Discussion Paper No. 05-37

EU Company Taxation in Case of a Common Tax Base

A Computer-based Calculation and Comparison Using the Enhanced Model of the European Tax Analyzer

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Non-technical Summary

At present cross-border economic activities of affiliated corporations within the EU are subject to several tax obstacles. In order to remove or minimise these obstacles the European Commission has launched proposals providing multinational companies with a common consolidated tax base for their EU-wide activities. A common consolidated tax base would require first to define common tax accounting rules. In this context it might be useful, that beginning in 2005 companies listed on EU stock exchanges are obliged to utilize International Accounting Standards/ International Financial Reporting Standards (IAS/IFRS) for financial accounting. This development should facilitate a common definition of tax accounting rules, since dependency between financial and tax accounting can be found in all EU Member States to a certain degree. However, the adoption of IAS/IFRS for tax purposes has to be restricted to those standards that are convenient for tax purposes. In particular, this means that tax accounting still has to follow the realisation principle as a general principle. Therefore, the IAS/IFRS "fair value-accounting" cannot be adopted for tax purposes.

The aim of this paper is to estimate and compare the consequences of IAS/IFRS-based tax accounting on the effective tax burdens of companies in 13 countries (Austria, Belgium, the Czech Republic, France, Germany, Hungary, Ireland, Latvia, the Netherlands, Poland, Slovakia, the United Kingdom, and the USA). First, the comparative effective tax burdens of companies in all considered countries are examined using current national accounting rules. In a second step, certain provisions of IAS/IFRS regarding depreciation, inventory valuation and production cost are considered as a starting point for a common tax base. The resulting effective company tax burdens are analysed and compared with the corresponding effective tax burdens based on national tax accounting. For the calculations we use the effective tax burdens the European Tax Analyzer model, which was enhanced for the purpose of this study.

We find that there is a large dispersion of effective company tax burdens between the considered countries. An exclusive harmonisation of the tax base by introducing IAS/IFRS as a starting point, however, will not significantly reduce the current EU-wide differences of effective company tax burdens. According to our results, the effective tax burden tends to slightly increase in all countries except for Ireland because IAS/IFRS-based tax accounting would broaden the tax base compared to current national accounting rules. On the other hand, this would give member states the opportunity to cut nominal tax rates while leaving the overall effective tax burden unchanged. A tax policy of tax cut cum base broadening would not only tend to increase the attractiveness of the member states as a location for companies. At the same time, this would reduce dispersions of effective tax burdens across industries. Therefore, such a tax policy is in line of the long term Community goals to become more competitive in international terms.

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Abstract

Within the EU the relation between financial and tax accounting will be significantly influenced by the regulation adopted in June 2002 that obliges all listed companies to prepare their consolidated accounts according to International Accounting Standards / International Financial Reporting Standards (IAS/IFRS). Since dependency of financial and tax accounting according to different degrees prevails in all EU member states a linkage between IAS/IFRS and tax accounting seems to be possible. Compared to national GAAP the advantage of IAS/IFRS as a starting point for tax accounting derives from the advantages of the creation of a common tax base in the EU. However, the adoption of IAS/IFRS has to be restricted to those standards that are convenient for tax purposes. In particular, this means that tax accounting still has to follow the realisation principle as a general principle; the IAS/IFRS "fair value-accounting" therefore cannot be adopted for tax purposes.

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In this paper we present estimates for the consequences of IAS/IFRS-based tax accounting on the comparative effective tax burdens of companies in 13 countries (Austria, Belgium, the Czech Republic, France, Germany, Hungary, Ireland, Latvia, the Netherlands, Poland, Slovakia, the United Kingdom, and the USA). Therefore, certain provisions of IAS/IFRS were considered as a starting point for the tax base. The effective tax burdens are calculated on the basis of the European Tax Analyzer model which was enhanced for the purposes of this study. A further question arises as to what extent an exclusive harmonisation of the tax base will effectively reduce the current EU-wide differences of effective company tax burdens. It turns out that a common tax base cannot alleviate the current EU-wide differences of effective company tax burdens. A major finding of our study reveals that the effective tax burdens in all countries considered here (except Ireland) tend to increase slightly since the tax bases tend to become broader. This offers the possibility to member states to reduce the nominal tax rate leaving the overall effective tax burden unchanged. A tax policy of tax cut cum base broadening would not only tend to increase the attractiveness of the member states as a location for companies. At the same time, this would reduce dispersions of effective tax burdens across industries. Therefore, such a tax policy is in line of the long term Community goals to become more competitive in international terms.

JEL-Classification: H21, H25

Keywords: International Company Taxation, Effective Tax Burden, Tax Accounting, International Accounting Standards/ International Financial Reporting Standards, Common Consolidated tax base, European Union

Structure

1 Introduction

In its communication on company taxation in October 2001, the European Commission highlighted the economic importance of an EU tax reform for the Internal Market in order to become "the most competitive and most knowledge-based economic area of the world until 2010" (see European Commission, 2001a). In this context the European Commission proposed to provide companies with a common consolidated tax base for their EU-wide activities as a long term goal and presented four different approaches (see European Commission, 2001b; European Commission, 2002). The European Commission confirms that a common consolidated tax base is the only means to overcome the tax obstacles identified in 2001. In particular, the expected advantages are to reduce tax compliance costs resulting from the coexistence of 25 different tax systems, to overcome obstacles in connection with cross-border activities, to increase transparency within tax accounting and to get the opportunity for a further development of an EU-wide tax base. With reference to the harmonisation of the tax base the current discussion focuses on the question whether IAS/IFRS could serve as a starting point. The idea of linking IAS/IFRS and tax accounting became especially attractive from a pragmatic point of view since according to Regulation (EC) No. 1606/2002 (OJ L 243, 11 September 2002) listed EU parent companies are obliged to draw up their consolidated accounts in accordance with IAS/IFRS starting in 2005 (2007 for companies which draw up their accounts in accordance with US-GAAP). Moreover, the Commission is recommending member states to provide IAS/IFRS for both, consolidated accounts of non-listed parent companies and on individual financial accounts. If IAS/IFRS affect individual accounts, this can also have an impact on the tax base of individual companies since there is a linkage between tax accounting and financial accounting in most member states (dependency principle).

In 2003 the European Commission launched a public consultation on the application of IAS/IFRS regarding the introduction of a consolidated tax base. Opinions were divided as to how useful IAS/IFRS could be as a starting point. However, it was stressed that IAS/IFRS could provide a neutral starting point for the development of a common EU tax base. In general, some principles of IAS/IFRS accounting, for example 'fair

value' accounting, are said to be not in line with existing tax principles. Therefore, adopting IAS/IFRS for individual accounts is likely to prompt member states with a far-reaching dependency principle to abolish this principle. One approach to overcome these problems would first be to reach an agreement on common tax principles between EU member states and subsequently to adapt those IAS/IFRS standards for tax purposes in accordance with the tax principles agreed upon (see European Commission, 2003: 17). This would imply either a partial deviation from the dependency principle or special adjustments of the financial accounts for tax purposes by means of 'more-less calculations'. The extent of these adjustments depends on the objectives of tax accounting. Therefore, the European Commission has established a Working Group on the Common Consolidated Corporate Tax Base (CCCTB WG) in 2004. In addition to a brief summary of tax and accounting principle the CCCTB WG has already released comparative analyses on tax depreciation, intangibles and liabilities.[5]

For the moment, however, it is unclear which consequences an adoption of IAS/IFRS as a starting point would have on the effective tax burdens on companies located in different member states and on the member states' tax revenues. This lack of information causes further reservations against the adoption of IAS/IFRS for tax accounting. Our primary objective, therefore, is to measure the impact of the adoption of certain IAS/IFRS on the effective company tax burdens in the EU. Prior research into this topic has already been conducted (see Spengel, 2003b; Oestreicher and Spengel, 1999), it has been restricted, however, to only four EU member states (Germany, France, the United Kingdom, and the Netherlands) and the United States.

The following examination aims at measuring and comparing the effects of the adoption of certain IAS/IFRS as a starting point for tax purposes on the effective tax burdens of companies in 13 countries. Therefore, our simulation model, the so-called European Tax Analyzer, has been extended to the tax systems of Austria, Belgium, the Czech Republic, Hungary, Ireland, Latvia, Poland, and Slovakia. Firstly, we briefly introduce the methodological concept of the enhanced European Tax Analyzer model (section 2). Secondly, we conduct a cross-country comparison of effective company tax burdens in

5 All documents of the CCCTB WG can be downloaded from the Commission's website (http://europa.eu.int/comm/taxation_customs/index_en.htm

the 13 countries applying the current tax provisions (section 3). Thirdly, the consequences of IAS/IFRS-based tax accounting on the comparative effective tax burdens of companies are examined. In this respect, the question to what extent an exclusive harmonisation of the tax base will effectively reduce the current EU-wide differences of effective company tax burdens will also be examined (section 4). Finally, section 5 concludes.

2 Calculation of effective tax burdens

2.1 European Tax Analyzer: Concept and modifications

The consequences of the transition to tax accounting based on IAS/IFRS on the effective tax burden of companies are quantified using the European Tax Analyzer model. The European Tax Analyzer[6] (ETA) is a computer-based model for the computation and comparison of the tax burdens of partnerships and corporations (including their shareholders) located in different countries over a period of ten years. For that reason all relevant tax provisions, taxes, tax rates and tax bases are taken into account. Up to this point, the computer-based model considers the tax systems from Germany, France, the United Kingdom, the Netherlands, and the United States[7].

The European Tax Analyzer is the result of a joint research project from the Centre for European Economic Research (ZEW) and the University of Mannheim. It has been widely used for several research projects. In addition to international comparisons regarding company tax burdens and tax structures, the previous analyses comprised the evaluation of proposals for tax reforms in Germany and other countries, comparative tax burdens depending on the legal form of companies (i.e. corporations and partnerships), the development and analysis of alternative taxation drafts to reform the company taxation in Europe (change of existing systems, cash-flow-taxes, environmental tax) as well as the investigation of the combined effects taxes have on the entrepreneurial investment behaviour in terms of national and cross-border business activities.[8]

The starting point for further development of the European Tax Analyzer was particularly the limitation of the analysis to the five countries mentioned above. Due to the enlargement of the European Union investors and political decision makers focus in principle on all 25 member states. Therefore, more countries have to be included in

6 For a detailed description of the European Tax Analyzer see Spengel, 1995; Jacobs and Spengel, 1996); Meyer, 1996; Jacobs and Spengel, 2002.

7 The Federal State of California is considered.

8 Regarding legal form comparisons see Hermann, 2005; Jacobs, Hermann and Stetter, 2003, with reference to cross-border business activities see Gutekunst, 2005, concerning green taxes see Jacobs,

meaningful tax burden comparisons at the EU level. Furthermore, frequent amendments of tax laws make it necessary to adapt those changes quickly, which until now, was not possible with the prevailing model of the European Tax Analyzer. The last reason for the revision was that it was not efficiently possible to analyse several tax reforms all over Europe. All these tasks resulted in an Enhanced European Tax Analyzer, which is used for the calculations in this study.

The Enhanced European Tax Analyzer is, in principle, based on the same methodology and company model used in the previous model (see Jacobs and Spengel, 2002). The framework simulates the development of a company over a period of ten years. Data from the asset equipment and funding as well as business plans serve as initial data for the tax calculations. Business plans include variable estimates on production, sale, procurement, number of staff, staff costs as well as investment, financing, and distribution habits. In addition, economic data such as different lending and borrowing interest rates and inflation rates are taken into account. The company is funded with shareholder's equity and debt. In regards to the use of profits, the company may distribute dividends to its shareholders or invest in property, plant and equipment and financial assets in addition to retaining profits.

For the sake of comparability and in order to analyse differing tax burdens in isolation, it is assumed here that the companies in each country show identical business data before any taxation. Due to this necessary assumption, any differences between pre-tax and post-tax data in the model can be solely attributed to differing tax rules in the countries considered here. The tax liabilities in these countries are derived from the assessment of the companies over a ten-year period under each country's rules. Moreover, the effective tax burden is expressed as the difference between the pre-tax and the post-tax value of the firm at the end of the simulation period (i. e. period 10). The calculations take into account all relevant taxes that may be influenced by investment and financing. Since the model firm in this study is designed as a corporation, the tax burden can be calculated for both the corporation as well as for the level of the shareholders. However, the following concentrates only on company taxes.

Spengel and Wünsche, 1999.

Referring to the tax bases, the most relevant items with regard to assets and liabilities as well as accounting profits and losses are considered. Furthermore, the flexibility of the European Tax Analyzer allows analyses between accounting options, enabling a company to influence its taxable profits. The rules for profit computation cover:

- depreciation (methods and tax periods for all assets considered);
- inventory valuation (production cost, LIFO, FIFO and weighted average);
- research and development costs (immediate expensing or capitalization);
- elimination and mitigation of double taxation on foreign source income.

In contrast to the previous model, the calculation of energy costs in the new model is simplified and it does not yet include the occupational pension schemes. Therefore the results slightly differ from those previously published (see Jacobs and Spengel, 2002). In the near future, however, occupational pension schemes and other elements of the tax bases will be included in the model.

The major enhancements of the European Tax Analyzer in comparison to the previous model lie beneath the surface in the underlying architecture of the software, particularly in a newly designed modelling concept for tax systems. Contrary to the previously used version, the European Tax Analyzer now offers the users the possibility to include almost any country specific system of taxation including major elements of the tax bases (i.e. regulations on inventories, production costs and depreciation). This results in a broader analysis spectrum and a much faster and easier examination of the effects of tax reforms. The flexibility is reached by using a component-based metamodel to integrate the tax systems and tax bases in the computer-simulation (see Stetter, 2005). The European Tax Analyzer now offers a component-based construction kit with the use of a metamodel (see Strahringer, 1998: 1). This enables the user to model the tax systems for nearly every country, by composing and adapting the given components. The metamodel consists of several components including the tariff and tax base for a variety of different taxes. The user can adapt these general components to fit the country specific tax regulations or to implement alternative tax rules as we do in this study. The model offers interchangeable components with different characteristics to determine country-specific profit computation of the corporation. For example, the depreciation component exists in the forms “straight-line”, “declining-balance”, and a “universal form”. The

"universal form" gives the user the ability to widely adapt the component. In order to model the depreciation on an industrial building in Germany, for example, the user selects the "straight-line" form. To represent the depreciation rules of another country the "straight-line" form can be interchanged with the "declining-balance" form, for example.

Similar to the process of modelling the profit determination rules of a specific country, taxes are shaped using the European Tax Analyzer. At first the user chooses between different forms of tax base components and tariff components, for example, the "profit" or "property" form. Following this, he modifies these components to fit specific needs. In the final step, the user composes the selected and modified components to shape the tax system, e.g. to consider the interrelation between the different taxes.

2.2 Scope of the model and economic structures of the model firms

The European Tax Analyzer is no longer limited to certain countries or systems of taxation, as we show in this study. It covers the tax systems Austria, Belgium, Czech Republic, France, Germany, Hungary, Ireland, Latvia, the Netherlands, Poland, Slovakia, the United Kingdom, and the United States. Within these countries all relevant taxes that may be influenced by investment and financing are taken into account (see Table 1). At present the range of considered countries is extended to all EU member states and Canada.

Table 1: Company taxes considered

Country	Taxes
Austria	Grundsteuer (real property tax); Kommunalsteuer (payroll tax); Körperschaftsteuer (corporate income tax)
Belgium	Précompte immobilier (immovable withholding tax); ISOC (corporate income tax); Contribution complémentaire de crise (surcharge)
Czech Republic	Posemková daň (real property tax); Daň z příjmů právnických osob (corporate income tax)
France	Taxe foncière (real property tax); Taxe professionnelle (trade tax); Taxes et participations assises sur les salaires (employer's contributions); Impôt sur les sociétés (corporate income tax)
Germany	Grundsteuer (real property tax); Gewerbeertragsteuer (trade tax on profits); Körperschaftsteuer (corporate income tax); Solidaritätszuschlag (solidarity levy)
Hungary	Telekadó/Vagyonadó (real property tax); Helyi iparűzési adó (business tax); Társasági adó és osztalékado (corporate income tax)
Ireland	Rates; Corporation tax
Latvia	Zemes nodoklis (real property tax); Uznemumu ienakuma nodoklis (corporate income tax)
Netherlands	Onroerendezaakbelasting (real property tax); Vennootschapsbelasting (corporate income tax)
Poland	Podatek gruntowy (real property tax); Podatek dochodowy od osób prawnych (corporate income tax)
Slovakia	Posemková daň (real property tax); Daňz príjmov právnických osôb (corporate income tax)
United Kingdom	Business rates; Corporation tax
United States (California)	Property tax; Franchise tax on corporate income; Accumulated earnings tax; Corporate income tax

The computations and comparisons of effective tax burdens are made in two stages. The first stage is to determine and compare the tax burden taking as a base case data typical for a manufacturing company of medium size. Pre-tax data was derived from the Federal Reserve Bank of Germany (see Deutsche Bundesbank, 2003: 12-168). The use of German pre-tax data simply is a matter of the availability of the data. The base case

model firm's structure[9] of the balance sheet and profit and loss account at the end of year six (the mid-point of the ten year comparison) based on the assumption of German taxation is shown in tables 2 and 3:

Table 2: Model firm's structure of the balance sheet (period 6)

ASSETS	EURO	LIABILITIES	EURO
A. **Fixed assets**		A. **Shareholders' equity**	
I. *Intangible assets*	16,972	I. *Share capital*	350,000
II. *Tangible assets*		II. *Profit brought forward*	980,474
1. Real estate	925,138	III. *Net income*	248,042
2. Machinery	697,858	B. **Provisions for Pensions**	0
3. Office furniture and fixtures	39,678	C. **Creditors**	
III. *Financial assets*		I. *Loans from third parties*	550,000
1. Investments	40,000	II. *Loans from shareholders*	720,000
2. Long-term loans	30,000	III. *Trade creditors*	809,456
B. **Current assets**		IV. *Short-term debt*	2,160,000
I. *Stock*	1,325,440		
II. *Trade debtors*	1,453,156		
III. *Fund's assets*	0		
IV. *Deposits*	1,289,730		
Total	5,817,972	Total	5,817,972

Table 3: Model firm's structure of the profit and loss account (period 6)

		EURO
	Net sales or revenues (turnover)	8,073,091
–	Cost of goods sold	6,258,102
=	Gross profit	1,814,989
–	Selling expenses	332,178
–	General and administrative expenses	1,426,247
+	Other revenues	566,612
–	Other expenses	194,915
=	Operating income	428,261
+	Investment earnings (dividends, 7,000 € tax exempt)	350
+	Interest income	53,363
–	Interest expenses	76,200
=	Profit on ordinary activities	405,774
–	Income tax expenses (if deductible)	77,868
–	Other taxes	687
=	Taxable income (income before corporation tax)	327,219

9 See Jacobs and Spengel, 2002: 15-18, for the underlying assumptions for the assets & liabilities and the earnings & expenditures.

The use of German data, however, does not limit the scope of the model which, in principle, allows starting with any country specific pre-tax data. Moreover, in order to increase the relevance of the results, the second stage is to see how the results will be affected by alternative assumptions as regards the pre-tax data of the company.

Table 4: Financial ratios of companies from different industries (period 6 of 10)

	Sum of balance sheet €	Profits €	Turnover €	Capital intensity %	Equity ration %	Return on equity %	Return on turnover %	Personnel intensity %	Stocks/ balance sheet %
Manufactoring industry									
(base case)	5,742,971	248,041	8,073,091	29.0	27.5	18.6	3.1	25.1	23.1
Chemical Engineering	6,397,970	272,112	9,840,933	33.8	33.0	14.8	2.8	21.9	20.4
Electrical Engineering	5,878,077	242,979	9,249,152	18.7	32.9	14.4	2.6	26.4	27.4
Food & Beverages	5,448,410	176,092	8,989,077	31.6	25.1	14.8	2.0	15.2	15.5
Automotive Vehicles	5,301,171	215,363	8,887,880	27.1	24.2	20.2	2.4	26.0	23.9
Engineering	5,784,566	233,842	8,285,231	20.0	28.5	16.5	2.8	31.4	28.4
Metal Production	6,132,823	306,435	9,431,544	28.4	34.1	17.2	3.2	25.1	23.2
Building & Construction	5,373,939	100,971	6,287,129	18.9	11.8	19.0	1.6	29.3	41.7
Service Trade	21,654,905	512,328	6,547,318	13.9	33.2	7.7	7.8	34.6	6.4
Commerce	2,839,197	75,814	6,741,779	20.5	18.2	17.2	1.1	11.4	30.9

Therefore, in addition to the base case model firm the effective tax burdens of nine other industries will be calculated. Table 4 displays the most important financial ratios of these industries. Again, data was derived from the Federal Reserve Bank of Germany.

3 Comparison of International Tax Burdens Based on Domestic Accounting

To estimate the consequences on the effective company tax burdens which result from the adoption of IAS/IFRS as a starting point for tax accounting, the current tax situation is examined in 12 member states of the European Union and the United States first. This comparison is based on the tax regimes implemented as of the fiscal year 2005 (see Table 5). The first stage considers the model firm, which is typical for a medium sized manufacturing company (see Tables 2, 3 and 4, base case).

Most countries in our sample levy only corporate income tax and real estate tax. Corporate income tax is by far the most important company tax. The top rates vary between 12.5% in Ireland and 35% in the United States. Additional taxes aside from corporate income tax and real estate tax are imposed by Austria, France, Germany, Hungary, and the United States. Corporations residing in Germany are liable for an additional trade tax (Gewerbesteuer) and a solidarity surcharge (Solidaritätszuschlag). The trade tax is levied on corporate profits, which are modified to a certain extent. In particular, one half of long term interest expenses have to be added back to the tax base. As a result, the overall German tax burden is almost completely determined by profit taxes. Due to several non-profit taxes in addition to real estate tax, the structure of the tax systems in Austria, France, and Hungary differs significantly from the other countries. This is especially the case in France, which levies various additional non-profit taxes in addition to real estate tax: trade tax (taxe professionnelle) and employer's contributions (taxes assises sur les salaires). These non-profit taxes determine the overall tax burden of corporations to a great extent. However, because these taxes are not linked to profits, their share of the overall tax burden depends on the profitability of the company. Likewise, in Austria and Hungary municipalities are authorised to levy additional local taxes that are not based on profits. The tax base for business tax (Helyi iparűzési adó) applied to corporations residing in Hungary equals the turnover, less the acquisition cost of goods sold, subcontractor fees and material costs. Municipalities in Austria levy an additional payroll tax (Kommunalsteuer) on aggregate salaries paid to employees. Finally, in the United States additional profit and non-profit taxes are levied by different states. As far

as California is concerned, we have to consider the state's corporate income tax plus a net wealth tax that covers certain assets in addition to ground and buildings.

Table 5: Tax regimes from the countries considered (from 2005)

	Austria	Belgium	Czech Republic	France	Germany	Hungary
Corporate income tax						
Lowest rate	-	24.25%	-	15%	-	-
Highest rate	25%	33%	26%	33.33%	25%	16%
surcharge	-	3%	-	1.5%, 3.3%	5.5%	-
Other taxes	- real estate tax - payroll tax	- real estate tax	- real estate tax	- real estate tax - taxe profess-sionnelle - payroll taxes	- real estate tax - trade tax	- real estate tax - business tax
Production cost	Full cost approach (overhead expenses may be excluded)	Full cost approach	Full cost ap-proach	Full cost approach	Full cost approach (overhead expenses may be excluded)	Full cost approach
Inventory valuation methods	FIFO	LIFO	average costs	average costs	LIFO	LIFO
Depreciation						
Patent	Straight-line on 4 years	Straight-line on 5 years	Straight-line on 5 years	Straight-line on 4 years	Straight-line on 4 years	Straight-line on 5 years
License	Straight-line on 4 years	Straight-line on 5 years	Straight-line on 5 years	Straight-line on 4 years	Straight-line on 4 years	Straight-line on 5 years
Office build-ing	Straight-line on 50 years	Straight-line on 33 years	Declining-balance on 30 years	Straight-line on 25 years	Straight-line on 33 years	Straight-line on 25 years
Production building	Straight-line on 33 years	Straight-line on 20 years	Declining-balance on 30 years	Straight-line on 20 years	Straight-line on 33 years	Straight-line on 25 years
Office equi-pement	Straight-line on 7 years	Declining-balance on 6 years	Declining-balance on 6 years	Declining-balance on 7 years	Declining-balance on 7 years	Straight-line on 7 years
Fixtures	Straight-line on 3 years	Straight-line on 3 years	Declining-balance on 4 years	Declining-balance on 3 years	Declining-balance on 3 years	Straight-line on 2 years
Machinery	Straight-line on 4 to 8 years	Declining-balance on 4 to 8 years	Declining-balance on 4 to 6 years	Declining-balance on 4 to 8 years	Declining-balance on 4 to 8 years	Straight-line on 3 to 7 years

Table 5: Tax regimes from the countries considered (from 2005) (continued)

	Ireland	Latvia	Nether-lands	Poland	Slovakia	United Kingdom	USA
Taxes on corporate income							
lowest rate	-	-	27%	-	-	10%	15% (federal level)
highest rate	12.5%	15%	31.5%	19%	19%	30%	35% (federal level)
surcharges	-	-	-	-	-	-	-
Other taxes	- real estate tax	- real estate tax	- real estate tax	- real estate tax	- real estate tax	- real estate tax	- wealth tax - corporate income tax state level
Production cost	Full cost approach	Full cost approach	Full cost approach	Full cost approach	Full cost approach	Full cost approach	Full cost approach
Valuation of inventories	FIFO	average costs	LIFO	LIFO	average costs	FIFO	FIFO
Depreciation							
Patent	Straight-line on 5 years	Straight-line on 5 years	Straight-line on 4 years	Straight-line on 3 years	Straight-line on 5 years	Pool declining-balance 25%	Straight-line on 5 years
License	Straight-line on 5 years	Straight-line on 5 years	Straight-line on 4 years	Straight-line on 3 years	Straight-line on 5 years	Pool declining-balance 25%	Straight-line on 5 years
Office building	No capital allowance available	Pool declining-balance 10%	Straight-line on 35 years	Straight-line on 40 years	Declining-balance on 20 years	No capital allowance available	Straight-line on 39 years
Production building	Straight-line on 40 years	Pool declining-balance 10%	Straight-line on 35 years	Straight-line on 40 years	Declining-balance on 20 years	Straight-line on 25 years	Straight-line on 40 years
Office equipement	Straight-line on 8 years	Pool declining-balance 40%	Straight-line on 7 years	Declining-balance on 7 years	Declining-balance on 6 years	Pool declining-balance 25%	Declining-balance on 5 years
Fixtures	Straight-line on 4 years	Pool declining-balance 70%	Straight-line on 3 years	Declining-balance on 4 years	Declining-balance on 4 years	Pool declining-balance 25%	Declining-balance on 3 years
Machinery	Straight-line on 5 to 10 years	Pool declining-balance 40%	Straight-line on 4 to 8 years	Declining-balance on 5 to 7 years	Declining-balance on 4 to 6 years	Pool declining-balance 25%	Declining-balance on 3 to 5 years

With reference to the tax base, there are many differences between particular accounting and valuation rules. Therefore, it is difficult to make a concluding evaluation of tax accounting rules and to compare the countries. The rules regarding depreciation, determination of production cost and valuation of inventories are very important and are shown in Table 5. Favourable depreciation allowances can be found particularly in Belgium, France, Latvia, and Slovakia. Under the assumption of increasing market values, those countries allowing for the valuation of inventories using LIFO can be deemed more favourable than those who allow only for the application of FIFO or the average costs method. Countries that allow for LIFO are Belgium, Germany, Hungary, the Netherlands, and Poland. With respect to the determination of production cost, the full cost approach is mandatory in all countries. However, in Austria and Germany overhead expenses, although attributable to the product, may be excluded and thus, are deductible immediately in the period in which they are incurred.

Figure 1: Comparison of effective tax burdens (corporate level, 10 periods)

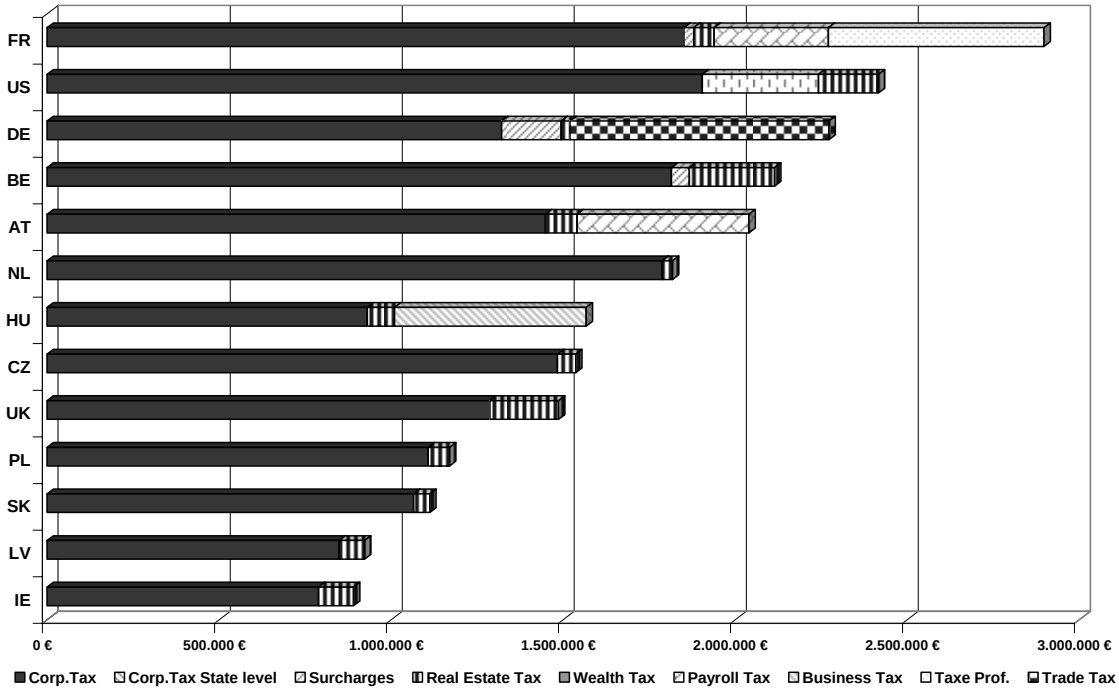


Figure 1 displays the effective tax burden of the base manufacturing company at the corporate level over the simulation period of ten years. From the results it is evident that there is a large dispersion of effective tax burdens which range between 890,843 € in Ireland and 2,897,824 € in France. These findings suggest that the attractiveness of particular locations from a tax perspective differs significantly. The model corporation assessed here bears a comparably low effective tax burden in Ireland, Latvia, Poland, and Slovakia. Company taxation in the Czech Republic, Hungary, the Netherlands, and the United Kingdom can be deemed moderate, whereas Austria, Belgium, France, Germany, and the United States can be classified as countries imposing a relatively high tax burden on corporations.

Table 6: Impact of particular tax categories on the effective tax burden

	Corp.Tax	Corp.Tax State level	Surcharges	Real Estate Tax	Wealth Tax	Payroll Tax	Business Tax	Taxe Prof.	Trade Tax	overall tax burden
IE	789.162 €			101.681 €						890.843 €
LV	848.512 €			73.971 €						922.483 €
SK	1.065.538 €			46.872 €						1.112.410 €
PL	1.108.092 €			61.630 €						1.169.722 €
UK	1.287.214 €			199.225 €						1.486.439 €
CZ	1.483.871 €			52.641 €						1.536.512 €
HU	930.949 €			79.317 €			556.522 €			1.566.788 €
NL	1.787.703 €			30.169 €						1.817.872 €
AT	1.448.531 €			91.997 €		499.483 €				2.040.011 €
BE	1.814.367 €		52.100 €	248.179 €						2.114.646 €
DE	1.321.490 €		172.314 €	25.583 €					753.357 €	2.272.744 €
US	1.904.932 €	336.877 €			174.569 €					2.416.378 €
FR	1.850.874 €		28.147 €	59.911 €		331.670 €		627.222 €		2.897.824 €

In general, corporate income tax is the main determinant of the overall tax burden. Its share in the overall tax burden amounts to 90% and more in most countries. The highest corporate income tax burden is imposed by Belgium, France, the Netherlands, and the United States[10]. Obviously, the high profit tax rates applied by these countries (see Table 5) translate into high effective corporate income tax burdens. Accordingly, Hungary, Ireland, and Latvia with corporate income tax rates below 18%, display the lowest effective corporate income tax burdens in our comparison. These results indicate that tax rates seem to determine the ranking of the countries regarding effective corporate income tax burden and, thus, the overall effective tax burden to a great extent, while rules

10 In the United States corporate income tax is levied at the federal level and the state level.

for determining the taxable income (i.e. the tax base) seem to be only of minor importance.

In a certain number of countries, the effective corporate tax burden is also influenced by the levy of additional taxes – in particular in Austria, France, Germany, Hungary and the United States. Here, the proportion of additional taxes in the overall tax burden ranges between 29% in Austria and 42% in Germany as far as our base case is concerned. As mentioned above, most countries levy only real estate tax in addition to corporate income tax. However, real estate tax is only of minor importance when determining the effective overall tax burden and cross-country differentials in tax burdens. However, this conclusion is not valid for the additional taxes imposed by Austria, France, Germany, Hungary, and the United States. If these additional taxes are taken into account, the positions of these five countries worsen noticeable. For example, France loses two and Germany and Hungary even four positions in the country ranking.

So far, the results shown have been based on a company with a structure typical for a medium-sized manufacturing business. To that extent, the differentials in tax burdens are the results of the specific underlying assumptions about the pre-tax data and should not be generalised. The conclusions heavily depend on the extent to which the factors are decisive for the application of the individual tax systems, the types of taxes, the tax accounting rules and the tax rates, which are relevant to the given business. Therefore, the following investigates the effects on the effective tax burdens caused by altering the assumptions of the model company with respect to the industry to which it belongs. In addition to the manufacturing industry, chemical engineering, electrical engineering, food and beverages, automotive vehicles, engineering, metal production, engineering, building and constructions, service and trade, and commerce are examined. The most important financial ratios for these industries are displayed in Table 4.

Table 7: Differences between the effective tax burdens for different industries in terms of current tax accounting rules from the German perspective

	AT	BE	CZ	FR	HU	IE	LV	NL	PL	SK	UK	standard deviation	US
Manufactoring Industry	-10,24%	-6,96%	-32,39%	27,50%	-31,06%	-60,80%	-59,41%	-20,01%	-48,53%	-51,05%	-34,60%	26,37%	6,32%
Automotive Vehicles	-5,46%	-9,52%	-30,21%	35,13%	-29,06%	-61,01%	-62,04%	-19,71%	-48,25%	-50,56%	-37,03%	28,55%	6,55%
Building & Construction	14,18%	-4,93%	-25,22%	44,73%	-13,22%	-56,12%	-55,99%	-19,57%	-49,08%	-47,54%	-32,42%	31,56%	14,96%
Chemical Engineering	-12,56%	-5,36%	-32,50%	24,69%	-29,51%	-60,35%	-60,08%	-19,30%	-47,51%	-50,55%	-29,75%	25,64%	5,70%
Commerce	-9,32%	-7,15%	-28,79%	10,34%	-26,24%	-60,13%	-60,34%	-21,66%	-47,85%	-50,15%	-37,40%	22,94%	-0,42%
Electrical Engineerung	-14,51%	-10,43%	-31,79%	12,92%	-42,38%	-63,69%	-60,32%	-19,92%	-49,15%	-50,37%	-32,43%	23,39%	3,38%
Engineering	-11,55%	-8,84%	-31,35%	14,98%	-30,48%	-62,72%	-59,63%	-19,79%	-49,50%	-50,10%	-32,50%	23,76%	4,28%
Food & Beverages	-17,14%	-7,83%	-31,87%	22,68%	-26,92%	-60,84%	-61,02%	-20,85%	-48,07%	-51,97%	-32,17%	25,00%	4,38%
Metal Production	-15,49%	-8,18%	-32,61%	17,34%	-37,96%	-62,33%	-59,46%	-19,41%	-48,57%	-51,43%	-29,09%	24,08%	4,21%
Service Trade	-17,82%	0,23%	-32,03%	8,35%	-40,59%	-57,18%	-60,64%	-21,11%	-51,88%	-53,97%	-17,95%	23,63%	9,62%

The results in Table 7 display the differences between the effective tax burdens from the German perspective (i.e. Germany is the zero line). It becomes obvious that the differences between the countries' tax systems lead to different results depending on the relative weight placed on each factor relevant to taxation and therefore on the industry in which the business takes place. The simulation shows that the tax burden differentials from the German perspective sometimes vary significantly.

This becomes particularly obvious for the building and construction industry which, in contrast to the manufacturing industry, shows low profits, a high intensity of inventories, and high payroll expenses. An indicator for the level of payroll expenses is the personnel intensity (i.e. personnel expenses divided by turnover) displayed in Table 4. Given these industry characteristics non-profit taxes, especially payroll taxes, as well as the approach in the determination of production cost and the inventory valuation method are more decisive for the determination of the overall effective tax burden. Therefore, France and Austria display relatively high overall tax burdens compared to the base case. Germany is even more favourable than Austria due to Austria's high payroll tax (Kommunalsteuer). A similar reasoning explains the effects companies experience in the automotive vehicles industry. Companies in the commerce industry and the food and beverages industry show comparably low profits too. However, because payroll expenses are low in these industries, Austria and France can improve their positions in relation to Germany. Hungary suffers in all three industries from its high portion of non-profit taxes. On the opposite side, the United Kingdom and the United States, which

apply progressive corporate tax schedules, benefit from the low profitability in these industries. With reference to companies in the service trade industry, which show high profits and a low intensity of inventories, Austria and France can improve their position in the country ranking. In particular, this is true for France, because due to low capital intensity the taxe professionnelle is comparably low and therefore, the impact of the French non-profit taxes decreases even more. In contrast, Belgium suffers from the low capital intensity, because its favourable depreciation rules lose their impact on the overall effective tax burden. Other countries with favourable depreciation rules do not suffer, because due to low intensity of inventory, the disadvantage with respect to the determination of production costs and inventory valuation decreases. Applied to other industries, the simulation does not show significant changes concerning the tax burden differentials from the German perspective.

To conclude, industry specific differentials can be drawn back to four reasons:

- Profitability: When the profitability is low (high), the impact of non-profit taxes on the overall tax burden is high (low).
- Capital intensity: When the capital intensity is low (high), the impact of favourable depreciation rules is low (high).
- Intensity of inventories: When the intensity of inventories is low (high), the impact of favourable determination of production cost and inventory valuation rules is low (high).
- Personnel intensity: When the personnel intensity and thus personal expenses is high (low), the impact of payroll taxes is high (low).

In summary, the particular industry factor, in which the business operates, has a decisive influence on the amount by which the overall tax burden differs between one country and another. However, the results for our base case manufacturing company are, on the whole, confirmed for the other industries. In general, the effective burden in Germany remains the third highest in nearly all industries. Companies residing in France and the United States even bear a higher effective tax burden, as opposed to Ireland and Latvia, where the tax burden is the lowest in our comparison. Moreover, the results re-

veal a considerable dispersion of effective tax burdens across industries. With respect to the standard deviations in EU member states displayed in the last but second column of Table 7, they can vary between 22.93% (Commerce) and 31.73% (Building & Construction).

4 Comparison of International Tax Burdens in Case IAS/IFRS Serve as a Starting Point for the Tax Bases

4.1 Base case: manufacturing industry

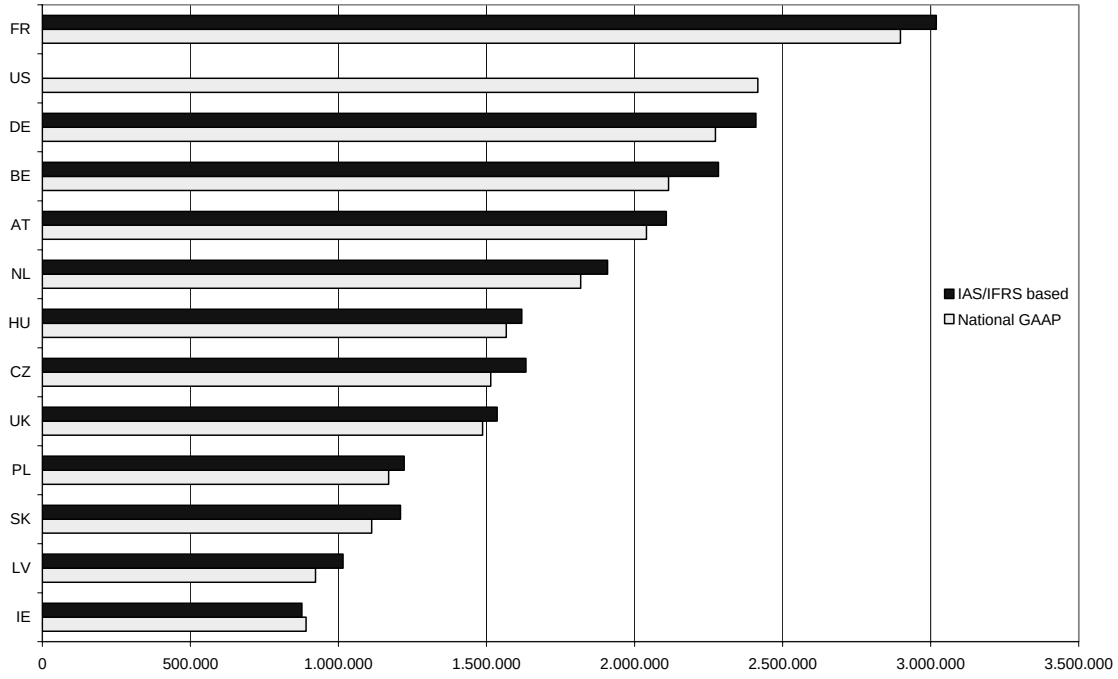
For the comparison of international tax burdens based on tax accounting according to IAS/IFRS as a starting point we assume that all EU member states uniformly adopt certain standards. With respect to the United States the prevailing domestic tax accounting rules are maintained. For the computation of the tax base according to IAS/IFRS the simulation takes into account those standards that reveal significant differences in the area of expenses. Indeed this analysis relies on the tax principle of realisation. Differences in connection with the realisation of revenues are disregarded (e. g. fair value accounting, percentage of completion method) since the realisation principle is recognised and, thus, maintained as a general principle of tax accounting. Therefore, earlier recognition of revenues compared to current country practice is not possible (see Schön, 2004; Spengel, 2003a, for a more detailed evaluation). With regard to the deduction of expenses and costs respectively, the following four rules are considered simultaneously relevant:

- Depreciation method: depreciation on intangibles, buildings and tangible fixed assets is only allowed on a straight-line basis.
- Tax depreciation periods for buildings: manufacturing buildings are depreciated over 40 years and office buildings over 50 years.
- Production costs: in contrast to current country practice which optionally allows to account for partial costs, full costs are used in general.
- Valuation of inventories: The FIFO method is prescribed as a benchmark.

Since the current version of the European Tax Analyzer covers – regarding the corporate tax base – only depreciation, computation of production costs and valuation of stocks, the outlined modifications of the tax bases result in an identical common tax base in all countries covered in this study. The remaining differences between the effec-

tive tax burdens are therefore the result of the different tax systems, kinds of taxes and their interactions, and the tax rates. Since in some countries some taxes are deductible from the tax base as a business expense (e.g. real estate tax and other local taxes) one has to bear in mind, however, that the tax bases still differ to a certain extent even if the rules for tax accounting were harmonised.

Figure 2: Comparison of effective tax burdens for IAS/IFRS-based tax accounting (corporate level, 10 periods)



The changes in the effective tax burdens of the base case company of the manufacturing industry in case of a common tax base using the above mentioned IAS/IFRS as a starting point are displayed in Figure 2. All EU member states, except for Ireland, show increases between 3.28% in Austria and 10.11% in Latvia. Therefore, the adoption of IAS/IFRS as a starting point for tax accounting would result in a broader tax base in all member states except Ireland. The increase is attributed to national tax depreciation rules and valuation methods for inventory, which are more favourable in the countries considered compared to the corresponding IAS/IFRS rules. This is especially documented by the high increase of the tax burden in Latvia and Slovakia. In both countries

current tax depreciation rules are comparably favourable and inventory must be valued based on the average cost method. Similar reasons apply to the comparably high increases in Belgium and the Czech Republic. Although France has favourable depreciation rules too, the increase of the tax burden following a shift from national tax accounting rules to IAS/IFRS based tax accounting is comparably low. This effect is due to the fact that the overall tax burden is determined by non-profit taxes to a great extent, which are not affected by accounting rules. The reason for the overall reduction in the effective tax burden in Ireland in terms of IAS/IFRS based taxation is that the depreciation rules improve while all other tax accounting rules do not change.

Table 8: Changes in effective tax burden in case of IAS/IFRS-based tax accounting (base case: manufacturing industry)

	National GAAP (1)		IAS/IFRS based		Difference
	Burden (€)	Rank	Burden (€)	Rank	
IE	890.843	1	876.935	1	-1,56%
LV	922.483	2	1.015.733	2	10,11%
SK	1.112.410	3	1.209.148	3	8,70%
PL	1.169.722	4	1.222.114	4	4,48%
UK	1.486.439	5	1.535.706	5	3,31%
CZ	1.536.512	6	1.633.197	7	6,29%
HU	1.566.788	7	1.619.031	6	3,33%
NL	1.817.872	8	1.908.850	8	5,00%
AT	2.040.011	9	2.107.011	9	3,28%
BE	2.114.646	10	2.282.906	10	7,96%
DE	2.272.744	11	2.410.081	11	6,04%
US	2.416.378	12		12	-
FR	2.897.824	13	3.019.170	13	4,19%

After all, the impact of a common tax base on the ranking of the countries from the highest to the lowest effective tax burden seems to be rather limited. The results displayed in Table 8 show that except for Hungary and the Czech Republic, which change positions, the ranking does not change for our base case manufacturing company. A common tax base therefore has only a minor impact on the dispersion of effective company tax burdens across countries.

By contrast, the nominal tax rates on corporate profits are truly the more important factor in determining the effective tax burden compared to the tax base. Our findings that – except for Ireland – the overall effective tax burden increases if IAS/IFRS serve as a starting point for tax accounting offer interesting options for tax policy. In this event, the nominal tax rates could be reduced without having an impact on the overall effective tax burden. A tax cut cum base broadening tax policy certainly increases the attractiveness of EU member states as a location for businesses from a tax point of view. This is because – according to empirical evidence – the nominal tax rate turns out to be more important for location decisions of multinationals (see Devereux/Griffith 1998). However, the reader should keep in mind that our analysis so far still is limited since the European Tax Analyzer does not yet cover all important accounting options enabling an investor to influence the tax base. If – as intended – the accounting options for occupational pension schemes and certain liabilities (e.g. provisions for contingent liabilities) were included in the model we expect more valid results on the effects of a common tax base using IAS/IFRS as a starting point on the overall effective tax burden.

4.2 Sensitivity analysis: effects in different industries

The following shows the impact on the overall effective tax burden of a common tax base using IAS/IFRS as a starting point for the other industries. The results of our simulations for the different industries correspond to those for our base case company. In nearly all considered EU member states IAS/IFRS based tax accounting results in higher effective tax burdens. The most significant increases in tax burdens can be observed in Belgium, the Czech Republic, Latvia, and Slovakia with up to 16.32%, as opposed to Austria and especially the United Kingdom, where increases are below 4.37%. A reduction in tax burdens can be observed for all industries in Ireland ranging between 0.38% and 2.59%. Companies of the Service and Trade sector as well as the Building and Construction sector in the United Kingdom also benefit from a shift to IAS/IFRS based tax accounting.

Table 9: Changes in the tax burden from a transition to IAS-based tax accounting for different industries in each country

		AT	BE	CZ	DE	FR	HU	IE	LV	NL	PL	SK	UK	US
Manufacturing Industry	National GAAP	2,040,011 €	2,114,646 €	1,536,512 €	2,272,744 €	2,897,824 €	1,566,788 €	890,843 €	922,483 €	1,817,872 €	1,169,722 €	1,112,410 €	1,486,439 €	2,416,378 €
	IFRS	2,107,011 €	2,282,906 €	1,633,197 €	2,410,081 €	3,019,170 €	1,619,031 €	876,935 €	1,015,733 €	1,908,850 €	1,222,114 €	1,209,148 €	1,535,706 €	
	Difference	3.28%	7.96%	6.29%	6.04%	4.19%	3.33%	-1.56%	10.11%	5.00%	4.48%	8.70%	3.31%	
Automotive vehicles	National GAAP	1,967,172 €	1,882,777 €	1,452,220 €	2,080,806 €	2,811,723 €	1,476,135 €	811,241 €	789,916 €	1,670,611 €	1,076,732 €	1,028,771 €	1,310,267 €	2,217,126 €
	IFRS	2,039,814 €	2,062,046 €	1,546,692 €	2,223,329 €	2,948,027 €	1,534,091 €	793,539 €	918,827 €	1,763,565 €	1,132,035 €	1,119,699 €	1,367,510 €	
	Difference	3.69%	9.52%	6.51%	6.85%	4.85%	3.93%	-2.18%	16.32%	5.56%	5.14%	8.84%	4.37%	
Building & Construction	National GAAP	1,219,348 €	1,015,251 €	798,645 €	1,067,942 €	1,545,587 €	926,796 €	468,580 €	470,003 €	858,986 €	543,803 €	560,229 €	721,722 €	1,227,674 €
	IFRS	1,275,405 €	1,160,790 €	847,176 €	1,234,233 €	1,609,298 €	984,872 €	456,437 €	520,946 €	962,286 €	605,909 €	606,599 €	719,978 €	
	Difference	4.60%	14.34%	6.08%	15.57%	4.12%	6.27%	-2.59%	10.84%	12.03%	11.42%	8.28%	-0.24%	
Chemical Engineering	National GAAP	2,469,161 €	2,672,562 €	1,906,205 €	2,823,806 €	3,520,867 €	1,990,392 €	1,119,635 €	1,127,338 €	2,278,761 €	1,482,184 €	1,396,479 €	1,983,652 €	2,984,811 €
	IFRS	2,539,841 €	2,876,399 €	2,030,121 €	2,977,437 €	3,682,667 €	2,058,596 €	1,106,817 €	1,271,455 €	2,376,366 €	1,547,304 €	1,520,861 €	2,014,462 €	
	Difference	2.86%	7.63%	6.50%	5.44%	4.60%	3.43%	-1.14%	12.78%	4.28%	4.39%	8.91%	1.55%	
Commerce	National GAAP	779,664 €	798,372 €	612,295 €	859,808 €	948,724 €	634,204 €	342,837 €	340,982 €	673,550 €	448,355 €	428,642 €	538,233 €	856,232 €
	IFRS	798,691 €	861,591 €	644,901 €	918,001 €	987,125 €	657,591 €	344,127 €	388,079 €	710,385 €	470,097 €	462,837 €	541,426 €	
	Difference	2.44%	7.92%	5.33%	6.77%	4.05%	3.69%	0.38%	13.81%	5.47%	4.85%	7.98%	0.59%	
Electrical Engineering	National GAAP	2,654,682 €	2,781,382 €	2,118,221 €	3,105,244 €	3,506,430 €	1,789,215 €	1,127,668 €	1,232,011 €	2,486,560 €	1,579,016 €	1,541,005 €	2,098,289 €	3,210,190 €
	IFRS	2,709,936 €	2,914,030 €	2,190,288 €	3,225,612 €	3,592,127 €	1,833,241 €	1,119,343 €	1,310,188 €	2,562,426 €	1,625,366 €	1,612,701 €	2,133,351 €	
	Difference	2.08%	4.77%	3.40%	3.88%	2.44%	2.46%	-0.74%	6.35%	3.05%	2.94%	4.65%	1.67%	
Food & Beverages	National GAAP	1,795,400 €	1,997,190 €	1,476,309 €	2,166,755 €	2,658,172 €	1,583,412 €	848,602 €	844,642 €	1,714,880 €	1,125,242 €	1,040,668 €	1,469,627 €	2,261,743 €
	IFRS	1,849,376 €	2,158,014 €	1,581,083 €	2,278,479 €	2,794,289 €	1,653,422 €	836,091 €	959,209 €	1,791,271 €	1,172,637 €	1,152,385 €	1,524,414 €	
	Difference	3.01%	8.05%	7.10%	5.16%	5.12%	4.42%	-1.47%	13.56%	4.45%	4.21%	10.74%	3.73%	
Engineering	National GAAP	2,588,075 €	2,667,250 €	2,008,763 €	2,925,936 €	3,364,159 €	2,034,031 €	1,090,922 €	1,181,132 €	2,346,758 €	1,477,674 €	1,459,962 €	1,974,968 €	3,051,236 €
	IFRS	2,648,234 €	2,793,183 €	2,071,089 €	3,061,655 €	3,443,640 €	2,080,445 €	1,081,038 €	1,252,564 €	2,426,657 €	1,524,810 €	1,522,402 €	1,992,412 €	
	Difference	2.32%	4.72%	3.10%	4.64%	2.36%	2.28%	-0.91%	6.05%	3.40%	3.19%	4.28%	0.88%	
Metal production	National GAAP	2,760,697 €	2,999,287 €	2,201,405 €	3,266,610 €	3,833,076 €	2,026,596 €	1,230,631 €	1,324,421 €	2,632,431 €	1,680,007 €	1,586,750 €	2,316,238 €	3,404,269 €
	IFRS	2,847,596 €	3,174,890 €	2,318,388 €	3,408,235 €	3,951,978 €	2,110,117 €	1,217,274 €	1,421,388 €	2,721,153 €	1,728,319 €	1,713,137 €	2,368,968 €	
	Difference	3.15%	5.85%	5.31%	4.34%	3.10%	4.12%	-1.09%	7.32%	3.37%	2.88%	7.97%	2.28%	
Service trade	National GAAP	3,372,664 €	4,113,385 €	2,789,361 €	4,103,998 €	4,446,610 €	2,438,331 €	1,757,459 €	1,615,490 €	3,237,558 €	1,974,889 €	1,889,170 €	3,367,301 €	4,498,965 €
	IFRS	3,433,576 €	4,268,881 €	2,963,979 €	4,281,281 €	4,600,530 €	2,515,841 €	1,720,162 €	1,853,004 €	3,341,598 €	2,034,835 €	2,077,529 €	3,292,733 €	
	Difference	1.81%	3.78%	6.26%	4.32%	3.46%	3.18%	-2.12%	14.70%	3.21%	3.04%	9.97%	-2.21%	

If one shifts the focus to the industries with its different characteristics the highest overall increase is in the Building and Construction sector. This result stems mainly from the high intensity of inventory which increases the tax burden especially in those countries where national tax law allows for LIFO instead of FIFO, as prescribed by IAS/IFRS. This reasoning becomes especially obvious for companies in the Building and Construction sector in Germany, suffering from an increase in tax burden of 15.57%. For companies belonging to the sectors Engineering and Electrical Engineering the increase in tax burden is the lowest in our simulations. This can be explained by the low intensity of capital and inventory of both industries, which reduces the effect of the unfavourable depreciation rules and rules for inventory valuation according to IAS/IFRS in comparison to national tax accounting rules. Due to its low intensity of capital and inventory one could expect the same effect for the Service Trade sector. However, because the amount of capital in relation to turnover is comparably high, the impact of changing rules for depreciation and inventory valuation is noticeable low.

4.3 Dispersions of effective tax burdens across industries

With respect to the future development of company taxation in Europe it is interesting for policy makers to see the impact of a common corporate tax base on the dispersion of effective tax burdens across industries. Table 10 displays the differences of the effective tax burdens for the different industries from the German perspective (i.e. Germany is the zero line) in case of a common tax base using certain IAS/IFRS as proposed here as a starting point.

Table 10: Differences between the effective tax burdens in terms of IAS/IFRS-based tax accounting from the German perspective

	AT	BE	CZ	FR	HU	IE	LV	NL	PL	SK	UK	standard deviation	US
Manufacturing Industry	-12.58%	-5.28%	-32.23%	25.27%	-32.82%	-63.61%	-57.85%	-20.80%	-49.29%	-49.83%	-36.28%	26.03%	0.26%
Automotive vehicles	-8.25%	-7.25%	-30.43%	32.60%	-31.00%	-64.31%	-58.67%	-20.68%	-49.08%	-49.64%	-38.49%	27.96%	-0.28%
Building & Construction	3.34%	-5.95%	-31.36%	30.39%	-20.20%	-63.02%	-57.79%	-22.03%	-50.91%	-50.85%	-41.67%	28.87%	-4.65%
Chemical Engineering	-14.70%	-3.39%	-31.82%	23.69%	-30.86%	-62.83%	-57.30%	-20.19%	-48.03%	-48.92%	-32.34%	25.37%	0.25%
Commerce	-13.00%	-6.14%	-29.75%	7.53%	-28.37%	-62.51%	-57.73%	-22.62%	-48.79%	-49.58%	-41.02%	22.28%	-6.73%
Electrical Engineering	-15.99%	-9.66%	-32.10%	11.36%	-43.17%	-65.30%	-59.38%	-20.56%	-49.61%	-50.00%	-33.86%	23.16%	-0.48%
Engineering	-13.50%	-8.77%	-32.35%	12.48%	-32.05%	-64.69%	-59.09%	-20.74%	-50.20%	-50.28%	-34.92%	23.37%	-0.34%
Food & Beverages	-18.83%	-5.29%	-30.61%	22.64%	-27.43%	-63.30%	-57.90%	-21.38%	-48.53%	-49.42%	-33.10%	24.91%	-0.73%
Metal production	-16.45%	-6.85%	-31.98%	15.95%	-38.09%	-64.28%	-58.30%	-20.16%	-49.29%	-49.74%	-30.49%	23.88%	-0.12%
Service trade	-19.80%	-0.29%	-30.77%	7.46%	-41.24%	-59.82%	-56.72%	-21.95%	-52.47%	-51.47%	-23.09%	22.72%	5.08%

If we compare the industry-specific standard deviations across the EU for the two scenarios – i.e. current tax accounting (Table 7) and IAS/IFRS-based tax accounting (Table 10) – it becomes evident that a closer coordination of tax accounting rules would not tend to reduce cross-industry differences significantly. The decreases in standard deviations displayed in Table 11 only vary between 0.11% (Food & Beverages) and 2.70% (Building & Construction). Thus, a meaningful convergence of the tax competitive situation for different industries within the EU demands more than just the harmonisation of tax accounting rules (see Spengel, 2003b: 27). The remaining differences in tax burdens reflect the effects of the different tax systems, especially different kinds of taxes and tax rates. Thus, when harmonising the tax base, the characteristics of the tax schedule and the number and types of taxes determine a country's competitive international tax position.

Table 11: Comparison of the industry-specific standard deviations in case of current tax accounting and IAS/IFRS-based tax accounting

	Current tax accounting standard deviation	IAS/IFRS-based accounting standard deviation	Difference
Manufacturing Industry	26.39%	26.03%	0.36%
Automotive vehicles	28.55%	27.96%	0.60%
Building & Construction	31.57%	28.87%	2.70%
Chemical Engineering	25.66%	25.37%	0.29%
Commerce	22.93%	22.28%	0.65%
Electrical Engineering	23.39%	23.16%	0.23%
Engineering	23.76%	23.37%	0.39%
Food & Beverages	25.02%	24.91%	0.11%
Metal production	24.09%	23.88%	0.21%
Service trade	23.64%	22.72%	0.93%

It has already been pointed out above (see section 4.1) that the shift from domestic to IAS/IFRS-based tax accounting would tend to increase effective company tax burdens in all member states considered here except Ireland. Thus, ideally, member states would have the opportunity to reduce their nominal tax rates at the same time without affecting the effective company tax burdens. A reduction of the tax rates therefore would not only increase the attractiveness of member states as a place of location for companies. Assumingly it would reduce dispersions of effective tax burdens across industries at the same time since the impact of accounting and from shifting profits to different periods respectively would decrease.

4.4 Effects for the position of Germany in the country ranking

Finally, Table 12 displays the changes of the tax burdens for different industries from the German point of view if a transition from domestic to IAS/IFRS-based tax accounting would take place.

Table 12: Changes in the tax burden from a transition to IAS/IFRS-based tax accounting for different industries from the German perspective

	AT	BE	CZ	FR	HU	IE	LV	NL	PL	SK	UK	US
Manufacturing Industry	-2,33%	1,68%	0,16%	-2,23%	-1,76%	-2,81%	1,56%	-0,78%	-0,76%	1,22%	-1,68%	-6,06%
Automotive vehicles	-2,79%	2,26%	-0,22%	-2,53%	-1,94%	-3,30%	3,36%	-0,97%	-0,83%	0,92%	-1,46%	-6,83%
Building & Construction	-10,84%	-1,02%	0,68%	-14,34%	-6,99%	-6,90%	-1,80%	-2,47%	-1,83%	-3,31%	-9,25%	-19,61%
Chemical Engineering	-2,14%	1,96%	-0,96%	-1,00%	-1,35%	-2,48%	2,78%	-0,89%	-0,52%	1,63%	-2,59%	-5,45%
Commerce	-3,68%	1,00%	-6,14%	-2,81%	-2,13%	-2,39%	2,62%	-0,95%	-0,94%	0,56%	-3,62%	-6,31%
Electrical Engineering	-1,48%	0,77%	-0,31%	-1,56%	-0,79%	-1,61%	0,94%	-0,64%	-0,46%	0,37%	-1,43%	-3,86%
Engineering	-1,96%	0,07%	1,26%	-2,50%	-1,57%	-1,98%	0,54%	-0,95%	-0,70%	-0,17%	-2,42%	-4,62%
Food & Beverages	-1,69%	2,54%	-1,01%	-0,04%	-0,51%	-2,47%	3,12%	-0,53%	-0,47%	2,55%	-0,92%	-5,12%
Metal production	-0,96%	1,34%	0,63%	-1,39%	-0,13%	-1,96%	1,16%	-0,75%	-0,72%	1,69%	-1,40%	-4,33%
Service trade	-1,98%	-0,52%	1,26%	-0,89%	-0,65%	-2,64%	3,92%	-0,84%	-0,59%	2,49%	-5,14%	-4,54%

To calculate these changes the differences between the effective tax burdens in terms of current tax accounting rules (see Table 7) are compared with the corresponding differences in effective tax burdens in terms of IAS/IFRS-based tax accounting (see Table 10), both from the German perspective. A positive (negative) sign signals either the reduction of disadvantages (advantages) in the tax burden or the increase of advantages (disadvantages) in the tax burden compared to the other countries from the point of view of the current tax law. From the results it is obvious that Germany would lose positions in country-ranking compared to most other countries considered here. Therefore, from a broad perspective, Germany currently has a narrower tax base compared to most other countries. However, a deeper analysis of the consequences in different industries enables us to figure out comparable advantages and disadvantages.

There is a group of countries – Belgium, Latvia, and Slovakia – that worsen their tax situation in comparison to Germany. Since all of these countries allow for favourable depreciation rules compared to Germany this result indicates that tax depreciation rules in Germany under the current law are only mediocre. On the other hand, Germany especially falls back in the Building and Construction sector. This holds for all countries considered here. The Building and Construction industry is characterised by a comparably high intensity of inventory. Thus, rules for the determination of production cost and inventory valuation available under the current German tax law are obviously favourable in comparison.

5 Summary

- Under current tax law there is a wide range of effective corporate tax burdens within the EU member states. From the elements influencing the overall effective tax burden (i.e. different tax systems, types of taxes, tax bases and tax rates) the corporation tax and local profit taxes are of major importance. With respect to elements making up the effective corporate tax burden the nominal tax rate is truly the most important factor (in particular compared to the tax base).Within the EU IAS/IFRS could influence tax accounting via the EU Regulation regarding the harmonisation of the financial accounting rules and via initiatives of the European Commission for the creation of a common corporate tax base. Above all, a common tax base will help to reduce compliance costs stemming from 25 different tax bases.
- If IAS/IFRS serve as a starting point for tax accounting their adoption has to be restricted to standards which are in accordance with the objectives of tax accounting. Therefore, tax accounting still has to respect the realisation principle as a common and fundamental principle. Consequently, the adoption of IAS/IFRS as a starting point for tax accounting first of all would have an impact on the deduction of expenses from the tax base (e.g. depreciation, valuation of inventories, provisions for liabilities).A transition to tax accounting on the basis of IAS/IFRS within the EU as examined here has only minor effects on the effective corporate tax burdens. A major finding of our study reveals that the effective corporate tax burdens in all countries considered here (except Ireland) tend to increase slightly since the tax bases tend to become broader. However, the considerable dispersions of effective tax burdens across industries would not change significantly.
- An exclusive harmonisation of the tax accounting rules cannot alleviate the current EU-wide differences of overall effective corporate tax burdens. For this purpose, additional measures are necessary, especially the convergence of the nominal tax rates on profits.
- Ideally, a broader tax base offers the possibility to reduce the nominal tax rate at the same time leaving the overall effective tax burden unchanged. A tax policy of

tax cut cum base broadening would not only tend to increase the attractiveness of the member states as a location for companies. At the same time, this would reduce dispersions of effective tax burdens across industries. Therefore, such a tax policy is in line of the long term Community goals to become more competitive in international terms.

- Compared to most other EU member states considered in this study Germany would lose positions in the country ranking in case a common tax base as considered here would be established.

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