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Corporate Tax Systems and Tax Competitition in the EU New Member States

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Abstract: This paper analyses the effects which tax competition has on corporate income taxation in the new European Union Member States. The panel analysis, which was conducted, did not determine the existence of tax competition in a form that can be called harmful and which would lead to suboptimal level of taxation and und-provision of public goods. Also, the hypothesis that new European Union Member States with its taxation systems affect the existence of negative manifestations of tax competition has not been confirmed. Research did not show that tax competition conducted by new European Union Member States lead to decrease of welfare within the Member States.

Keywords: tax competition, corporate income tax, fiscal degradation, tax harmonization

JEL classification: F36, F42, H25

Introduction

In the European integration process tax competition represents a damaging reoccurrence as it creates certain unwanted effects. However, tax competition can be observed also as a problem on a global scene as it affects socially-economical events in the world. Many studies have been written which deal with the tax competition problem and recent empirical studies have shown that there is a strong correlation between the level of taxation and capital accumulation. It has also been determined that the differences between the European Union Member States corporate tax systems are relatively high.

The problem of tax competition has been even more actualized with the EU enlargement on ten new Member states which corporate income tax rates are

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significantly lower than in the old Member states, and because of that they are even more appealing to multinational companies to invest.

Disloyal tax competition problem has, even though it has existed long before, started to truly be researched at the end of nineties of the last century. At that time there have been large mergers and acquisition of multinational companies in the European Union and the world. Because of the increase of the production mobility factor there has been a distortion of tax base within the European Union Member States and with the establishment of European Monetary Union and strengthening of the joint market there was an elimination of non fiscal technological and institutional barriers within the Member States. This has encouraged tax payers to seek manners in which to decrease their tax obligations and Member States to attract investors through their tax initiatives, benefits and exemptions. These events have brought increase of tax competition within European Union Member States.

Even though there are those which consider that tax competition and tax harmonization are not in opposition, in majority of studies, which deal with the issues of tax harmonization, the problem of disloyal tax competition is considered to be one of the key obstacles which must be prevailed in order to harmonize the European fiscal systems.

There are many reasons which may affect a decision of a certain company to invest it assets in a certain state, but the simplest and often primary factor which affects this decision is the level of nominal corporate tax rate. Therefore, special attention shall be made in the problem research analysis to the differences of the tax level rate when it comes to corporate income taxation, differences regarding tax benefits, exemptions and initiatives of corporate income taxation, as well as effective economical and financial factors of tax competition between the old and the new EU Member States.

Theoretical Framework

In conditions of high international capital mobility, the governments of certain countries may be tempted to, through tax burdening reduction mechanisms of the corporate income taxation, influence on attracting direct foreign investments, and, in such manner decrease corporate income tax of countries which provide such capital and increase their own. However, this sort of competition insight may, in the long run, cause negative effects on all countries which are taking part, as this ‘race to the bottom’ will actually lead to citizens welfare decrease in all countries.

This is the exact reason why the EU has been trying, for a number of years, to resolve the problem of tax competition through mechanisms of tax coordination or harmonisation. There have been suggestions of various different models for harmful tax competition prevention at the level of the European Union, but none has gained a serious political support and one of the reasons for this is the fact that the theory of harmful tax competition has not been proved in an adequate way.

Also, the term of tax competition is not defined in one meaningful and to everyone acceptable manner, which makes a serious scientific analysis of the issue more difficult. The creation of a suitable outline to measure tax competition, especially its negative effects, is one of the fundamental tasks of economical and financial science, because without any firm evidence of existence and effects of harmful tax competition, the adequate outline for its prevention will not be able to develop.

It is worth mentioning that there are still in existence large reservations regarding damaging reoccurrence of tax competition, as it raises the question for whom tax competition is harmful and whether this is simply a theory which EU-15 Member States are trying to progress and which corporate income taxation are non-competitive in relation to EU-12.

For example, many analysts have evaluated Recommendations of Ruding's Committee as contradictory since it was claimed in the Report, from one point of view, that there is no evidence of existence of 'unrestrained tax competition' while, from the other point of view, it gave a detailed and exhaustive list of suggestions to harmonise the corporate tax systems.

Even the Ministers' Council reacted very cautiously and held back recommendations from the Report. This referred to, above all the opposable recommendation of tax harmonisation rates, as well as opposable request for the minimal statutory income tax rate to be 30%, which the Council considered to be too high, as this sort of recommendations would directly contribute to old Member States and damage New Member States.

Nevertheless, in favor of the theory go the fact that tax competition does have harmful effects on movement of the capital within the EU and the fact that the investments that have attracted the new Member States have been new investments. Therefore, the ones which did not influence the capital movement from one Member State to the other, the gained income were invested further.

The first advocates of tax coordination were Musgrave and Musgrave (1969), however their scientific attention was focused on issues of international double taxation.

The issue of international double taxation has been given less attention with time and more attention has been given to the issue of international capital mobility and capabilities of multinational companies in how to avoid or reduce tax burdening, movement of tax base from high tax burdening country to a country with lower tax burdening or to a country with no burden, as it is the case in some tax havens.

This sort of situation has increased the international tax competition in a way that most countries utilised such fiscal measures which are below the optimal level. This resulted in development of, as mentioned previously, the thesis of ‘race to the bottom’. Therefore, the goal of empirical analysis, which shall be shown below, is to prove the existence or rather the non-existence of harmful tax competition at the EU level.

Oates (1972) was the first to express his concern with regard to the existence of such form of tax competition and traditional models of tax competition were developed by the work of Zodrow and Mieszkowskog (1986) and Wilson (1986).

Zodrow and Mieszkowski have represented in their study a tax competition model in the simplest general equilibrium setting. Due to Zodrow and Mieszkowski, the concept of tax competition is based on the use of theorem of under-provision of public goods and local public goods. This concept is also used to test the capital mobility factors on corporate income taxation on a simplified sample of identical regions. It is presumed that the capital mobility leads to lower tax rates and suboptimal decrease of public goods offer.

Wilson’s model with two countries, two jurisdictions, which are identical in every way except the number of labor force, showed how it is better for individuals in smaller countries. This is due to the fact that when a certain country imposes a higher tax rate on the capital, the effect shall be stronger on its demand for capital and demand for interest rates on the international capital market and, therefore, the flexibility of the capital offer shall be less.

It must be taken into account that the demand for capital of a larger country has a greater influence on the interest rates than smaller country. Therefore, larger countries shall determine higher capital tax rates. As the cost of capital is lower in smaller countries, the per capita investments are higher and, therefore, the level of wages is higher.

Therefore, a conclusion can be made that smaller countries are in advantage at the time of tax competition, if the difference in the size of the competing countries is large enough and public costs is being financed by taxes on capital.

Similar theories have been developed by Gordon (1986) and Razin and Sadka (1991) predicting that in conditions when capital is completely mobile, he would rather escape to small open economies which shall not be able to tax them in a suitable manner.

Haufler and Wooton (1999) in their study present arguments which confirm opposite theory, whereby they claim that in case of imperfect competition and because of transactional costs, it is in fact, larger countries that may have tax competition advantages whereby countries compete for direct foreign investments, as companies prefer larger markets because of transactional costs. This shall influence location rent in larger countries, which may be used within tax politics. Therefore, larger countries shall increase taxes and decrease subventions and smaller countries may not be able to follow and, therefore, investments shall depart to larger countries.

Sinn (1997) has claimed how tax competition shall not lead to suboptimal offer of public goods if countries can put more tax on less mobile productive factors, such as labor, but, of course, this would lead to unbalanced distribution of income and decrease of general level of welfare, especially in case if labor becomes more mobile as a result of such situation.

Keen and Marchand (1997) have in their studies distinguished how fiscal competition may encourage countries to change fiscal structures in a manner which shall have unwanted consequences when distributing income, but can also effect the increase of expenses which shall suit the mobile capital and in such a way that from an investment in the public infrastructure the immobile consumers shall rip the benefits.

Brennan and Buchanan (1980) have openly advocate the concept of fiscal competition as they believed that fiscal competition is in conditions of fiscal decentralisation a good balance for politicians' activities, bureaucrats and other backing groups which are focused on gaining additional income.

In most studies which deal with tax competition the emphasis is on loss of general welfare, and most are focused on the effects which at the same time produces mobile capital. Some studies are also focused on the mobility of labor force which emphasis how tax competition in the world in which individuals are very much mobile helps local jurisdictions to accomplish effective and acceptable level of public expenditure as the citizens shall discover their own preferences by moving from a jurisdiction which offers the most inexpensive tax packages

Unfortunately, the conditions required for the above mentioned Tiebautov equilibrium (1956) to be fulfilled are very restrictive because, firstly, the government must be in a position to collect tax in a form of lamp sum for each citizen equal to required expenses for them to provide a suitable level of public goods and services and, with it, efficiency of such model shall not be ensured if during the offer of public goods, economy of scale is being used.

It must be highlighted that all studies which deal with such established balance are engrossed with the efficiency problem, neglecting the fact that the production mobility factor influences the ability of countries to conduct a redistribution of income.

On a global scene which is rich in cultural and political barriers according to the greater labor mobility or even rather labor force, it is difficult to believe that the concept 'voting with their feet' is a satisfactory model which could describe the behavior of voters during selection of tax jurisdiction that may appeal to them.

Because of such restrictions we shall attempt to show the existence or rather nonexistence of tax competition between new EU Member States, thorough analysis of independent fiscal variables, not taking into consideration the effect of mobile labor force to this phenomenon.

Tax Competition and the new EU Member States

New Member State have lower tax burden in their corporate tax systems and they use a broad palette of investment initiative and exemptions. One of the characteristics of their corporate tax systems is permanent reform and rather frequent changes of individual elements of taxation. This group of countries characterizes even less reasonable income distribution and a larger emphasis on taxation of consumption than labor. The goal of such tax systems is that, firstly, attract direct foreign investments.

This brings us to a conclusion that New European Union Member States are interested and that they shall advocate the continuing process of tax competition since in all other segments they cannot and are not so competitive. Moreover, the majority of transitional countries characterize a rather large public expenditure, underdeveloped institutional and legislative surroundings out of which certain insecurity connected to their activities is being presented, as well as corruption, high level of grey economy, as well as a higher level of unemployment than in the EU-15.

Because of these deficiencies, potential investors, despite the fact of greater fiscal attraction of their corporate tax systems, may decide to invest in countries with a stable environment. When it would lead to a larger tax harmonisation, such as utilisation of harmonising unique tax base or rate in the EU, these groups of countries would lose one of the rare advantages in relation to old Members.

Since harmonisation would not lead to equal distribution of wealth, despite the fact that at the level of EU, it would more probably come to its increase, this is also one of the reasons why a political consensus cannot be made in this regard.

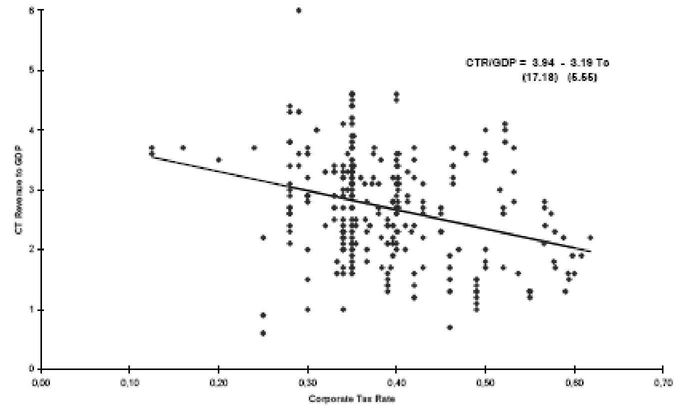
In the old Member States of European Union are tax-to-GDP ratios tend significantly higher than in the12 new Member States that joined the Union since 2004. Cyclical factors contributed to slow the decline of the tax ratios after 2002, and the same thing happened with the effective corporate income tax rates. Despite the sizeable cuts in rates, revenues from the corporate income tax have been stable or growing slightly already since 2003; a similar moderate rebound is visible also in other related indicators such as revenue from taxes on capital and business income taxes in the all European Union Member States.

In the long-term comparison (1995-2005) an interesting feature is that the Member States, in which the tax ratio has changed most, both upward and downward, are those which started out from a low level of taxation (the EU-12 counties);

high-tax countries (the EU-15 countries) instead generally display small changes from the 1995 level.

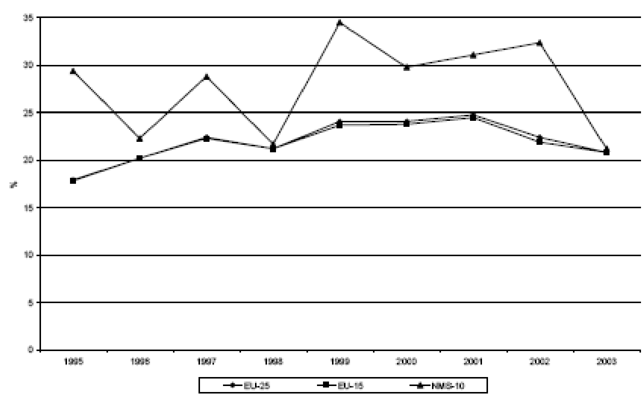
In other words, in period from 1995 to 2005 all Member States changed their corporate tax systems; some of them lowered their tax burden and effective tax rates, and some of them increase their tax burden and effective tax rates. But greater changes in corporate tax systems are made new Member States, and that is the reason why they have also a substantially lower share of direct taxes on the total.

Figure 1: Relationship between corporate tax to GDP ratio and statutory rate



Source: European Commission (2006)

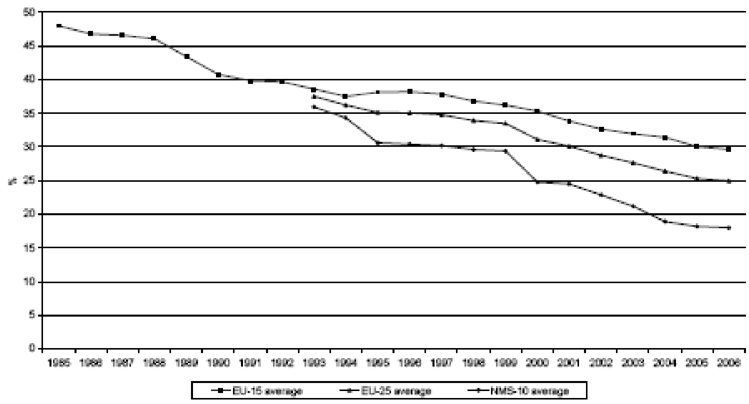
Figure 2: Implicit tax rate on corporate income



Source: European Commission (2006)

Generally, the new Member States have a different structure compared to the EU-15 countries; while most old Member States raise roughly equal shares of revenues from direct taxes, indirect taxes, and social contributions, the new Member States often display a substantially lower share of direct taxes on the total. The lowest shares of direct taxes are recorded in Bulgaria (merely17.9 % of the total), Romania (19.1 %) and Poland (20.5 %); in the latter, the share of direct taxes has diminished by one third since 1995. One of the reasons for this difference can be found in the generally lower tax rates applied in the new Member States on corporate and personal income; as for progressivity, some of the new Member States have abandoned it almost completely by adopting flat tax systems (one example of this is Slovakia).

Figure 3: Statutory corporate income tax rates in the EU



*Tax rates include local taxes and applicable surcharges
Source: European Commission (2007)

The new Member States have announced over the last ten years many corporate tax-reducing programs, but the results were often modest, so if we compare fiscal effects of corporate taxation in those countries we cannot confirm the thesis that they have more benefits from process of tax competition then the old Member States.

Tax Competition Model in the New Member States

This model considers New Member States, EU-12, (Cyprus, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Malta, Poland, Slovakia, Slovenia, Bulgaria, Romania) and the theory shall be tested how these countries encourage harmful tax competition and how it can be determined that in these countries the existence of such insight of tax competition shall lead to decrease of welfare in the Member States.

The model has taken into observation five different indicators that have significant influence on tax competition process and represents independent variables, and tax competition represent dependent variable. The dependent variable is demonstrated by adequately variable, because it is not possible to define precisely the process of tax competition. Also the limitations related to possible influences on tax competition process such as spillover effects have not been able to be taken into consideration.

It is hard to define tax competition related to corporate taxation but for the purpose of this analysis, tax competition is defined as such type of competition which will lead to suboptimal level of taxation and under-provision of public goods. This is also in theory most common definition of this term.

Since independent variables are related to elements of taxation and because the primary goal of this research is finding evidences that can prove how tax competition influenced capital mobility in the European Union, the Member States welfare is defined through best possible indicator, and that is portion of total direct taxes in GDP.

Because of that increase portion of total direct taxes in GDP denotes increase of welfare in the new Member States, and decrease portion of this type of taxes in GDP denotes reduction of welfare. Although this is very simple annotation it is a common procedure in modeling tax competition.

Constrains of this model are primarily related to international fiscal spillover effects which can be observed always when some changes in corporate tax systems in the European Union Member States are introduced. Such changes have influence on welfare in all Europe, and broader, thru relocation effect, saving effect and thru inter temporal effects. Incentive for investment relocation from one country to another will be increase of the tax burden on corporate tax system in a domicile country, or when some neighboring country substantively lowered their tax burden. Tax competition for foreign investment is focused not only on new investment, but also on relocation of FDI from one country to another. That kind of investment replacement are often in the European Union, when multinational corporations uses benefits of corporate tax systems with lower tax burden, and because of that remove their production from one country to another.

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Once capital is exported from one country to another we can talk about capital spillovers, and they can be seen as increase of capital tax revenues in country that imported capital, because of that personal income will also increase and unemployment will lowered. On other hand that will increase personal income tax burden in country from which capital is exported, total tax revenues can decrease, and saving capacity can also be reduced. All this factors and possible scenarios are not taken into consideration.

For the purposes of econometric model the tax competition during corporate income taxation is defined as such that competition shall lead to suboptimal level of taxation and under-provision of public goods. This means that the existence of tax competition shows decrease of a tax revenues from corporate income tax in a total tax revenues and decrease of portion of direct taxes in total tax revenues, decrease of social contributions, which is evidenced as a decrease of its portion in total tax revenues, an increase of a taxable burden during indirect taxation, which is evidenced as an increase of the tax revenues from indirect taxes in the total tax revenues.

Therefore, the existence of tax competition shall determine, if verified, that it decreased the welfare of the observed countries.

Annual data cover time period from 1995 to 2005. Source for all variables is Eurostat statistic data base.

From the above discussion the economic model is

$$TC = f(E, P, S, D, I) \tag{1}$$

where

TC = portion of total direct taxes in GDP
E = effective tax rates
P = portion of corporate income tax in total tax revenues
S = portion of social contributions in total tax revenues
D = portion of direct taxes in total tax revenues
I = portion of indirect taxes in total tax revenues

From economic model we derive econometric model which is linear in logs:

$$tc = \beta_1 + \beta_2 e + \beta_3 p + \beta_4 s + \beta_5 d + \beta_6 i + \varepsilon \tag{2}$$

where lower case letters represent logs of variables, and the parameters β_j represent direct taxes elasticities of effective tax rates, social contributions in total tax revenues, direct taxes in total tax revenues and indirect taxes in total tax revenues respectively.

Furthermore, the procedure which has been used throughout the data analysis for the requirements of panel is an evaluation of fixed effects. This procedure requires (2) to be rearrange as follows:

$$tc_{ct} = \beta_1 + \beta_2 e_{ct} + \beta_3 p_{ct} + \beta_4 s_{ct} + \beta_5 d_{ct} + \beta_6 i_{ct} + a_c + u_{ct} \tag{3}$$

where subscript *c* denotes the country and *t* denotes the time period. The variable a_c captures all unobserved, time constant factors that affect u_{ct}, therefore variable a_c is referred to as unobserved or fixed effects. Furthermore, in application it may be referred to as unobserved heterogeneity (in our case country heterogeneity).

The other part of error in the equation u_{ct} is often called idiosyncratically error or time varying error, as it represents unobserved effects which are changeable through time and influence tc_{ct}.

By using fixed effects for data analysis requirements in the panel, actually eliminate all time invariant variables. This kind of evaluation is also called within estimation as it's being used during time variations in dependable and undependable variable for each cross-sectional observation. In this analysis there were no time unchangeable variables. The procedure was conducted on all earlier described independent variables.

Table 1: Results

Dependent variable tc	e	p	d	i	s	R^2
1995-2005 N=132	.043 (.008)	.103 (.089)	.453 (.079)	-.059 (.040)	.087 (.076)	.93

Note: Figures in brackets are respective standard error values. R^2 from estimating using fixed effects is interpreted as the amount of time variation in the that is explained by the time variation in the explanatory variables. Serial correlation AR(1) was detected using Wooldridge (2002) test for autocorrelation in panel data. Due to this fact, autoregressive fixed effects model was used. Furthermore, this model allows unbalanced panel with unequally spaced observations (Baltagi, Wu, 1999; Im, Pesaran, Shin, 2003), which is characteristic of used panel. Furthermore, this procedure used Cochrane-Orcutt transformation.

It was also examined how tax competition influenced on changes in tax system structure in the new European Union Member States, and relations between corporate tax revenues, total tax burden and tax burden on labor and consumption.

Independent variable effective tax rates (e) denotes actual corporate income tax burden and it was expected that decrease of effective tax rates will have an impact on lowering a portion that corporate income tax have in total tax revenues. If that happens we can confirm existence of tax competition.

It was expected that if independent variable portion of corporate income tax in total tax revenues (p) decrease, that will have influence on lowering portion direct taxes in total tax revenues. If decrease of portion direct taxes in total tax revenues is smaller than decrease of portion corporate income tax, we can prove that tax burden is remove from capital to less mobile tax source like for instance labor.

For independent variable portion of direct taxes in total tax revenues (d) we expect that will be at same level as a portion of indirect taxes in total tax revenues (i). If we can prove that portion of direct taxes in total tax revenues is bigger, it means that tax burden on capital and labor are heavier, and if portion of indirect taxes in total tax revenues is bigger, it means that tax burden on consumption is heavier, or that tax system in the new European Member States are oriented on consumption taxation. This can be one of evidence in favor of thesis that process of fiscal degradation started in those countries.

It was expected that independent variable portion of social contributions in total tax revenues (s) is in correlation with decreasing of portion corporate income tax in total tax revenues. If that happens we can confirm existence of tax competition.

It is visible from the Table 1 that only significant variables are (d) and (e), portion of direct tax in total tax revenues and the effective corporate tax rate. Or in other words, they have a positive influence on tax competition and if one or the other variable increases, then the level of welfare shall increase. All other independent variables have not proved to be influential on dependant variable.

The conducted panel analysis on the example of twelve EU Member States has not determined the existence of tax competition in a form which can be called harmful, or which would lead to suboptimal level of taxation and under-provision of public goods. Therefore, the theory that these countries encourage harmful tax competition has not been proven and it can, in fact, be shown that the existence of such insight of tax competition shall lead to decrease of welfare within the EU Member States.

Conclusion

Capital attraction depends not only on fiscal reasons, and it is not just consequence of fiscal competition, but it also depends on some other factors. It is questionable if multinational companies really prefer to invest in countries with low level of public consumption and low tax burden. Recent empirical studies have show that doesn’t existed strong correlation between public consumption, taxation and capital mobility, and this are also finding of this study.

‘Race to the bottom’ thesis is related to assumption on high capital mobility, and because of that is apparent that countries will try to attract foreign investment by lowering capital tax burden. That will lead to decrease of public consumption or transfer of tax burden from capital to labor. But we must not forget that once multinational company decides where to invest its capital is no longer so mobile. Because of that for investment decisions is very important to know not just present tax policy of a country in which we want to invest, but also to be able to predict future changes.

If countries are supportive to frequent changes of their tax policy, especially related to taxation of capital, they cannot create a balanced tax policy and because of that cannot attract grater amount of foreign direct investment. Multinational companies will never choose to invest in a country with instable investment environment, and that is one of characteristic corporate tax systems in the new European Member States.

Econometric modeling of tax competition process in the new European Union Member States have shown that in those countries does not exist tax competition in a form that can be called harmful. The hypothesis that these countries encourage tax competition process is not valid because investigation shows that just independent variables portion of direct taxes in total tax revenues and effective corporate tax rates have some influence on tax competition, and that influence is positive. This means that if one or the other variable increase, it will also affect welfare increasing in the new European Member States. Therefore, we can conclude that tax competition in form that can be called harmful does not exist in the new European Member States.

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