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Effects of the Formula for Common Consolidated Corporate Tax Base Apportionment

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Abstract. *For solving the existing difficulties in corporate income taxation, the European Commission proposed the introduction of measures for coordination, solution contested by some Member States but supported by most professionals and many organizations representing the interests of European employers. Disputes in connection with the introduction of the "Common Consolidated Corporate Tax Base" system are determined by the uncertainty regarding its effects. In this context, we intend to present and analyze some effects of applying the EU formula apportionment.*

Keywords: fiscal coordination; tax base; consolidation; apportionment; effects.

JEL Codes: G32, H25.
REL Codes: 8K, 13F.

1. Introduction

In accordance with the European Union Treaty, Member States have a full autonomy in the direct taxation, including corporate income taxation. This autonomy may be limited only if the domestic taxes are not compatible with the EU law. In principle, the national tax legislation should not create obstacles to cross-border economic transactions. In fact, the existence of 27 corporate income taxation national systems is a significant obstacle to the proper functioning of the Single Market. The main difficulties generated from the lack of common rules on corporate taxation refers to the costs of knowing the tax legislation in each Member State, monitoring of the transfer pricing, the risk of double taxation, the general inability to offset the losses in one Member State with the revenues in another state and the possibility of transferring the tax base from countries with high tax to countries with low tax levels.

Many authorities have introduced regulations on the transfer pricing and intra-group loans (commonly used channels to move the tax base from one country to another), in an attempt to limit the handling of the corporate tax systems, but these rules has shown limited effectiveness because they have contributed to the increasing of the tax laws complexity and to the registration of additional costs for companies. Generally, the differences and incompatibilities of the national corporate income tax distort the efficient investment location and give rise to disputes between taxpayers and tax authorities and between tax authorities from different countries.

For solving the existing corporate income taxation problems, the European Commission proposed the introduction of measures for coordination, solution contested by some Member States but supported by most specialists, many organizations representing the interests of employers and public authorities in countries affected by migration of capital located in their territory under the influence of tax competition manifested in the European Union. A decision regarding the setting of the framework for coordination of corporate income taxes has not yet been taken, but there were made important steps in this direction.

To assess the effects introduction of some measures to coordinate the corporate income taxes in the European Union, numerous studies and reviews were developed either by independent specialists or by specialist services of the European Commission or at its request, but the results are uncertain because many of the “Common Consolidated Corporate Tax Base” technical aspects have not yet been established. The formula for common consolidated corporate tax base apportionment between tax jurisdictions is one of those technical issues for the European Commission will have to make a clear choice between one or more specific possibilities.

2. The formula for common consolidated corporate tax base apportionment – general aspects

The formula for common consolidated corporate tax base apportionment generated many discussion among experts. It is necessary that this formula to be transparent and simple, do not involve compliance costs and excessive administration, to reduce the possibility of moving the corporate allocation factors from one location to another and do not cause distortions in the European Union business environment (Agúndez-García, 2006).

Starting from the practical experience of countries that provided a such formulation (US and Canada), the experts have proposed a formula for common consolidated corporate tax base apportionment, based on factors that characterize the individual companies or on value added by the company through the economic activity on the territory of a country (Hellerstein, McLure, 2004).

Using characteristic factors of individual companies allows the approach of a correlation between the real economic activity performed by a particular company on the territory of a country and the consolidated tax base state apportioned in that country. The concrete choice of one (some) of these factors is likely to generate significant differences between Member States because the use of home-based factors (labor and capital) will provide higher revenues in states with higher production than consumption, while the choice of sales favours the states with large consumer markets. In addition, there is a risk of manipulation by the authorities because the states may try to attract economic activities – even no profitable on its own territory – only to increase its share of consolidated tax base and to maximize the revenues (Negrescu, 2007).

For the allocation of common consolidated tax base on tax jurisdictions, the aggregate factors at national level (macro) as gross domestic product or value added tax may be used. Since the use of aggregate factors at national level does not take into account, in particular, the economic value created by the group companies that is the subject of the tax base consolidation in each country, the Working Group to design the “Common Consolidated Corporate Tax Base” has proposed an apportionment formula based on three factors: assets, sales volume and employment. The document presenting the European

Commission the mechanism for common consolidated tax base apportionment shows that the Working Group tried to create an easy apportionment mechanism to implement and to check both for taxpayers and tax administrations, a fair and equitable apportionment mechanism for all Member States in order to not generate undesirable effects in terms of tax competition. To avoid the manipulation of the system by taxpayers, the Working Group turned to the factors that cannot be artificially transferred between different tax jurisdictions.

The formula for tax base apportionment of the company A, as was shown in the document Working Group, is:

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

where:

BFC_i^r is the apportionment tax base in the tax jurisdiction of the "i" company, member of the group that is the subject of consolidation;

BFC is the common consolidated tax base of the companies group;

V_i is the sales of "i" company;

V_{grup} is the sales of companies group;

Fs_i is the wages fund of "i" company;

Fs_{grup} is the wages fund of companies group;

Na_i is the employees of "i" company;

Na_{grup} is the employees of companies group;

A_i is the assets of "i" company;

A_{grup} is the assets of companies group;

m, n, o are weights given to each factor, so $m + n + o = 1$.

All taxable income (both production activities and/or sale, as well as interest, royalties, dividends etc.) obtained by the companies that choose to use this system should be consolidated and distributed to the formula above. In other words, Member States should not allow further adjustments of the tax base allocated, to not increase the system complexity and to not offer the possibility of the profit movement within the group of companies.

Calculations for allocating the tax base will be made annually. A positive consolidated tax base (net profit) will be distributed immediately and a negative consolidated tax base (net loss) will be compensated in the future in the group of companies with net profit. Where a company leaves the group of companies which chose for the consolidated tax base or where a company joins a group that has opted for the consolidated tax base, the consolidation and distribution of the tax base will be made for a fraction of the tax period in which the company was a member of the group.

3. The mechanism for common consolidated corporate tax base apportionment

To establish the formula for allocating the common consolidated tax base, the Working Group has opted for both inputs (labor and capital) as well as factors expressing the economic performance of the company (turnover).

In terms of workforce, the Working Group made the following comments:

- the coverage of this factor will be for the entire company's personnel (including managers, directors and employees with temporary labor contracts);
- the cost of workforce will cover all deductible expenses used to determine the tax base (both wages and social contributions, fringe benefits, etc.). Some experts in the Working Group argue that a proper allocation of the tax base depending on the cost of workforce required adjustments to correct the differences in wage levels between EU Member States;
- where a person is employed by a company, member of the group and resident of the State A, but he/she works for another company, member of that group and resident of the State B, he/she will be recorded (for the distribution base purposes) in the State B. Employees engaged in a company that has opted for common consolidated corporate tax base apportionment for a period less than the fiscal year will be recorded for a fraction of the tax period in which they worked for the company.

In terms of capital (assets), the Working Group made the following comments:

- to simplify the EU formula apportionment and to exclude the possibility of taxpayers to manipulate the tax system, the "Common Consolidated Corporate Tax Base" will be considered only the immovable assets, i.e. the tangible fixed assets (land and buildings, plant, equipment, etc.). Therefore, even if the stocks are an important part of the assets in certain sectors (e.g. retail trade), to avoid the manipulation of the system by the taxpayers (the establishment of some warehouses in the Member States with low corporate tax rate to guide a part of the tax base in that State by increasing the "assets" factor), the European Commission recommended to exclude them from apportionment formula;

- the valuation of the assets will be realized by deducting depreciation from the asset's historical cost, but the Working Group has not ruled out the possibility of using other valuation methods;
- the location of assets will be established in the country where they are effectively used in business. Thus, in the apportionment formula, the assets will be assigned a company registered in terms of depreciation accounting. Such a rule would generate effects for leased assets between member companies of the same group or from other companies. In the first case, the owner of assets will make a statement on the place where the assets are used, so they will be accounted by the company that they actually use, in order to apply the apportionment formula. In the second situation, the lessee (the company which leased) will account the assets using a fixed rate: the 8th part of the annual rental rate.

In terms of sales (turnover), the Working Group made the following comments:

- most experts in the Working Group supported the use of the value of sales "at home" (considering the place from which the goods are delivered), in the apportionment formula. The European Commission however considers that the sales "at home" as factor have a poor conceptual base in terms of income generation, reproducing, significantly, the role of assets and workforce as factors that generate income. In addition, the location of sales "at home" could be easily manipulated, because the place of shipment to third parties is easily changed (although the eventual cost of transport must be taken into account). This risk is significantly reduced when the apportionment formula used sales "at the destination", but Member States where the population's purchasing power is greater will be favoured over other countries. When the destination of goods sold/services provided is a Non-member State or a Member State in which the group of companies does not have an economic entity as subject to corporation tax, the importance of the sales factor, which in fact reflects the company's business volume, will decrease for "workforce" factor and for "assets" factor. The existence of "Internet sales" was a challenge for the Working Group members. In this respect, they concluded that only the companies that have a physical presence in the Member States may choose to use the "Common Consolidated Corporate Tax Base" system;

- the "sales" factor will only cover the receipts from the sale of goods and services, excluding the income from capital gains and extraordinary income;
- the intra-group sales will not be taken into account thus eliminating the problem of transfer pricing.

4. Opinions regarding the effects of the common consolidated corporate tax base apportionment

The introduction of the "Common Consolidated Corporate Tax Base" system will generate complex effects, both economic and social. According to studies prepared in this respect, the countries that will benefit from gains in GDP and in welfare, will also lose some tax revenue, and the countries that will suffer reductions in the GDP and welfare, will also get additional tax revenue (Brøchner at al., 2006).

Considering a simple example, we see the impact that it will generate common consolidated corporate tax base apportionment from income tax. We assume that there are a corporation formed by parent company and its subsidiary, which we know the following information:

The parent company		The subsidiary	
Turnover (thousand Euros)	200,000	Turnover (thousand Euros)	50,000
Payroll (thousand Euros)	30,000	Payroll (thousand Euros)	10,000
Number of employees (persons)	1,500	Number of employees (persons)	1,200
Assets (thousand Euros)	1,000,000	Assets (thousand Euros)	200,000
Taxable income (thousand Euros)	0	Taxable income (thousand Euros)	500
Tax rate	25%	Tax rate	16%

In the situation described above, the parent company will not pay anything (corporate income tax) because it has not been earning and the subsidiary will pay the income tax in the amount of 80 thousand Euros.

Giving an equal important for tax base apportionment factors we find the following situation:

The tax base of parent company = [1/3(200000/250000) + 1/6(30000/40000) +1/6(1500/2700) + 1/3(1000000/1200000)] x 500 thousand Euros = 381.02 thousand Euros

The income tax paid to the residence state of the parent company = 381.02 thousand Euros × 25% = 95.25 thousand Euros

The tax base of subsidiary = [1/3(50000/250000) + 1/6(10000/40000) + 1/6(1200/2700) + 1/3(200000/1200000)] × 500 thousand Euros = 118.98 thousand Euros

The income tax paid to the residence state of the subsidiary = 118.98 thousand Euros x 16% = 19.04 thousand Euros

Therefore, the parent company will pay tax in the amount of 95.25 thousand Euros to the resident state even if it has not recorded gains in its territory and the subsidiary will pay tax in the amount of 19.04 thousand Euros. Overall, the corporation will pay a higher tax, and the two states involved in the distribution will be positioned as a winner or loser.

The evaluation of the effects of the common consolidated corporate tax base apportionment is a very difficult step, but a number of scholars have made attempts in this regard.

The first study assessed the impact of the introduction and distribution rules to strengthen the tax base for corporations in the European Union was made by Fust et al. (2006). In the absence of a comprehensive database with information on companies in all EU Member States, the authors focused on the work undertaken by parent companies in Germany and their subsidiaries abroad between 1996-2001. Particular conditions of the analysis of the three German authors have generated the following results (Fuest et al., 2006):

- enhancing and sharing the corporate income tax base will generate losses of tax revenue for small states using tax incentives, because the attracted tax bases in these countries are high compared with real economic activity taking place on their territory (measured by assets, turnover and wage fund);
- compensation for loss of income in cross-border activities will generate a significant decrease in the total tax base. In the case of the analysis for 1,844 parent company in Germany and 5,827 foreign subsidiaries, reducing the total tax base was estimated at 20%.

Starting from the premise that the companies with cross-border activity will not change the location choices by introducing rules to harmonize corporate income in the European Union, Devereux and Loretz (2007) estimated effects of the EU formula apportionment on corporate tax revenues in the 22 Member States. They have done a complete analysis (for all Member States) because the database used did not contain the information on the number of employees and payroll for companies in certain states (essential for determining the tax base shared by Member States). The study was based on financial results provided by some 400,000 companies that had assets worth at least two million and carried on business within the 25 states in 2000-2004 (using the database provided by the organization Orbis Bureau van Dijk).

The results reached by the authors of the study are presented in Table 1.

Table 1

Revenues from corporate income tax in the Member States of the European Union (total 2000-2004)

Country	Revenues from corporate income tax according to EUROSTAT (million $)	Revenues from corporate income tax paid by companies in the database (million $)	Revenues from corporate income tax after the consolidation and the distribution of the tax base (million $)	The collection degree of revenues from corporate income tax (%)
Austria	28,702	7,846	7,461.55	95.1
Belgium	51,813	30,701	28,644.03	93.3
Czech Republic	18,692	8,727	10,428.77	119.5
Denmark	29,642	20,727	19,732.10	95.2
Estonia	610	187	539.31	288.4
Finland	32,315	24,310	20,225.92	83.2
France	245,609	151,772	148,888.33	98.1
Germany	150,411	124,630	108,054.21	86.7
Greece	29,131	12,630	12,074.28	95.6
Hungary	8,559	3,867	4,621.07	119.5
Ireland	26,120	9,518	9,546.55	100.3
Italy	213,517	197,490	186,233.07	94.3
Latvia	929	657	655.69	99.8
Lithuania	995	309	321.98	104.2
Luxembourg	9,445	1,565	1,380.33	88.2
Nederland	84,755	22,399	22,331.80	99.7
Poland	21,926	17,104	17,565.81	102.7
Portugal	23,849	14,097	13,659.99	96.9
Slovakia	3,968	2,054	2,709.23	131.9
Spain	128,663	76,246	75,864.77	99.5
Sweden	42,920	25,782	28,772.71	111.6
United Kingdom	270,834	133,358	144,560.07	108.4
Total	1,423,405	885,799	864539.82	97.6

Source: Devereux, M.P., Loretz, S., *The effects of EU formula apportionment on corporate tax revenues,* Oxford University, Centre for Business Taxation, Working Paper no. 6, 2007, p. 16.

Therefore, the consolidation and the distribution of the corporate tax base analyzed will generate a reduction of revenues from corporate income tax by 2.4% due to cross-border offsetting of losses with profits. Most new Member States will register an increase in revenues from corporate income tax, while most states in the northern and western Europe will be faced with reducing their revenues from corporate income tax.

In 2008, Devereux and Loretz expanded the analysis on the corporate income taxation coordination impact with focus to the effects of business efficiency. Observations made at the 4567 group of companies (323,442 companies) operating in Member States (they used the same database), in 2001-2005, allowed the measurement of change in the ratio of income taxes paid and the value of corporate profits before tax in the current situation, when voluntary consolidation and in the consolidation and the distribution of the tax base situation.

Differences between the average effective corporate income tax rate in the current situation and the average effective corporate income tax rate in the consolidation and the distribution of the tax base situation are shown in Figure 1.

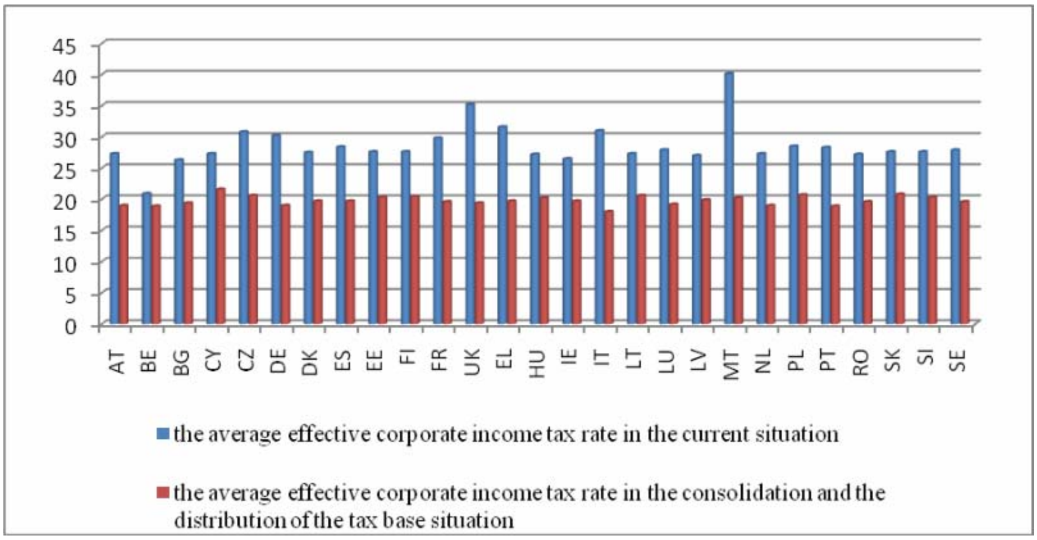

Figure 1. *The average effective corporate income tax rate in the current situation and in the consolidation and the distribution of the tax base situation (%)*

In the event of different national tax systems (current situation), the average effective corporate income tax rate registered a significant differences among Member States of the European Union (from 40.1% in Malta to 20.9% in Belgium). In the consolidation and the distribution of the tax base situation, the average effective corporate income tax rate is reduced significantly (from 28.6% in the case of consolidation rules absence to 19.7% in the case of tax base consolidation and distribution). Also, the spread between effective corporate income tax rates existing in the European Union member countries would be reduced considerably (from 21.6% in Cyprus to 18% in Italy), creating the prerequisites to ensure some neutral fiscal conditions in the European Union. So, the analysis conducted by Michael P. Devereux and Simon Loretz in 2008 shows clear evidence of the positive impact (in terms of increased economic efficiency on the single market) that the introduction of the "Common Consolidated Corporate Tax Base" system will generate.

5. Conclusion

The idea of coordinating the corporate income tax systems is currently an important topic of discussion on the agenda of the European Commission, but also in theoretical approaches of specialists. The extreme diversity of these approaches is an important indicator of the complexity of problems that prevent the formulation of solutions widely shared, irrespective of considerations of political feasibility.

The consolidation and the distribution of the tax base will generate losses of tax revenues across the EU because losses and profits of companies arranged in groups are compensated, but the magnitude of these losses could be lower than those estimated by various experts (or even could be recorded gains of tax revenues) when a part of currently tax deductions and exemptions are eliminated. Balancing the loss of income from companies' income tax (which have a low share in GDP in most Member States of the European Union) and the benefits from the increasing business efficiency and from the eliminating opportunities for handling corporate tax base through transfer pricing and intra-group loans, we appreciate that the introduction of common consolidated corporate tax base will have a positive impact on the tax system of the European Union.

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