17,5	4,8
SE*	5,2	7,6	10,0	11,7	13,0	13,8	-	-	10,2	18,8	8,5
UK	1,6	2,1	4,4	6,5	8,3	6,3	6,9	5,3	5,2	25,7	5,2
EU (GDP weighted)	8,5	9,5	9,5	11,7	9,8	8,6	7,9	7,9	9,4	-1,34	-0,6
Euro12 (GDP weighted)	9,7	10,9	10,6	12,9	10,0	8,9	8,5	8,6	10,2	-3,04	-1,2
EU (Base weighted) ³⁾	8,1	9,1	9,1	11,2	9,5	8,2	8,8	7,4	9,1	0,2	0,6
Euro10 (Base weighted)	10,1	11,1	10,7	13,1	10,0	8,9	8,4	8,6	10,3	-3,8	-1,7
EU (arithmetic average) ³⁾	6,2	7,2	7,8	8,9	8,7	9,2	7,2	7,7	7,9	3,86	1,0
Euro10 (arithmetic average)	6,4	7,5	7,9	8,9	8,3	9,0	7,9	7,9	8,0	3,75	1,5
Ratio st.dev. and mean in %	51,5	43,5	34,5	39,5	32,5	41,0	28,4	34,3			-23,0
Difference max. and min.	15,0	14,0	9,7	15,9	10,1	10,1	8,8	9,1			-6,2

1) Estimated annual average growth rate in %. - 2) in %-points. - 3) without Ireland and Luxembourg

Source: Commission Services

*1995-2000

Table A.4a: Implicit tax rates in %: income of financial corporations (D44 corrected)

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	5,8	9,3	10,9	10,7	8,1	12,0	10,1	13,0	9,6	6,6	4,3
DK	14,4	13,9	12,2	13,0	13,9	16,0	12,4	12,6	13,7	-0,1	-2,0
DE	21,3	20,9	18,4	26,9	15,9	9,9	8,8	9,0	17,4	-15,3	-12,5
EL	6,2	5,2	5,8	7,9	11,3	11,4	9,8	5,9	8,2	13,0	3,6
ES	6,5	6,4	10,2	8,8	8,7	8,6	5,9	8,0	7,9	0,5	-0,6
FR	4,2	9,6	11,3	12,0	11,9	13,7	15,4	14,0	11,2	16,6	11,2
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
IT	13,7	15,9	14,9	17,4	17,1	15,7	15,7	15,4	15,8	1,9	2,0
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
NL	8,5	10,2	10,0	10,3	9,6	9,5	9,6	8,3	9,7	0,7	1,1
AT	5,7	6,3	5,6	6,1	5,7	6,0	7,8	7,8	6,2	3,2	2,1
PT*	4,2	5,4	6,2	6,7	7,8	7,8	7,0	-	6,5	8,9	2,8
FI	4,1	6,1	8,0	7,5	9,3	18,4	10,2	9,9	9,1	18,1	6,1
SE*	6,6	9,8	13,3	16,2	18,0	21,5	-	-	14,2	22,6	14,8
UK	3,2	4,3	9,6	8,5	16,7	11,8	12,3	8,7	9,5	23,6	9,1
EU (GDP weighted)	11,0	12,5	13,0	15,4	14,0	12,1	11,2	10,8	12,7	0,25	0,2
Euro12 (GDP weighted)	12,3	14,0	13,6	16,9	13,2	11,8	11,3	11,4	13,3	-2,27	-1,0
EU (Base weighted) ³⁾	10,7	12,2	12,8	15,0	14,1	11,9	11,6	10,4	12,6	1,1	0,9
Euro10 (Base weighted)	13,0	14,5	14,1	17,6	13,5	11,9	11,3	11,4	13,7	-3,1	-1,7
EU (arithmetic average) ³⁾	8,0	9,5	10,5	11,7	11,9	12,5	9,6	10,2	10,5	4,31	1,6
Euro10 (arithmetic average)	8,0	9,5	10,1	11,4	10,6	11,3	10,0	10,1	10,1	3,75	2,0
Ratio st.dev. and mean in %	49,3	40,2	28,8	38,2	28,8	37,2	26,4	29,0			-22,9
Difference max. and min.	18,1	16,7	12,8	20,8	12,2	15,4	9,8	9,5			-8,3

1) Estimated annual average growth rate in %. - 2) in %-points. - 3) without Ireland and Luxembourg

Source: Commission Services

*1995-2000

Table A.5: Implicit tax rates in %: income of non-financial corporations

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	15,5	16,2	16,4	18,8	19,2	15,7	16,3	16,1	16,9	0,9	0,8
DK	24,8	29,6	29,7	33,3	31,6	17,4	20,8	18,4	26,7	-5,5	-4,1
DE ³⁾	18,2	22,6	22,7	19,3	28,0	31,5	22,2	20,9	23,5	5,2	4,0
EL	21,9	19,5	29,2	34,0	29,2	40,5	32,6	33,1	29,6	9,5	10,7
ES	16,7	18,4	22,2	21,1	26,2	29,8	31,0	35,9	23,6	10,7	14,3
FR	19,2	20,0	20,4	17,4	21,9	21,0	22,1	19,5	20,3	2,1	3,0
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
IT	13,6	15,3	19,2	11,8	15,2	13,0	16,9	15,4	15,0	0,4	3,3
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
NL	23,2	27,6	30,0	30,1	31,5	26,9	28,7	27,0	28,3	2,3	5,5
AT ³⁾	19,1	21,1	21,1	20,7	21,1	20,7	29,0	26,1	21,8	4,3	9,9
PT ^{*3)}	17,8	20,2	22,3	20,9	22,2	28,5	25,3	-	22,5	6,2	7,5
FI	20,2	22,3	23,7	25,3	25,7	28,2	19,4	24,0	23,5	1,5	-0,8
SE *	20,4	22,4	21,2	19,5	22,8	34,4	-	-	23,5	7,4	14,0
UK	17,2	18,3	20,3	19,0	16,6	18,4	16,8	15,3	18,1	-0,9	-0,4
EU (GDP weighted)	18,0	20,3	21,7	19,1	22,6	23,5	20,9	20,5	20,9	2,83	2,9
Euro12 (GDP weighted)	17,9	20,3	21,8	18,8	23,7	24,5	22,7	22,6	21,4	4,21	4,8
EU (Base weighted) ⁴⁾	17,7	19,8	21,5	18,8	21,9	22,5	21,0	19,8	20,5	2,8	3,3
Euro10 (Base weighted)	18,2	20,5	22,4	19,0	23,9	24,0	22,2	22,6	21,5	3,5	4,1
EU (arithmetic average) ⁴⁾	19,1	21,0	22,9	22,4	23,9	25,1	21,6	22,9	22,3	2,76	2,6
Euro10 (arithmetic average)	18,5	20,3	22,7	21,9	24,0	25,6	24,3	24,2	22,5	4,78	5,8
Ratio st.dev. and mean in %	17,5	20,6	19,6	34,7	24,2	35,9	27,5	35,5			10,0
Difference max. and min.	11,2	14,4	13,5	22,2	16,4	27,5	16,3	20,6			5,1

1) Estimated annual average growth rate in % . - 2) in %-points. - 3) including self-employed.- 4) without Ireland and Luxembourg

Source: Commission Services

*1995-2000

Table A.5a: Implicit tax rates in %: income of non-financial corporations (D44 corrected)

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	15,4	16,1	16,3	18,7	19,1	15,7	16,2	16,1	16,8	1,0	0,8
DK	24,4	29,3	29,4	33,0	31,2	17,2	20,6	18,3	26,4	-5,4	-3,8
DE ³⁾	18,1	22,5	22,5	19,2	27,8	31,3	22,1	20,8	23,4	5,2	4,0
EL	21,9	19,5	29,2	34,0	29,2	40,5	32,6	33,1	29,6	9,5	10,7
ES	16,6	18,2	22,0	21,0	26,1	29,7	30,8	35,8	23,5	10,8	14,3
FR	19,1	19,9	20,4	17,4	21,8	20,9	22,1	19,4	20,2	2,1	2,9
IE	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
IT	13,5	15,2	19,1	11,7	15,2	13,0	16,8	15,3	14,9	0,4	3,3
LU	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
NL	23,2	27,6	30,0	30,1	31,5	26,9	28,7	27,0	28,3	2,3	5,5
AT ³⁾	19,0	21,1	21,1	20,6	21,0	20,6	28,9	26,0	21,8	4,3	9,8
PT ^{*3)}	17,7	20,1	22,2	20,9	22,1	28,4	25,2	-	22,4	6,2	7,5
FI	20,2	22,3	23,7	25,3	25,7	28,2	19,4	24,0	23,5	1,5	-0,8
SE *	20,4	22,4	21,2	19,5	22,8	34,4	-	-	23,5	7,4	14,0
UK	17,2	18,2	20,2	19,0	16,6	18,4	16,8	15,3	18,0	-0,9	-0,4
EU (GDP weighted)	17,9	20,2	21,6	19,1	22,5	23,5	20,9	20,4	20,8	2,84	2,9
Euro12 (GDP weighted)	17,8	20,2	21,7	18,7	23,6	24,4	22,6	22,6	21,3	4,21	4,8
EU (Base weighted) ⁴⁾	17,7	19,7	21,4	18,7	21,8	22,5	20,9	19,8	20,4	2,8	3,3
Euro10 (Base weighted)	18,1	20,4	22,3	19,0	23,8	24,0	22,2	22,5	21,4	3,5	4,1
EU (arithmetic average) ⁴⁾	19,0	20,9	22,9	22,3	23,9	25,0	21,5	22,8	22,2	2,78	2,6
Euro10 (arithmetic average)	18,5	20,2	22,6	21,9	24,0	25,5	24,3	24,2	22,4	4,79	5,8
Ratio st.dev. and mean in %	17,4	20,5	19,7	34,7	24,2	36,1	27,6	35,6			10,2
Difference max. and min.	10,9	14,1	13,6	22,3	16,3	27,5	16,4	20,5			5,5

1) Estimated annual average growth rate in % . - 2) in %-points. - 3) including self-employed.- 4) without Ireland and Luxembourg

Source: Commission Services

*1995-2000

Table A.6: Implicit tax rates in %: income of non-financial companies according to BACH

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	36,4	42,7	30,8	31,1	25,3	124,6	41,3	40,0	47,5	8,3	4,9
DK	23,3	25,2	23,9	23,8	23,1	22,4	44,5		26,6	6,0	21,2
DE	47,9	50,3	39,6	45,1	42,4	39,9	30,9		42,3	-6,1	-17,0
EL											
ES	40,7	30,5	29,2	27,9	27,5	24,7	24,9	25,4	29,3	-7,0	-15,8
FR	66,1	28,6	31,7	35,1	35,1	30,9	42,5	35,7	38,6	-3,8	-23,6
IE											
IT	50,5	65,1	175,2	61,9	55,0	54,4	68,2	71,8	75,8	-2,2	17,7
LU											
NL	27,0	24,7	22,1	19,8	20,8	18,7	22,2	24,8	22,2	-4,3	-4,8
AT	21,5	30,5	28,8	26,6	20,8	23,6	25,5	14,2	25,3	-1,1	4,1
PT	68,0	59,0	36,1	38,3	38,3	22,3	38,6		42,9	-12,8	-29,4
FI	22,5	22,1	24,9	23,5	25,8	27,6	23,9		24,3	2,3	1,3
SE *	17,6	18,2	18,0	21,7	21,2	19,4	24,6		20,1	3,2	1,8
UK											
EU (GDP weighted)	47,3	42,1	57,5	40,0	37,5	38,7	39,6		43,3	-4,02	-7,7
Euro12 (GDP weighted)	49,0	43,5	60,0	41,2	38,6	40,0	39,5		44,5	-4,50	-9,5
EU (Base weighted) ³⁾	44,0	40,1	59,2	37,9	35,3	42,9	42,9		43,2	-1,6	-1,1
Euro 9 (Base weighted)	48,5	44,4	66,0	42,4	39,9	48,9	42,7				
Arithmetic average	38,3	36,1	41,9	32,3	30,5	37,1	38,7		36,4	-0,82	0,4

1) Estimated annual average growth rate in % . - 2) in %-points. - 3) without Greece, Ireland, Luxembourg and the UK
*1995-2000

Source: Commission Services

**Table A.6a: Implicit tax rates in %: income of non-financial companies according to BACH
(National Accounts profit concept)**

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	31,5	36,7	34,3	32,7	34,4	36,8	40,6	40,8	35,3	2,7	9,1
DK*	22,6	24,1	23,6	23,8	21,9	20,8	22,8		22,8	-1,2	0,2
DE	37,0	43,5	45,1	37,4	36,4	34,4	32,9		38,1	-3,7	-4,1
EL											
ES	24,2	24,5	24,3	21,6	24,1	19,0	17,3	13,7	22,1	-5,4	-6,9
FR	15,9	16,6	22,8	24,4	22,2	21,2	22,3	20,0	20,8	5,3	6,5
IE											
IT	39,4	47,9	52,4	50,1	47,4	50,5	44,9	42,2	47,5	1,4	5,5
LU											
NL	27,3	24,9	23,1	24,1	25,4	16,0	21,8	20,6	23,2	-5,2	-5,5
AT	18,5	29,8	27,0	21,5	21,1	21,6	24,2	9,6	23,4	-0,3	5,8
PT	44,3	46,6	33,8	36,7	35,7	20,9	34,3		36,0	-8,3	-10,0
FI	20,4	17,9	27,2	23,3	28,2	28,9	23,7		24,2	5,1	3,3
SE *	15,3	15,8	14,0	18,1	18,4	15,8	20,4		16,2	2,5	0,5
UK											
EU (GDP weighted)	29,2	33,4	35,6	32,8	31,9	30,2	30,1		31,9	-0,77	0,9
Euro12 (GDP weighted)	29,9	34,3	36,8	33,6	32,6	31,1	30,3		32,7	-0,98	0,5
EU (Base weighted) ³⁾	28,4	32,0	34,0	32,2	31,6	30,2	30,3		31,2	0,0	2,0
Euro10 (Base weighted)	31,1	35,3	37,8	35,8	35,7	34,1	30,9				
Arithmetic average	26,9	29,9	29,8	28,5	28,7	26,0	30,5		28,6	0,21	3,6

1) Estimated annual average growth rate in % . - 2) in %-points. - 3) without Greece, Ireland, Luxembourg and the UK
*1995-2000

Source: Commission Services

Table A.7: Top all-in statutory corporate tax rate (including surcharges and local taxes) in %

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2001	Change ¹⁾ 1995-2001	Difference ²⁾ 1995 to 2001
BE	40,2	40,2	40,2	40,2	40,2	40,2	40,2	40,2	40,2	0,0	0,0
DK	34,0	34,0	34,0	34,0	32,0	32,0	30,0	30,0	32,9	-2,0	-4,0
DE	56,8	56,7	56,7	56,0	51,6	51,6	38,3	38,3	52,5	-5,2	-18,5
EL	40,0	40,0	40,0	40,0	40,0	40,0	37,5	35,0	39,6	-0,7	-2,5
ES	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0	0,0	0,0
FR	36,7	36,7	36,7	41,7	40,0	36,7	36,4	35,4	37,8	0,2	-0,2
IE	40,0	38,0	36,0	32,0	28,0	24,0	20,0	16,0	31,1	-11,6	-20,0
IT	52,2	53,2	53,2	41,3	41,3	41,3	40,3	40,3	46,1	-5,5	-12,0
LU	40,9	40,9	39,3	37,5	37,5	37,5	37,5	30,4	38,7	-1,7	-3,4
NL	35,0	35,0	35,0	35,0	35,0	35,0	35,0	34,5	35,0	0,0	0,0
AT	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	34,0	0,0	0,0
PT	39,6	39,6	39,6	37,4	37,4	35,2	35,2	33,0	37,7	-2,3	-4,4
FI	25,0	28,0	28,0	28,0	28,0	29,0	29,0	29,0	27,9	1,8	4,0
SE	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	28,0	0,0	0,0
UK	33,0	33,0	31,0	31,0	30,0	30,0	30,0	30,0	31,1	-1,8	-3,0
EU (GDP weighted)	43,4	43,4	42,7	41,5	39,7	38,9	35,4	35,0	40,7	-3,23	-8,0
Euro12 (GDP weighted)	37,5	37,4	36,2	34,8	33,1	31,9	28,6	28,2	34,2	-4,35	-8,9
EU (Base weighted) ³⁾											
Euro10 (Base weighted)											
EU (arithmetic average)	38,0	38,1	37,8	36,7	35,9	35,3	33,8	32,6	36,5	-2,02	-4,3
Euro12 (arithmetic average)	39,6	39,8	39,5	38,2	37,3	36,6	34,9	33,4	38,0	-2,16	-4,8

1) Estimated annual average growth rate in %. - 2) in %-points.

Source: Commission Services

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