

The Common Consolidated Corporate Tax Base in the European Union

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Abstract: *Despite a long history of reports and initiatives on the harmonisation of corporate income taxes within the European Union, EU countries still operate their own national corporate income taxes, with only limited co-ordination between them. However, the increasing integration of economic activity is placing greater pressures on these corporate income taxes, as the companies whose profits are being taxed operate increasingly across national borders, both within Europe and beyond. Tax differentials may also be assuming greater importance in company decision-making, as other differences between countries within the EU diminish — a trend highlighted by the adoption of a single currency within the Euro zone. If it were possible to achieve full harmonisation on a single European Union corporate income tax, this would bring many advantages. However, this prospect seems remote, and it is less clear that more limited coordination, involving only some elements of corporate tax systems, will yield significant benefits.*

Key words: common consolidated corporate income tax, consolidation, tax base

1. Introduction

The European Commission is considering a fundamental change to the tax system for companies with taxable operations in the European Union. The new system is referred to as the Common Consolidated Corporate Tax Base ('CCCTB'). Companies that are eligible and opt in to the CCCTB would be taxed on their consolidated taxable profits across the participating Member States. Those profits would be allocated between the participating Member States based on the formula apportionment and taxed in each of the States at the corporate tax rate applicable in that State. This replaces the existing system where each Member State taxes, based on its own rules, the profits of companies with a taxable nexus with that country. The CCCTB could allow for one tax computation and one tax filing for corporate groups with operations across the whole of the EU, as opposed to the current system where up to 27 different tax computations and filings may be required.

2. Background

The CCCTB draws its origins from 2001, when the Communication '*Towards an internal market without tax obstacles: A strategy for providing companies with a consolidated corporate tax base for their EU-wide activities*' (COM(2001) 582) was issued. That strategy considered mechanisms to achieve the following primary objectives:

- significantly reduce the compliance costs of companies operating across the internal market resolve existing transfer pricing problems
- allow for the consolidation of profits and losses
- simplify many international restructuring operations
- reduce some of the complexities arising from the co-existence of the classical and exemption approaches to international taxation
- avoid many situations of double taxation and remove many discriminatory situations and restrictions.

In 2004, following discussion at the informal meeting of the ECOFIN Council in September under the Dutch Presidency, where a Commission Non-Paper '*A Common Consolidated EU Corporate Tax Base*' was presented, the Common Consolidated Corporate Tax Base Working Group (CCCTB WG) was established. It was chaired by the European Commission and included representatives from all Member States. Additional sub-groups chaired by Member States were established to address specific topics. A series of working papers have been released to facilitate the work of the various groups. The final meeting of the Working Group was held in April 2008.¹

¹ http://ec.europa.eu/taxation_customs/taxation/company_tax/common_tax_base/index_en.htm

3. Losses

Under a CCCTB system, it is generally envisaged that losses which arise in one CCCTB company in a Member State would be offset against profits from other CCCTB companies, provided the companies are members of the same CCCTB group. Losses incurred by a taxpayer before entering a CCCTB group would be excluded from the consolidation, but would be offset against the share of future consolidated profits attributed to this taxpayer in accordance with national rules. When consolidation results in an overall loss for the group, this loss would be carried forward at group level and set off against future consolidated profits, before any future net profits are shared out.

4. Apportionment factors

European Commission working papers suggest that income apportionment would be based on three factors: sales, labor and assets. Taxable profits would be apportioned from the consolidated tax base to each group member on an individual entity basis using a formula. The formula to apportion the tax base to a company A of a given group would be as follows:

$$BFC_i^r = BFC \left[\frac{V_i / \sum V_{grup}}{m} + \frac{1}{n} \left(\frac{F_{S_i} / \sum F_{S_{grup}}}{2} + \frac{Na_i / \sum Na_{grup}}{2} \right) + \frac{A_i / \sum A_{grup}}{o} \right]$$

Through this formula the tax base would be shared between the various countries involved. Each country, through their competent authority, would then tax the base attributable to that country at the corporate tax rate that applies in that country. How this formula works out for each group that elects for CCCTB would affect the corporate tax take in each country and hence may impact the decision of each country as to the rate of tax.

5. Sales factor

The role of the sales factor in the formula apportionment is to represent the demand side in income generation. Sales would be attributed to the Member State of the 'destination' of the sale (i.e. the place in which the goods are ultimately delivered) rather than the 'origin' (i.e. the place from which the goods are shipped). The use of a 'sales by destination' factor is argued to be more preferable because it is less mobile than the location of assets and employees. The sales factor would exclude intra-group sales, since they do not contribute to the consolidated income that the factor seeks to apportion. 9 Only sales in the normal course of business are included in the sales factor. This would exclude passive income (interest, dividends and royalties). Intra-group, intra-CCCTB, sales would be also excluded from the base and thus the sales factor.

The European Commission suggests that the sales factor would include ‘spread throwback rule’, i.e. if sales are made to a Member State where the group does not have a taxable presence (nexus) through a subsidiary or a permanent establishment or to a third country, the sales would be distributed to the members of the group in proportion to their labor and asset factors.

6. Assets factor

All fixed assets would be included at their tax written down (depreciated) value and attributed to the entity using the assets. The asset factor would exclude intangible and financial assets and inventory. Leased assets would be included in the asset factor for both the lessor and the lessee (valued at eight times the annual rental price).

7. Insights from earlier empirical studies

Two empirical studies to date have estimated the static revenue impact of the CCCTB across the Member States. They provide many insights for policy makers, as they identify specific aspects of the CCCTB system that affect countries’ tax bases and revenues. These studies are also subject to many data limitations and do not estimate a number of key aspects of the current CCCTB rules. These two empirical studies are examined below in detail along with a third study, by Van de Horst et al which uses a general equilibrium model to estimate the welfare effects from a mandatory CCCTB.

7.1. Devereux & Loretz

The Devereux & Loretz analysis uses a large database of unconsolidated company-level data to estimate the effect of the change in corporate income tax collections in each Member State due to CCCTB. By examining a sample of company records from 2000-2004, the study analyses the effect of both group loss relief and certain apportionment factors. The study estimates that corporate tax revenues might fall by 2.5% under a voluntary CCCTB system due to greater uses of loss offsets, while total revenues could rise by more than 2% under a mandatory CCCTB system. The study shows a significant range of changes in corporate tax revenues (-18% to +60%) across the Member States in their base case.

The Devereux & Loretz analysis also shows relatively small overall change in EU corporate tax revenues under both a voluntary and mandatory CCCTB, but significant winners and losers across Member States. It is important to note that because the data is from a sample and not aggregated to total Member States’ tax bases, the overall EU change is a simple unweighted average.

In addition, the Devereux & Loretz study includes some results with a larger sample including companies that didn’t report sufficient employment data. As is evident from the impacts based

on the larger sample, the change in impacts are concentrated in Ireland and, to a lesser extent, Denmark and the Netherlands. In effect, the comparison of the results for the two sample sizes illustrates how sensitive the results are to the number of observations used and imputations made to the reported financial data.

7.2.Fuest/Hemmelgarn/Ramb

The Fuest/Hemmelgarn/Ramb analysis uses two different company-level databases to estimate the effect of a mandatory CCCTB on the tax base of Member States. The data on German company-level foreign direct investment and balance sheet information from the German parent shows that formula apportionment will tend to shift taxable income from smaller countries to larger countries. They estimate that adding cross-border loss offsets created after the adoption of CCCTB would reduce most national tax bases and the overall corporate income tax base decline would be approximately 20%. Similar to the Devereux & Loretz study, this study examines the effect of both formula apportionment and loss offsets with a sample of actual companies, and finds significant variation across Member States (- 74% to +112%) in the change to the corporate tax base.

The companies included in the Fuest et al. study are limited to less than 2,000 German parent companies and their 6,000 foreign subsidiaries in other EU15 Member States, and relate to data from 1996 to 2001. The tax base measure used is derived from a combination of financial statement profits and losses and tax accounting information (an estimated 50% of the data). As a result, the Fuest study may provide more accurate tax base estimates, including income losses, than estimates based on financial income information alone.

The study limits its findings to changes in the tax base rather than changes in tax revenues. To the extent the redistribution shifts taxable income from lower tax rate countries to higher tax rate countries, the overall effect on EU revenues would be less than the 22% reduction in the EU overall. It is important to note that because the data is from a sample and not aggregated to total Member States' tax bases, the overall EU change is a simple unweighted average.

8. Significant winners and losers

The effects of a CCCTB will depend on the coverage of the CCCTB, both in terms of the number of participating Member States and the number of companies opting in to the system. The empirical studies to date suggest that a CCCTB will create significant winners and losers, assuming no change in corporate income tax rates, across Member States with respect to corporate tax revenues.

The net impact on a Member State's corporate tax revenues, as well as on the tax liabilities of specific groups of taxpayers, will be determined by three major differences between current law corporate tax systems and the CCCTB. First, the CCCTB may change the definition of the tax base. An example would be a change in the calculation of depreciation allowances. Second, the CCCTB could result in a reduced tax base for many taxpayers by allowing full offsets of cross-border losses among group members. Third, the CCCTB would redistribute the resulting tax base across Member States based on the distribution of measures of economic activity ('factors'). This can differ substantially from the current law distribution, which is based on the use of separate accounting to determine the location of income.

Depending on the specific scenario, some Member States would have significantly greater corporate tax revenues while other Member States would lose significant corporate tax revenues.

9. The apportionment formula (case study)

I have chosen to realize an econometric model, based on the already established distribution formula to see whether the profit is determined by three factors. The analysis includes several multinational companies and groups in the same field - telecommunications - affected by CCCTB and the proceeds of winners and losers in different companies and the Member States.

Data were taken from a private database. The criteria used were as follows:

- Subsidiaries in as many countries in the European Union
- Number of employees more than 100
- Turnover of more than 500 000 EUR
- Being part of the same industry – telecommunications
- Data available for all four variables.

The result was a total of 361 companies, 722 observations over two years (2011 and 2012).

Panel data were processed through the E-views. The results can be seen in the figure below:

Dependent Variable: PROFIT_IMPOZABIL

Method: Least Squares

Date: 04/27/13 Time: 20:09

Sample: 1 722

Included observations: 722

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	86.96681	20008.92	0.004346	0.9965
VANZARI	0.126424	0.017148	7.372458	0.0000
ACTIVE	0.018346	0.005368	3.417362	0.0007

ANGAJATI	-10.59948	2.386820	-4.440838	0.0000
R-squared	0.736065	Mean dependent var	182492.3	
Adjusted R-squared	0.734962	S.D. dependent var	1019165.	
S.E. of regression	524684.6	Akaike info criterion	29.18451	
Sum squared resid	1.98E+14	Schwarz criterion	29.20989	
Log likelihood	-10531.61	F-statistic	667.4566	
Durbin-Watson stat	1.947638	Prob(F-statistic)	0.000000	

As can be seen from the above figure, the model is statistically valid, as they are likely F-statistic is equal to zero. The model explains taxable income in proportion of 73.6%. Free term significance is not different from zero, with a probability of 99%. The pre-tax profit or loss can be determined by taking the following equation:

$$\text{Taxable income} = 86,9 + 126,4 \times \text{sales} + 18,3 \times \text{assets} - 10,6 \times \text{employees}$$

Thus, an increase of one unit of sales, profit will increase by 126 units. An increase of one unit of assets, profit will increase by 18 units, and an increase by one the number of employees, profit will decrease by 10.6 units. Given the above results, we chose to rewrite the model, this time including the costs of employees. This brings me to the next form of the econometric model:

$$\text{Taxable income} = \varepsilon + \alpha \times \text{sales} + \beta \times \text{assets} + \gamma \times \text{employees} + \theta \times \text{Salary expenses}$$

The results obtained using E-views are:

Dependent Variable: PROFIT
Method: Least Squares
Date: 04/27/13 Time: 22:00
Sample: 1 722
Included observations: 722

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-26.18668	19856.58	-0.001319	0.6989
VANZARI	0.129253	0.017037	7.586585	0.0000
ACTIVE	0.017276	0.005336	3.237441	0.0013
ANGAJATI	44.12111	15.93335	2.769103	0.0058
CHELTUIALA_CU_SALARII	-1.131635	0.325844	-3.472932	0.0005
R-squared	0.840432	Mean dependent var	182492.3	
Adjusted R-squared	0.738984	S.D. dependent var	1019165.	
S.E. of regression	520689.2	Akaike info criterion	29.17060	

Sum squared resid	1.94E+14	Schwarz criterion	29.20233
Log likelihood	-10525.58	F-statistic	511.3197
Durbin-Watson stat	1.948646	Prob(F-statistic)	0.000000

As can be seen from the above figure, the model is statistically valid, as they are likely F-statistic is equal to zero. The model explains the taxable profit 84%. Constant term is non-zero signifies that, with a probability of 70%, but unlike the first model, the probability is less than 85%. Hence there is a considerable improvement of the model, given that taxable profit is better determined by this model. The pre-tax profit or loss can be determined by taking the following equation:

$$\text{Taxable income} = -26 + 129 \times \text{sales} + 17 \times \text{assets} + 44 \times \text{employees} \\ - 1,131 \times \text{Salary expense}$$

Thus, an increase of one unit of sales, profit will increase by 129 units. An increase of one unit of assets, profit will increase by 17 units. A unit increase in the number of employees, profit will increase by 44 units, and an increase of one unit of expenditure on wages, profits will fall by 1,131 units. The significant improvement in determining the size of the sales profits, expected thing considering that most of the revenue a company actually get sales and turnover. Negatively impact gross assets because depreciation. The more a company invests its assets are automatically generated in a higher depreciation expense, and therefore a lower profit. Also, wage costs have a negative impact.

Overall, the results contradict the results of Hines, obtained in his study "Income misattribution under formula apportionment" of 2009, which demonstrates that labor explains a very little profit. According to him, the three factors listed above only explains 22% profit. But the support of the European Commission's decision to use that formula apportionment. Basically the model explains over 80% pre-tax profit or loss, supporting practical and numerical point of view the idea that profit is determined by three factors.

10. Tax base harmonization (case study)

The introduction of "common consolidated tax base" would generate complex effects, both economic and social. According to studies conducted in this regard, countries should benefit from gains in GDP and welfare will increase tax revenue losses, and the countries that will suffer reductions in the GDP and welfare will get additional tax revenue (Brøchner, Jensen, Svensson , Sørensen, 2006).

Considering a simple example we see the impact it will generate common consolidated tax base allocation of revenue receipts tax. Thus, we chose a multinational subsidiaries in 10 countries in the European Union. The Company recorded losses as profit. For this company we calculated based on the financial statements of 2011, the tax payable for country under CCCTB and normal.

Because staff costs were not published in the database, I had to estimate, for each country, based on the average gross annual income of a full time employee that I multiplied by the number of employees. Data on average gross annual income were taken from Eurostat. Analyzed company operating in 10 countries of the European Union, and in two of these losses (Austria and the Czech Republic). These losses we have taken into account the consolidation.

By adding the results thus obtained, we practice a reallocation of taxable income in each country. This allocation can be seen in the table below:

Țara	Vânzări	Total active	Număr angajați	Cheltuieli cu angajații	Realocarea profitului impozabil	Cota impozit pe profit	Impozit pe profit platit statului de rezidența
UK	0.22	0.28	0.12	0.12	7,860,777	20%	2,201,017
Italia	0.04	0.02	0.01	0.01	188,182	31%	58,336
Germania	0.04	0.02	0.02	0.02	169,559	33%	49,172
Spania	0.02	0.01	0.01	0.01	38,085	30%	11,425
Grecia	0.00	0.00	0.00	0.00	302	25%	76
Franța	0.00	0.01	0.00	0.00	5,685	33%	1,876
România	0.00	0.00	0.00	0.00	1,758	16%	281
Belgia	0.00	0.00	0.00	0.00	1,241	34%	422
Austria	0.00	0.00	0.00	0.00	(44)	25%	(11)
Cehia	0.00	0.00	0.00	0.00	(36)	21%	(8)
Total	0.33	0.33	0.17	0.17	16,575,869		2,322,588

To make a comparison of the tax due by this method versus traditional tax due from the calculation, we have prepared the table below. As you can see, we have presented the results of the country where they are registered, practiced tax rate, the tax payable by the company, without acceding to the common consolidated tax due under CCCTB and the differences between them.

Țara	Cota impozit pe profit	Impozit datorat conform CCCTB	Impozit datorat conform regim actual	Diferența
UNITED KINGDOM	28%	2,201,017	3,014,888	813,871
ITALY	31%	58,336	741,172	682,835
GERMANY	29%	49,172	518,826	469,654
SPAIN	30%	11,425	269,358	257,932
GREECE	25%	76	5,484	5,409
FRANCE	33%	1,876	140,498	138,622
ROMANIA	16%	281	22,506	22,225
BELGIUM	34%	422	56,507	56,085
AUSTRIA	25%	(11)	(2,490)	(2,479)

CZECH REPUBLIC	21%	(8)	(2,933)	(2,926)
Total		2,322,588	4,763,816	2,441,228

Tax due under CCCTB is significantly lower than normal (over 49%). In the UK, representing 65% of total gross profit at group level because the distribution process (policy no longer having as high a share) tax base has decreased considerably. In Italy, although the company recorded one of the highest profits due to the low investment rate, the tax base decreases considerably, so favorable to the company, given that Italy applies one of the highest tax rates.

Consolidation and distribution of corporate income tax base will generate tax losses for small states use tax incentives as tax bases in these countries are attracted large relative to real economic activity taking place on their territory (measured by asset turnover and wage bill). Compensation for loss of earnings in cross-border activities will generate a significant reduction of the total tax base. In the case of the analysis performed for the parent company in the UK and 9 foreign subsidiaries, reducing the total tax base was estimated at 49%.

Thus, taking into account the analysis performed by Michael P. Devereux and Simon Loretz in 2008 by bringing clear evidence of positive impact (in terms of increasing the efficiency of business in the single market) that will generate the introduction of "common consolidated tax base", I can say that, indeed, common consolidated tax base will have a positive impact on the tax system of the European Union.

11. Conclusions

Distribution of the consolidated tax base is based on a fixed formula comprising three equally weighted factors: turnover, employment and assets, each Member State shall apply its own tax rate its share of the tax base. These factors were chosen based on the idea that they basically determines a company's profit. My results from the econometric model confirms that 80% of the profit of a company is determined by the model composed of four factors, namely sales, assets, employment and personnel expenses. According to the results, sales and employees have a positive influence on profit, while staff costs and sometimes assets, considering depreciation, determine the inverse profit.

Consolidation and distribution of the tax base will cause loss of tax revenue due to the entire European Union to compensate for losses and profits of companies organized as groups, but the magnitude of these losses could be lower than those estimated by various specialists (or even could be recorded gains tax revenue) when removing a portion of the tax deductions and exemptions currently enjoyed by companies operating in different Member States. By weighing the loss of corporate tax revenue (which have a low share of GDP in most Member States of the European Union) and the benefits of enhanced economic efficiency and eliminate opportunities

for handling corporate tax base through transfer pricing and intercompany loans, appreciate that introducing common consolidated tax base will have a positive impact on the tax system of the European Union.

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