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THE IMPACTS OF TAXES ON COMPETITIVENESS IN THE EUROPEAN UNION

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1 INTRODUCTION

Nowadays, the European Union is an entity not so organically integrated in economic and social terms as Sir Winston Churchill envisaged it some time ago. After World War II he put forward his conclusions drawn from historical cases in 1946 in his famous speech held at the University of Zurich:

'Yet all the while there is a remedy which, [...] would in a few years make all Europe, or the greater part of it, free and happy. What is this sovereign remedy? It is to re-create the European Family, or as much of it as we can, and to provide it with a structure under which it can dwell in peace, in safety and in freedom. We must build a kind of United States of Europe'.

During the few years that have passed since the speech was made, several attempts have been made to create the cohesion of the society and economy of the European countries not to mention the fact that in the meantime this cooperation has always been given a meaning by different factors. After World War II the creation of peace, afterwards the economic power of the United States of America forced Europe to unite while these days participation in the economic competition and the common single market are coming to the foreground to a greater extent when talking about unification.

1.1. Actuality of the topic

The creation of a single market requires some sacrifice from the part of the member states, which can also mean giving up part of their financial sovereignty. The conditions for the free flow of goods and services, as well as capital and labour must be created and the barriers that are in the way must be dismantled. One of the elements, and presumably the most sensitive one, is the harmonisation of the taxation policy of the member states. The harmonisation of the value-added tax regarded as the most important one in commerce and excise tax took place in the first round so these can be regarded as conformed taxes as the Union regulates these tax types including their extent by directives. The harmonisation of taxes levied on income such as corporate tax- or personal income tax systems has not yet been realised up to date. The objectives of the strives aimed at harmonising are converging the different taxation system of the twenty-seven member states and, at the same time, eliminating the impacts that distort competition. In fact, the questions of the taxation policy and system in the European Union are not part of the community policies; consequently, that is why there are substantial differences between the taxation policies of the member states. The question is whether the integration eliminates or strengthens the tax competition between the member states and if so, what impacts it will have on the competitiveness of the single countries.

The actuality of the topic is justified by the fact that while the tax competition decreases the differences that exist between the levels of taxes in certain countries, the corporate tax rates of Hungary can still be regarded as below the standard of the average of the Union. In Europe the rate of the corporate tax further decreases due to the competition for labour force and capital as well as economic liberalisation while the stable or less decreasing tax rate is typical overseas. However, in the future a really enterprise-friendly taxation system of a country can ensure a greater competitive edge. In that case it is not only the extent of the tax that is regarded to be enterprise-friendly but also the method of a simpler calculation of taxes and tax allowances together with its conditions ordered by law, the transparency of bookkeeping and the system of keeping contact with tax authorities.

The real tax burden can differ based on how the government and tax authority of the single countries handle tax-paying companies, how cooperative it is in obeying the rules or even aggressive towards them. The simple, stable and clearly applicable taxation system is rare although companies and individuals alike greatly appreciate it everywhere if a country ensures such environment for them. All this can greatly influence the mood for running an enterprise or even the foreign direct capital flow into our country.

Competitiveness in its macroeconomic sense has been given a greater and greater attention from the 1980's. In my dissertation I have examined the competitiveness of the twenty-seven European Union member states from the point of view of taxation. I have chosen the European Union because as a separate economic entity it takes part in the world economic competition on one hand, and also it has to put more and more emphasis on harmonising the national interests of the member states and deepening national cooperation. However, managing monetary and fiscal policy is at different levels in the Union at present. Managing monetary policy has already risen to a communal level by now but the same cannot be stated regarding fiscal policy. As a result, a graver and graver tax competition has been formed between the member states within the frames of which lower and lower tax rates are fixed and more favourable tax environment is created to attract foreign direct investment. All this is done in the hope of increasing our competitiveness without clarifying the connection between taxation and competitiveness. To offset the harmful effects of tax competition it would be necessary to converge taxation policies by means of tax harmonisation and, of course, with regards to the areas and impact that taxes make on competitiveness.

In my dissertation I have reviewed the different theories on competitiveness, the historical background of competitiveness analyses and determined the common points where taxation and competitiveness meet as well as the role of taxation in examining competitiveness.

It is indispensable to review the differences between the taxation forms within the Union to explore the correlation between taxation and competitiveness. Regarding the extent of tax harmonisation in the Union, in my paper I have placed the emphasis on the examination of direct taxes as within the

Union the harmonisation of the indirect ones has already taken place as a first step to achieve free trade. The harmonisation of direct taxes is taking place to a different extent and at a different rate. The introduction of the method of calculating a common consolidated corporate tax base in corporate taxation is delayed due to the lack of mutual agreement from the member states. The reason for this is that the member states regard the introduction of this method as a threat to their national sovereignty in taxation. Moreover, in the opinion of some member states the standardisation of calculating the tax base might be followed by the standardisation of the tax rates, which would, in the case of the tax type, mean the abolition of the right of national sovereignty. The mutual agreement on the introduction of the method of calculating the common corporate tax base is missing despite the fact that the impact of the corporate tax rate on foreign direct investment is not yet proved.

The extent of tax harmonisation in personal income tax is lower than that of corporate tax. Significant differences can be experienced in the practice of the member states regarding the method of taxation (flat tax system or progressive) and marginal tax rates, as well. The flat tax system is typical of the countries in the Central-East European region while taxation is progressive in case of the West-European member states. The introduction of the former one is justified by its presumably beneficial impact on improving employment and, indirectly, competitiveness. In my opinion personal income tax itself and within it, the method of taxation (linear or progressive) have no impact on the formation of employment and the same holds true in case of social contributions as well as taxes expressing the simultaneous levies on both of them. The reason for this is that other factors also play an important role in forming both employment and economic competitiveness in its broader sense and the impacts of all the factors involved must be considered.

1.2. The objective of the research

The objective of the dissertation is to explore the areas and the extent how taxes can influence competitiveness, and, at the same time, to contradict the opinions according to which the tax system or even a type of tax in itself can provide the whole country with a competitive edge. In my opinion, taxation and the system of burden sharing have an impact on the competitiveness of a country by several mechanisms including other sectors of economic life but, in fact, it is not the only factor.

Furthermore, personal income tax itself and within it, the method of taxation (linear or progressive) have no impact on the formation of employment and he same holds true in case of social contributions as well as taxes expressing the simultaneous levies on both of them. In case of the corporate tax, the extent of tax rates as a proportion of GDP themselves are not enough to attract foreign direct investment. On the other hand, the extent of foreign direct investment cannot be identified with competitiveness in its economic sense. Based on the above facts, the following hypotheses were created during my examination:

1. The difference in the taxation of the member states of the European Union can mostly be derived from direct taxes:
   - the rate of employment is not necessarily higher in countries that apply lower **personal income taxes** and linear tax rates.
   - the extent of **corporate tax** itself is not decisive in attracting foreign direct investment. Reducing the extent of the tax rate generates adverse tax competition.
2. In case of the examined countries the indicators of tax burdens and competitiveness do not necessarily act in the same direction, i.e. on the basis of the tax burdens we cannot conclude the formation of competitiveness in its economic sense.
3. In the case of social contributions the impact on employment cannot be proved, not even by taking the shares of burdens between the employers and employees into consideration.
4. Personal income tax and taxes including the taxation of contributions do not determine the rate of employment, either.

To prove the statements above, the tax types in case of which significant differences exist in GDP-relative taxation as well as tax rates between the member states are defined by means of a statistical programme package (SPSS). Afterwards, cluster analysis is used to classify the member states on the basis of tax burden indicators and those of economic competitiveness separately. During the examination an answer is sought to the question to what extent the clusters gained as a result of classification based on these two factors overlap and also if the statement according to which lower taxes result in a greater level of competitiveness can be justified. To prove this, I have examined the taxation as a proportion of GDP of the member states and the correlation together with its tightness between the extent of tax rates and the indicators of economic competitiveness in each tax type. When selecting the indicators of taxation and economic competitiveness, the justification of the hypotheses was considered.

2 MATERIAL AND METHOD

a. Sources in statistics and specialist literature

The following sources were consulted during the preparation of the dissertation:

1. Online statistical sources. The decisive part of them derive from Eurostat (Statistical Office of the European Union), the rest of the data come from the websites of WEF, IMD, UNCTAD, IMF and KSH (Central Statistical Office).
2. Hungarian and international specialist literature. An extremely huge amount of specialist literature was written on competitiveness and the difficulties of measuring it as well as the impacts of taxes on competitiveness during the past decades. I have tried to select the works on competitiveness and only those tightly connected to taxation were used:
   - Specialist publications published by the official bodies of the European Union.
   - Specialist publications of the National Bank of Hungary.
   - Publications presenting the Hungarian and international research.
   - Other specialist publications.

2.2. The examination carried out to explore the correlation between taxes and competitiveness

My examinations on competitiveness and the formation of tax revenues covered the twenty-seven member states of the European Union during which twenty-one taxation and competitiveness indicators were analysed for the years 1999, 2004 and 2007. Most of all, the observation of tendencies as well as the exploration of cause-effect relationships were highlighted in the analysis. In all cases tax revenues were examined relative to gross domestic product (GDP), which ensured the comparability of the values of different member states By means of this method the impact of the tax systems of the member states on competitiveness can only be measured indirectly as each member country has special features in their tax systems that are difficult to express numerically. Analyses were carried out by using Statistical Package for Social Sciences (SPSS v16.0).

The methods of the examination were selected so that an answer could be found for the questions raised in the hypotheses. Factor analysis and cluster analysis in several steps were used to explore the correlation between competitiveness and the tax burdens of the single countries. Previously, with the help of box plot analysis the values that differed from the average were selected that could distort the mean values within each group.

Table 1: The indicators applied during the research (own compilation)

Taxation indicators	Competitiveness indicators
Tax wedge	Public debt / GDP
Indirect taxes / GDP	Budget deficit / GDP
Direct taxes / GDP	Rate of employment
Value-added tax / GDP	Total investment
Personal income tax / GDP	GDP / capita
Corporate tax / GDP	GDP / capita growth rate
Social contributions by employees/ GDP	Inflation
Social contributions by employers/ GDP	Productivity
Personal income tax rates	Growth rate of productivity
Corporate tax rates	Export-import
	Foreign direct investment (FDI)

The box plot analysis is suitable to follow up the spread of values and last but not least it also projects the reason why the expectedly outstanding values of the cluster analysis create a separate group. During the box plot analysis all the economic and taxation indicators were examined in case of all the three years. Based on the values relative to the mean value the certain indicators were classified into three groups. The first one comprises the indicators which did not represent striking values in any of the member states. The second group contains the indicators that represented *striking values* in case of one or more member states while the third one includes the indicators in case of which *significantly outstanding* values could be experienced in case of one or more member states.

As a first step in exploring the correlations between taxation and competitiveness indicators, factor analysis was carried out that belongs to multivariate statistical procedures and serves to explore data structure. Furthermore, there are no predefined dependent and independent variables and the number of the starting variables are summarised in factor variables. By means of it, the indicators of taxation and competitiveness with high factor weight that can be contracted in one factor can be detected so their aggregate shift can be proved but the factors created this way do not correlate with one another.

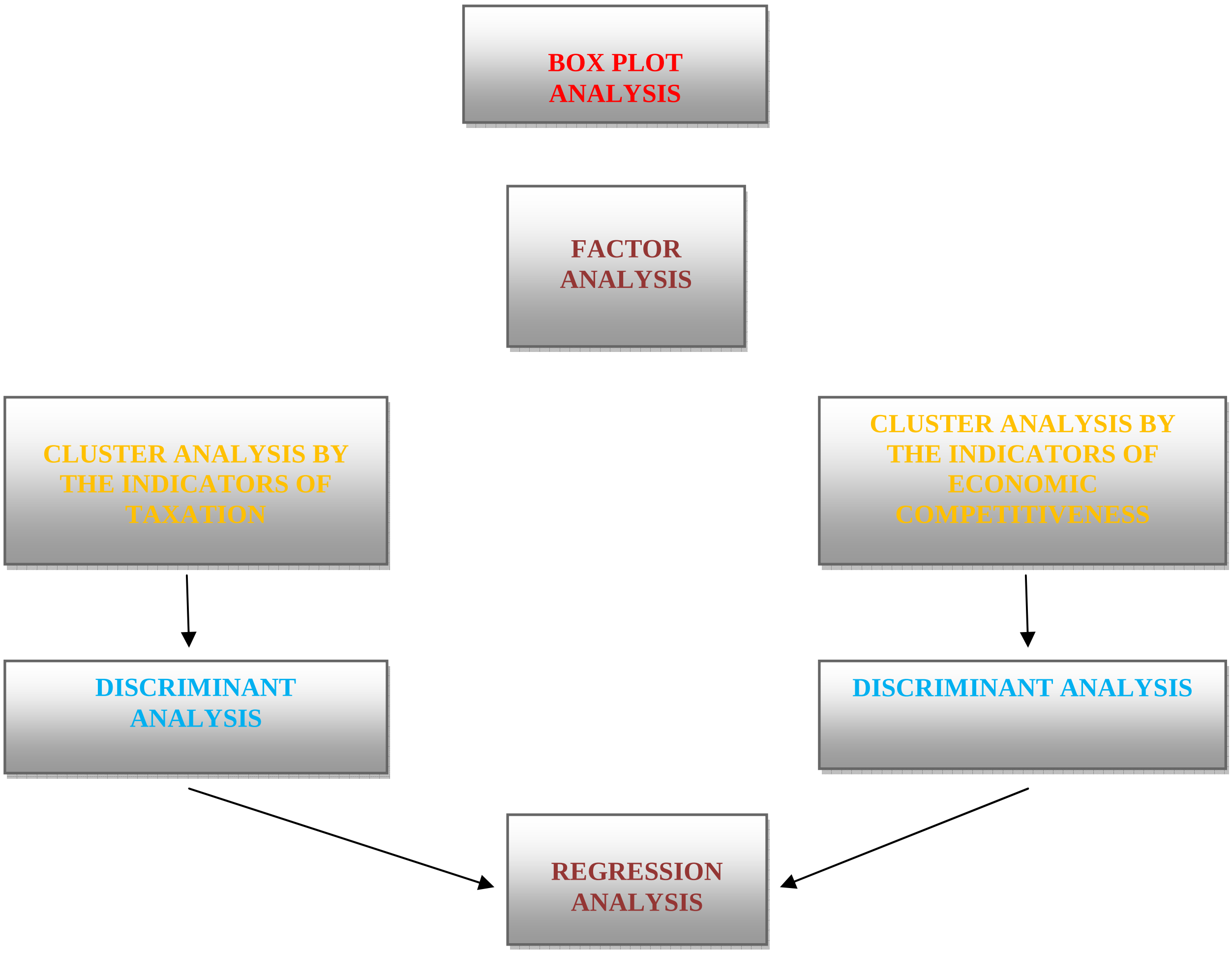

Figure 1: The process of the statistical examination

After this a cluster analysis was carried out. One of the tasks of cluster analysis is to form homogenous groups based on the variables within which the examined member states are close to one another taking their characteristics into account. It is a frequently applied research method that clustering is carried out by using the indicators grouped in one factor during the factor analysis. A minor change was made in it during my research, i.e. after the factor analysis cluster analysis was carried out by leaving all the taxation and economic indicators so that the result could be compared with the indicators gained in discriminant analysis.

During cluster-making the elements showing similar features can be grouped and, as a result, relatively homogenous groups can be created relative to the variables. In my examination I have concentrated on twenty-seven Union member states and when creating clusters, taxation and economic indicators made up the parameters. In the process, clusters between 1 and 27 could be formed. Of course, a too low cluster number does not make a sense as all the member states could be positioned in the same group. Neither would a too high cluster number be practical as in this case each country would make a separate group so the analysis of the single groups would also be meaningless.

One of the starting points of cluster analysis is giving the possible number of clusters. That is why as the first step of the analysis the possible and ideal number of clusters was stated with the help of the Ward-method. This procedure makes the graphic display of clusters in a dendogram possible, which provides significant help when choosing the number of clusters and even interpreting the results. The illustration with a tree-diagram was exclusively important in my examination to define the possible number of clusters. Afterwards, by knowing the possible number of clusters, the member states were grouped by K-means clustering technique. The hierarchical cluster analysis carried out in the first step makes the task easier as on the one hand, the ideal number of clusters can be determined based on the hypothesis, and, on the other hand, the dendogram of the Ward-method reflects the composition and number of possible clusters. In the tree-diagram it is always only one cluster that is divided into sub-clusters starting from the bottom of the tree. As cluster analysis is a dimension reducing technique with which data can be organised into homogenous groups (clusters), data differ from the other elements of the cluster alongside this dimension. Grouping is possible on the basis of different distance or similarity measures, of which I have chosen the squared Eucledian distance. Its main point is that the programme calculates the means of all variables per each cluster and after that the squared Eucledian distance is also calculated per each element relative to the cluster mean. These are summarised per each observation unit. In each step the two clusters that increase the spread square within the cluster to the slightest extent are contracted.

After the cluster analysis I examined what the indicators with the most separating, i.e. cluster-forming power are among both the taxation and the economic indicators. To find it out, discriminant analysis was carried out, which is a multivariate method with the help of which the independent variables that differentiate can be defined between the groups formed in cluster-making. In my examination I have tried to find the answer what the indicators with cluster-forming power are of the six clusters created in the previous step, i.e. which feature is so dominant that could re-direct one or more countries to another group. Discriminant analysis was carried out separately in the case of taxation and economic indicators to be able to examine the correlation between the taxation and economic indicators of a discriminative nature gained this way as the next step. This discriminant analysis was carried out also separately on taxation and economic indicators so that characteristics with the strongest discriminating power came to the foreground in the ranking. The common feature of discriminant analysis and cluster analysis is that in both cases groups are formed. Deviation derives from the fact that in case of cluster analysis there are no predefined groups as they are created in the process of cluster-making. In the case of discriminant analysis groups are given with the objective to define the independent variables that mostly separate the single clusters.

After carrying out discriminant analyses for both taxation and economic indicators separately, the dominant indicators of the two groups were arranged in pairs and by examining the strength and characteristics of the correlation between them, linear and non-linear function fitting were achieved. During this process I have tried to find out whether a function-like connection can be pointed out between the taxation and economic indicators of the greatest discriminating power. To explore this, function-fitting trials were performed by means of SPSS programme package during which the independent variable was selected among the taxation indicators while the dependent one was selected among the economic ones, respectively, in all cases. To justify the results gained this way as well as to explore the reason for the trend-like positioning of the member states in the frame of reference, cluster analysis was carried out by using the K-means method.

Tax harmonisation in the Union has practically been achieved in case of the indirect taxes so far. The harmonisation of the direct taxes significantly lags behind so great differences in taxation can be found in this field between the member states. That is why the objective of the series of examinations was to point out what types of taxes showed significant deviation from the other member states of the European Union regarding taxes relative to GDP or tax rates. At the same time, these tax types are not in a tight correlation with competitiveness in its economic sense or any of its factors. Furthermore, I have proved that the groups of countries as a result of clusters based on taxation or economic competitiveness indicators do not overlap so from the taxation indicators one cannot conclude the level of competitiveness.

On the basis of the function-setting trials I have also pointed out the correlation or its lack between such pairs of indicators that are in the centre of competitive studies and analyses (e.g. personal income tax-employment rate, corporate tax-foreign direct investment).

As taxes and within them direct taxes play an important role in forming a country's competitiveness, they are not the only and decisive factors. On the other hand, the economic competitiveness of a country cannot be described by the formation of an economic indicator. These two points of view (taxation and competitiveness) are made up by several factors and the former one is part of the latter one but they are not in parallel.

3 RESULTS

a. Tax harmonisation in corporate tax on profit

Prior to the methodological examination taxation and the formation of tax rates were analysed in case of the twenty-seven member states of the European Union taking personal income tax, corporate tax and social contributions into consideration.

Harmonisation has already been achieved in indirect taxes. However, no substantial headway was made regarding the harmonisation of direct taxes as well as social security so far.

Of the three above mentioned areas, in the area of corporate taxation negotiation has already been started on introducing the calculation method of the common corporate tax base between the member states to reduce tax competition. According to the supporters of this idea tax competition could be eliminated this way. However, opponents argue that the common tax base calculation method would necessarily be followed by the standardisation of corporate tax rates, which would reduce the sovereignty of the single member states. In real, the liberalisation of trade would require some extent of harmonisation in corporate tax on profit but the extent of harmonisation achieved so far in the field of corporate tax on profit is not at all as great as in the field of indirect taxes. However, the different extents of corporate taxes in the single countries influence the direction of international capital flow. The Union reacted to the networking associations of companies with new directives and agreements in 1990. The objective of the Merger Directive is to remove the legal objectives of taxation of the transformation of the enterprises in the member states, their stock swaps and transfer of assets so these transactions should be regarded as if they were carried out within a member state. The Parent-Subsidiary Directive creates standardised tax conditions for the parent companies and their affiliates operating in different member states by evading double taxation. The profit that was taxed in the country where the subsidiary operates is not taxed afterwards by the country of the parent company. Again, negotiation on the supervision of transfer pricing is possible to eliminate the double taxation of the joint ventures.

The Interest and Royalty Directive makes possible the proper taxation of revenues that appear in the form of royalty in one country but paid to a natural person residing in another in accord with the laws of the member state concerned.

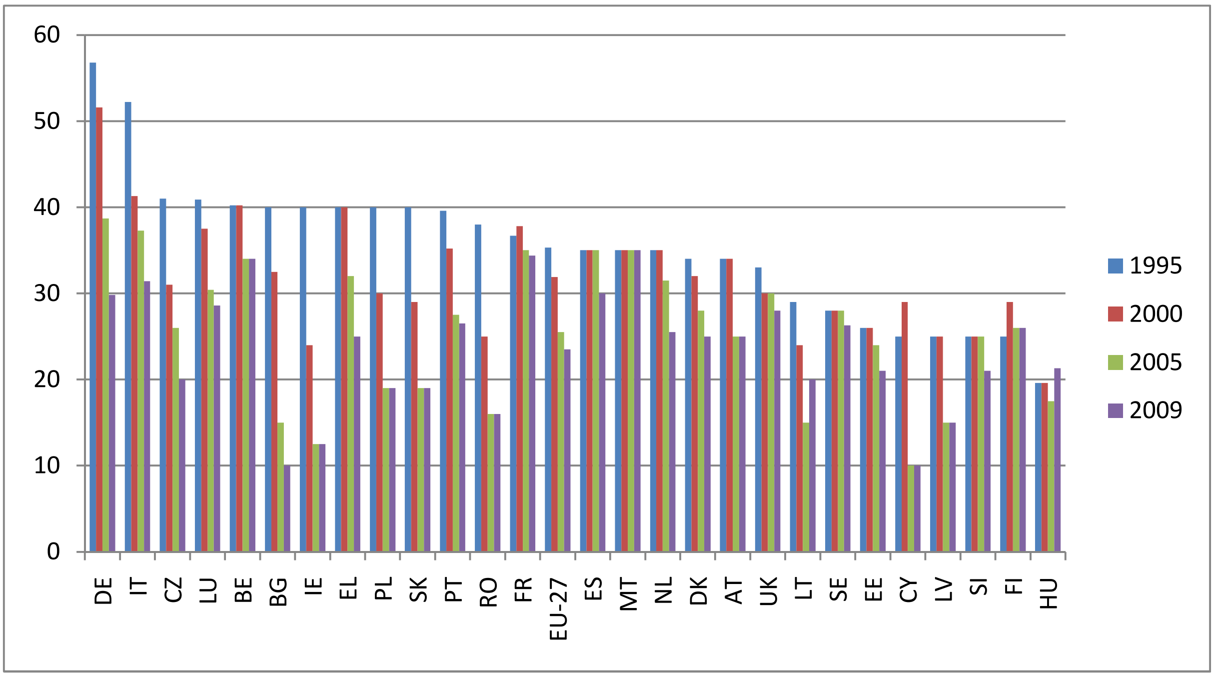

Figure 2: The formation of the extent of corporate tax rate (%) in the European Union between 1995 and 2009
(Source: http://epp.eurostat.ec.europa.eu)

Taking these circumstances into consideration, it is very difficult to channel the business behaviour of enterprises in the proper direction. Some are fighting for the total abolition of tax competition while others think the elimination of the competition would result in the increase of tax burdens. However, the present situation can, by no means, be termed as a settled one. The fight for tax revenues forces the member states to be more attractive regarding taxation than the others. Of course, this has already triggered and makes tax competition between countries even graver. *However, it is necessary to clarify what role the extent of corporate tax rates and corporate taxation as a proportion of GDP play in attracting foreign direct investment.*

b. Tax harmonisation in the field of personal income tax

Personal income tax and social security are the two least harmonised taxation areas of the Union. Among the direct taxes, a negative harmonisation can be observed in personal income tax, one of the most important objectives is hindering the opportunity of differentiating between individuals of the Union.

Still, the decrease of marginal tax rates can be experienced in personal income tax but the Union harmonisation of this tax type makes slow headway. One of the reasons for this is that the existing differences between the member states in this area mean the slightest barriers to free trade, and, at the same time, they can have an influence on the movement of the factors of production (capital, labour) between the member states. The EC Treaty does not mention the harmonisation of direct taxes; in this respect the member states could preserve their sovereignty.

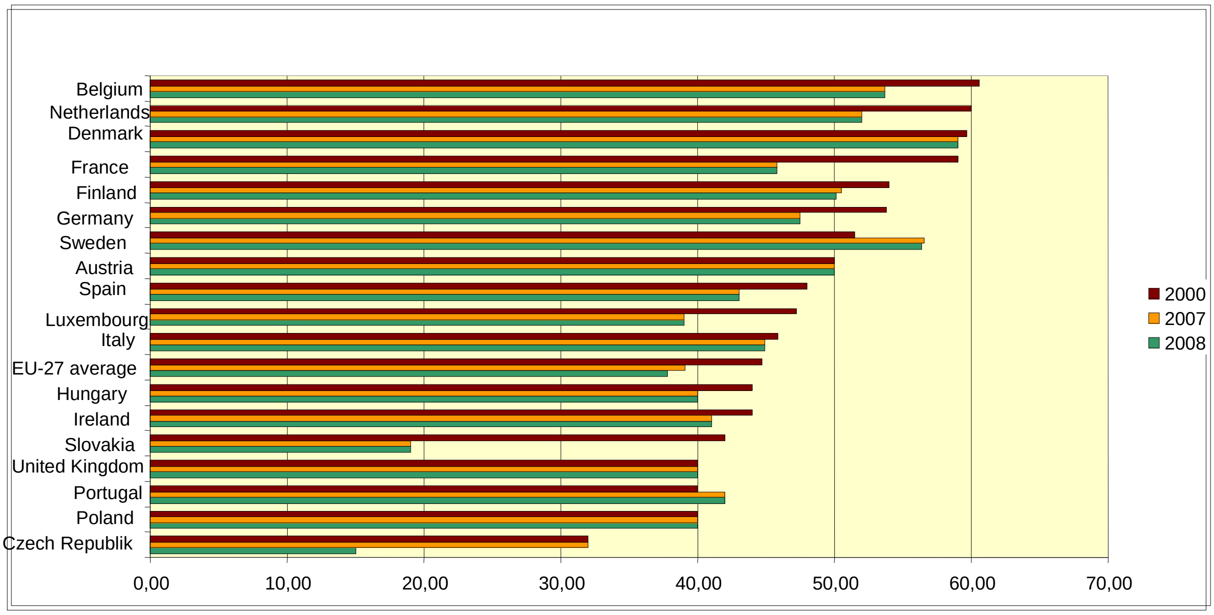

Figure 3: The marginal tax rate of personal income tax (%) in certain member states of the European Union
(Source: http://epp.eurostat.ec.europa.eu)

Regarding corporate tax, the method of calculating the common consolidated tax base is a step forward in harmonising the tax systems. However, in case of personal income tax such an extent of harmonisation cannot be observed. The personal income tax systems of the single countries is quite different taking allowances, the method of taxation (progressive, linear) and tax rates into account.

Personal income tax is decisive among the tax revenues of the budget. Revenues from personal income tax can be made by different taxation practices (linear, progressive). The flat-rate tax system is supported by some experts and several countries in Central-East Europe have introduced it. However, we must not disregard that it does not comply with all the aspects of the principle of fairness laid out in the basic principles of taxation. The impact of the flat-rate personal income tax on the increase of employment and, indirectly, on competitiveness, is not justified on the basis of the examinations carried out.

c. Tax harmonisation in social security

The social security system of the member states of the Union is based on coordination by action programmes instead of harmonisation. The most important objective of the Union in connection with this is to ensure that the citizens and their family members practising the right to the free movement of people should be entitled to use the services in all the twenty-seven member states.

The legal source of coordination is 140/71/EEA and 574/72/EEA regulation for its implementation. Basically, regarding social security the own statutes of the member states prevail in all the member countries. However, the question of who, when and to what extent a citizen of another state is subject to the effect of the statutes of another member state is specified by the statutes of the Union. According to the main principle of the regulation a person can only be insured in one member state of EEA at a time even if he is employed simultaneously in several member states.

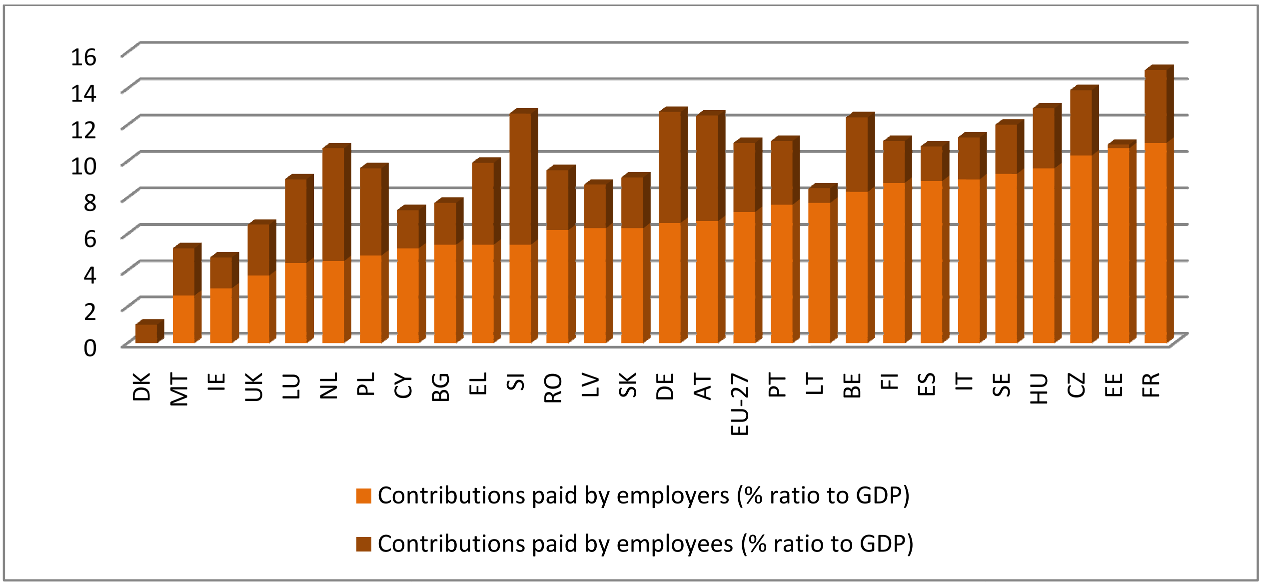

Figure 3: The breakdown of contributions (%) paid by employees and employers in certain member states of the European Union in 2007

(Source: http://epp.eurostat.ec.europa.eu)

Deriving from the difference between regulations in the member states, there are also significant differences in contributions paid by employers and employees. Generally, employers pay a higher amount but this heavier burden on employers does not necessarily mean lighter burden on employees. Contributions themselves do not influence the rate of employment but together with personal income tax, it does not play a decisive role in the formation of competitiveness, either.

3.4 The examination carried out to explore the correlation between taxes and competitiveness

Based on the **box plot analysis,** direct taxes as a proportion of GDP, corporate taxes as a proportion of GDP and the tax wedge can be categorised as indicators that show a striking value. Only the personal income tax as a proportion of GDP can be regarded as an indicator representing a significantly striking value. In accord with those stated in the hypotheses the box plot analysis justified the assumption according to which the greatest deviation in the tax burdens between the member states is in personal income tax but corporate taxes can also differ to a great extent.

The **factor analysis** on taxation and economic competitiveness indicators shows which indicators of the two groups have greater factor load, which shows the correlation between the original variable and the given factor. Factor load to the power two, however, reflects the part of the variance of the variable that the given factor explains. Based on this, the higher the factor load value in absolute value, the more important role the given variable has in the interpretation of the factor. While examining the years I have concluded that among the tax burden indicators direct taxes/GDP indicator, personal income tax/GDP indicator and the rates of personal income tax have high factor load. The above-mentioned three factors had high factor load in all the three years. In case of the economic competitiveness indicators GDP/capita indicator, work productivity indicator, foreign direct investment indicator, rate of employment indicator and the aggregated investment indicator possess high factor load.

Table 2: The clusters of the member states based by tax burdens and competitiveness 2007.

Clusters	1.	2.	3.	4.	5.	6.
Aggregated tax burdens	**Denmark**	**Austria Belgium Finland France the Netherlands Germany Italy Sweden**	**UK Luxembourg Malta**	**Greece the Czech R. Poland Hungary Portugal Spain Slovenia**	**Bulgaria Estonia Latvia Lithuania Romania Slovakia**	**Cyprus Ireland**
		highest → lowest				
Aggregated competitiveness	**Luxembourg**	**the Netherlands**	**Denmark UK Austria Sweden Finland Ireland Spain**	**Belgium France Germany Italy**	**Cyprus Malta the Czech R. Greece Hungary Poland Portugal Slovenia Slovakia**	**Bulgaria Estonia Latvia Lithuania Romania**

As a result of the **cluster analysis** in case of the three years the clusters based on the tax burden indicators are not completely similar to the clusters formed on the basis of the competitiveness indicators in any of the years examined (Table 2). Some groups of countries obviously move together, e.g. Finland, Sweden or the Baltic countries are in the same cluster regarding both taxation and competitiveness indicators but the countries of the same cluster with respect to tax burdens are positioned in two-three or even four different clusters in the classification based on competitiveness. It can also be concluded that the countries with heavy tax burdens do not belong to the cluster of the less competitive countries. The statement is also true when reversed, i.e. the countries with the lightest tax burden are not necessarily the most competitive countries.

On the basis of the **disciminant analysis** the discriminating indicators of both the tax burden and competitiveness indicators were identified. In case of the tax burden indicators, the most discriminative one was the personal income tax as a proportion of GDP and the group of direct taxes together with the corporate tax as a proportion of GDP. From the point of view of competitiveness, GDP per capita, the rate of employment, production and its growth rate indicators are the ones that most significantly separates the single member states. Indicators of a discriminating nature throughout all the three examined years were exclusively part of the tax burden indicators.

In the **regression analysis** none of the indicator pairs showed a function-like relation so this examination also proved my hypotheses.

3.5 New and novel scientific results

1. Corporate tax rates did not show strong correlation with either foreign direct investment or investment, which was also proved by the function-fitting examination.

   In the European Union, as a consequence of the competition the further harmonisation of corporate tax rates can be expected by the standardisation of calculating corporate tax base. At the same time, the gradual decrease of the corporate profit tax rate increases the profit of enterprises after tax and also increases the funds available for investment and development purposes. Consequently, less budget revenue from this tax type encourages the member states to rationalise their budget expenditure.
2. According to my hypothesis, i.e. high tax rate does not necessarily mean that in all the member states of the Union the tax rates are high, was proved. The greatest deviation in tax burdens could be detected in the case of direct taxes. The reason for it can be taxation as a proportion of GDP and the different tax rates.
3. Personal income tax- although decisive (and influences taxation as a proportion of GDP the most) – is not strongly correlated either with foreign direct investment or the rate of

employment, so it does not influence economic competitiveness as an independent factor, either.

4. In my research I havepointed out that GDP per capita is not suitable to compare countries in economic terms. Furthermore, there is no strong correlation between direct taxes as a proportion of GDP and the growth rate of GDP per capita as well as direct taxes as a proportion of GDP and the growth rate of work productivity. The statement that a low tax wedge would result in high employment rate was not proved and neither was the tight correlation between the tax wedge and work productivity.
5. The invigorating impact of the flat-rate personal income tax system on the economy is not proved as its effect on increasing the rate of employment is not proved, either and employment –as one of the factors of competitiveness-cannot be identified with the competitiveness of the whole economy. However, its whitening impact on the economy can turn in the opposite direction as illegal employment is not typical of the multinational companies although this tendency can be stronger for small-and medium-sized enterprises in case of a graver personal income tax burden.

4 CONCLUSIONS AND RECOMMENDATIONS

The rates of indirect and direct taxes as a proportion of GDP

In case of the indirect and direct taxes the union average is approximately the same regarding these two tax types for the period between 1999 and 2007. The *average burden of the indirect taxes as a proportion of GDP* decreased from 14 per cent to 13.8 per cent on the Union level while in the case of direct taxes the reduction was from 13.8 per cent to 13.6 per cent. The share of the indirect taxes as a proportion of GDP was 13.3 per cent in the countries of Central-East Europe in 1999 and 13.5 per cent in 2007, respectively. The Czech Republic shows the lowest proportion of indirect taxes (11.3 per cent) while Cyprus the highest (20 per cent). Likewise the formation of aggregated tax burden there are significant differences regarding direct and indirect taxes between the member countries. However, there was a reduction followed by an increase in tax burdens during the examined period. In case of the indirect taxes the trough of the decreasing phase starting from 1999 was 2001 (13.5 per cent) while in the case of direct taxes the trough was 2004 (11.9 per cent).
The countries with the greatest indirect tax burden in this group are Denmark (18 per cent), Sweden (17 per cent) while the lowest ones are Spain (12 per cent) and Greece (12.3 per cent).

The examinations in connection with *direct taxes* proved that regarding taxation as a proportion of GDP in the member states of the Union the greatest deviation can be experienced in personal income tax. Tax harmonisation does not cover this tax type so far and the reason for decreasing the marginal rates can primarily be the *presumed* beneficial impact of tax burden decrease on the increase of employment and via it, competitiveness.
Taking direct taxes into consideration, Denmark shows an outstanding value 29.8 per cent) while the lowest values are performed by Greece (8.1 per cent), Germany (11.4 per cent) and France (11.9 per cent). In Denmark the high proportion of indirect taxes can be explained by the fact that a great part of welfare expenditure is financed from general tax revenues not from separate funds. This makes the high proportion of direct taxes necessary. Germany and France are good examples for the opposite case.

The extent of personal income tax rate in the member states of the Union

With regards to direct taxes there is no such a great extent of harmonisation than in the case of indirect taxes within the Union either in personal income tax or in corporate tax. On the other hand, due to the tax competition experienced in case of corporate tax mainly it is the Central-East European countries that try to keep their corporate tax rates low. Regarding personal income tax it is also typical of these countries that progressive taxation was substituted by linear taxation, which results in a tax reduction in case of higher income. On the whole, a reduction of the marginal personal income tax rates can be observed during the period between 1999 and 2007 but taking the whole Union into account, the reduction of the marginal personal income tax rates was started in 1995. In the member counties of the euro-zone, of course, the average value of the marginal rates was higher even in 1999 (48.8 per cent) than in the twenty-seven member states (45.3 per cent). By 2007 in case of the former countries the average value of the marginal rates was reduced to 42.1 per cent while it was 39.1 per cent in countries outside the euro-zone. In the formation of tax rate reduction there are no such decreasing, then increasing tenancies like in the case of tax revenues as a proportion of GDP, rather, the tendency is of a constant decrease. Regarding the marginal rates, there are rather big differences between the member states. The flat-rate personal income tax is mostly typical of the Central-East European countries. Besides Estonia, Latvia, Lithuania, Romania and Slovakia, Bulgaria and the Czech Republic also introduced a flat-rate personal income tax in 2008. Of these countries, Bulgaria applies the lowest 10 per cent tax rate and Latvia has the highest one, i.e. 26 per cent. The average of the linear rate of the seven countries is 17.4 per cent.

During the period between 1999 and 2007 almost all countries reduced the rate of their marginal personal income tax with the exception of Malta, Austria and the United Kingdom, and also Portugal increased it by 2 per cent. The greatest decrease can be observed from the second half of the 2000s and mainly in the countries that apply the linear rate, namely Bulgaria, The Czech Republic and Lithuania. On the whole, regarding the marginal rates of personal income tax a tendency of decrease can also be observed during the examined period. However, the beginning of this tendency goes back to the years before 1999. The reduction in marginal rates did not result in the decrease of revenues from personal income tax on a Union level. The marginal rate decreased by 7.5 per cent in the twenty-seven member states of the Union in the period between 1999 and 2007, i.e. by 9.5 per cent relative to 1995 while the revenue from personal income tax as a proportion of GDP decreased by 0.4 per cent between 1999 and 2007, which is a growth of 0.3 per cent relative to 1995.

The rate of corporate tax in the member states of the Union

Compared to personal income tax, a tendency of greater decrease can be observed in **corporate taxes**, as well. During the period between 1999 and 2007 none of the countries increased the rate of their corporate tax so there was a 24.5 per cent decrease from the maximum of 35.3 per cent by

2007 in corporate tax in the twenty-seven member states of the Union. In case of the member states of the euro-zone the decrease was of the same extent but achieved on a higher level as from a maximum of 37.7 per cent the average extent of the rates went down to 27.1 per cent between 1999 and 2007. The tendency continued after 2007 mostly due to the tax competition induced by the Central-East European countries. Despite the fact that the corporate tax rates were reduced on the Union level, there is quite a great spread among the extent of rates. The corporate tax rate of Bulgaria (10 per cent) is 25 per cent lower than the highest value of the Union, which is Malta's 35 per cent. Unlike the rates of personal income tax, Denmark and Sweden with the highest marginal rates exceed the 37.8 per cent Union average by 21 per cent. In case of corporate tax rates Malta, France and Belgium, which has the highest rate (of 34-35 per cent), are by only ten per cent above the Union's average.

As a result of the tax competition between the member states in the extent of corporate tax rates there is not such a huge deviation than in the case of personal income tax rates. Taking the competition for foreign direct investment into account, it is important to note that neither the extent of corporate taxation as a proportion of GDP nor the extent of corporate tax rate have a direct impact on foreign direct investment. With special regards to investment, taxation, and within it, the extent of corporate tax is only one of the factors that have to be taken into consideration. In case of Hungary the investors mention the lack of stability and predictability in legal regulation as a drawback in competition.

Social contributions

The revenue from social contributions as a proportion of GDP also decreased during the period between 1999 and 2007. This decrease applies to the contributions paid by both the employer and the employee. Unlike in the case of other tax types, now we cannot talk about a decrease of such a great extent as the aggregated tax burden on both the employee's and employer's contributions as a proportion of GDP decreased from 13 per cent to 12.4 per cent during the examined period. In case of the contributions paid by the employer the tax was reduced from 7.3 per cent to 7.2 per cent while the contributions paid by the employee went down from 4.2 per cent to 3.8 per cent. The aggregated tax (of both employers' and employees') shows a significant difference between the member states. It is the highest in case of France, the Czech Republic, Germany, Austria, Slovenia, Belgium, the Netherlands and Hungary (16.3-13.5 per cent), which lags behind the Union's average (12.4 per cent) only by little percentage. The tax as a proportion of GDP is the lowest in Denmark, Malta, Ireland and the United Kingdom. In Denmark social security tasks are financed from the revenues of general taxes. Malta, due to its historic traditions and its connection to the Anglo-Saxon countries is trying to keep social contributions low. A difference from the other tax types is that the two Scandinavian countries, Sweden and Finland are below the Union's average and, at the same time, not all Central-East European countries have low social contribution burdens as a proportion of GDP (the Czech Republic, Slovenia, Hungary). *With the exception of the Netherlands and Slovenia, a great part of liabilities to pay social contributions fall on the employers.* The share of the burdens is of a similar extent or approximate in case of Malta, Luxembourg, Poland, Germany and Austria but the heavy burdens of employers do not necessarily result in light burdens of the employees.

Social contributions do not play an exclusive role in employment, either but together with personal income tax neither does tax wedge has the only impact in its formation. Taking the proportion of contributions paid by the employers and employees into consideration, there is no rule on the one hand, according to which the extent of one side would decide the proportion of another. On the other hand, the spread of the extent of burdens has no impact on the rate of employment, either.

The correlation between taxation and competitiveness

Competitiveness can be interpreted on the basis of several points of view (economy, education, infrastructure, national defence etc.) and several factors make up a point of view. Based on it, tax burdens do not have such a great impact on competitiveness in its economic sense as one might think. The reason for this is that taxation is only one of the several factors that determine economic competitiveness. Taxation, on the other hand, has impacts on competitiveness in several areas. Tax burdens and tax rate is one of the factors in this complex relationship so it is not proper to overestimate their significance but their impacts must, by all means, be considered. When taking the relationship between the factors into account, it is of high importance to consider the fact that they interact. A higher tax than in the neighbouring countries would not definitely deter foreign direct investment if tax administration imposes perceptibly lower costs on enterprises. Besides taxation, a country having relatively less favourable taxation conditions can also be attractive from the part of investors if it offers more advantageous conditions in other areas (e.g. skilled labour force, developed infrastructure) than the other countries. Due to this fact, the result of the cluster analysis is understandable, i.e. the classification made separately on taxation and competitiveness did not result in the same groups of countries in both respects. Consequently, taxation and competitiveness do not necessary interact in the same or opposite direction. The countries with the heaviest tax burden were not proved weaker in competitiveness and vice versa, i.e. not the countries with the lightest tax burdens were proved to be the most competitive.

5 SUMMARY

The European Union faced a dilemma at the turn of the millennium. With globalisation gathering pace, it is a more and more difficult task to preserve its economic weight on the international stage while harmonising the national interests and deepening the cooperation between the member states also need significant energy. Moreover, it also has to deal with the possible additional enlargement of the Union in the future. It means a double challenge for the Union that has to be solved simultaneously. The role of the European Union in international economy and political life is determined by rather its internal cohesion and not its territorial size in the future. Increasing the number of the member states is possible but enlargement should be preceded by a period that fosters cooperation. After the accession of the Central-East European countries the Union is now in a period of strengthening internal cooperation, whose importance is much bigger than was in the past decades as these countries are in another stage of economic development than the West-European countries so consequently, their tax system and tax burdens cannot be similar, either.

The task is to speed up considering the vision of integration of the community member states for the future at the same time. The twenty-seven member states of a different economic level formulate different objectives.

The examinations of the dissertation reflect the differences both in economic competitiveness and taxation that exist between the member states. The necessary but not satisfactory condition of achieving free trade within the Union was the harmonisation of indirect taxes. Due to the competition-distorting effect of direct taxes, the next step in harmonisation cannot be disregarded. The present problem needs to be tackled immediately as its impact on both the economic connections of the member states and the position of the whole Union filled in the international economic competition may have negative consequences. The statistical analysis reflects that the most important task is the harmonisation of direct taxes within the Community, whose two main areas are corporate tax and personal income tax. In the case of the first, harmonisation is important to decrease the tax competition between the member states for foreign direct investment. Examinations proved that corporate taxation and corporate tax rates do not have exclusive impact on foreign direct investment and the volume of investment. The reason for this is that other points are also considered when investing and taxation is only one of them, corporate tax is, however, only a factor of a point.

The decrease of marginal tax rates can also be experienced in personal income tax, which is aimed at increasing the desired competitiveness by increasing employment. Like the relationship between corporate tax and foreign direct investment, the increase of employment also depends on several factors. Taking employment into account, personal income tax and social contributions alone are not decisive as the examinations also support but the tax wedge that expresses their aggregated load does not determine the rate of employment, either as the benefits aimed at supporting the unemployed can often decrease willingness to work despite the low tax-and contribution burden.

Another important area of my examinations was the definition of the common points of taxation and competitiveness. My starting point was that competitiveness can be determined by several points of view and several factors within them although, as some say, competitiveness in its macroeconomic sense cannot exactly be expressed numerically. That is why my examinations were reduced to competitiveness in its economic sense. According to the concept in the Central-East European region competitiveness was characterised by the formation of one factor (employment, foreign direct investment), which, I personally think is not appropriate as competitiveness and taxation do not necessarily point in the same direction. The cluster analysis illustrated that as a result of the separate classification based on taxation and economic competitiveness indicators, there were not identical clusters of the single countries. The country with the lowest tax burden did not prove to be the most competitive. However, the tax burdens of a member country occupying a prominent position when taking competitiveness into consideration. From the point of view of taxation, competitiveness means the respects that taxation promotes the increase of the competitiveness of the country. This connection cannot be simplified to the examination on tax burden and the extent of tax rates. Taxation has an impact on several parts of competitiveness via several factors. Besides the competitiveness of the single tax types, it also includes the competitiveness of tax administration. Accession to the Union restricts all countries' movements mainly due to the regulations of consumption taxes but in the area of direct taxes there are still possibilities to improve competitiveness. Moreover, the simplicity and cost-effectiveness of administration would also point in this direction. As a result, we cannot state obviously that tax competition would be harmful for the member states in all respects. Competition itself makes countries improve their tax systems and mainly the simplicity of administration is meant here. From this approach tax competition can be advantageous from the point of view of the effectiveness of the tax systems of the countries. However, it is important that harmonising tax policies should be carried out in the form of cooperation and not competition. Of the questions in connection with the future of the Union the most emphatic ones are that of deepening economic and political cooperation. Of course, in this area the concepts of the member states also differ but at this point the answer to this question will also basically determine the future of the Union. The integration process can go on in two possible ways. Part of the member states prefer the form of operation based on intergovernmental negotiations by keeping the present level of cooperation while another part wants to strengthen the federal characteristic of the Union. By all means, the latter one is closer to the concept of Winston Churchill quoted in the introductory part. The supporters of this direction would deepen cooperation by establishing community institutions. According to the arguments of the sceptics, the member countries would have to give up important part of their national sovereignty such as taxation and foreign policy to reach this objective. However, the supporters of the federal concept think that the Union can keep and improve its political and economic weight on the international stage in the future only if the Union acts as a coherent unit of the member states in these areas and not as a heterogeneous body that represents a wide range of national states. Tax policy is a milestone on the way to a concerted act. The cooperation achieved in this area such as the harmonisation of the value-added tax and excise tax and the single customs district can be regarded as important milestones taking the international competitiveness of the Community into consideration. The next step, i.e. the harmonisation of taxes on profit and income as well as the concepts on social security is not as smooth as in the case of the previous tax types. On the basis of the federal notion the harmonisation of the tax systems is also essential as the whole Union can react to the challenges of the world economic competition properly only if its internal cohesion is fully achieved.

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