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# Assessment of impact of accession to the EU on Croatian budget

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*Accession to the European Union has two effects on the general government budget of a new member state. A new member state is obligated to transfer a part of its revenue to the EU budget according to predefined criteria, while on the other hand it can draw funds from the EU budget. Harmonization of the tax and customs system with EU standards has also significant impact on the general government budget of a member state. From 2005 to 2009, the ten new member states observed drew from the EU budget more funds than they paid in, by an average amount of about 1.5% of GDP. The total estimated expected impact of Croatian accession to the EU on the general government budget in the first full year of membership is negative, amounting to about -0.15% of the GDP. Considering the high deficit of the general government budget, Croatia should ensure good preparation for EU entry in order to maintain the level of the deficit below 3% of GDP. However, the good news is that Croatia should be a net recipient of funds from the EU budget in the amount of 0.83% of GDP in the first full year of membership.*

## I. INTRODUCTION

Croatia has concluded accession negotiations, and it should become the 28<sup>th</sup> member of the European Union on the 1<sup>st</sup> of July 2013. As the conclusion of negotiation drew to a close we witnessed numerous heated debates about costs and benefits, i.e. the cost-effectiveness of Croatian membership in EU, which was the main motivation for the writing of this article. It is important to emphasize that the analysis includes only the fiscal aspect

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without consideration of other effects such as those related to the market, politics, society and culture.

Each accession country is obligated to harmonize its legislation with the EU *acquis communautaire*. The EU accession process creates a number of pressures on the general government budget. It is necessary to co-finance projects and implement the *acquis* in areas such as environmental protection, infrastructure, border control and public administration and after EU accession to pay part of the revenue into the common EU budget.

The main objective of this paper is to estimate the short-term fiscal effects of EU accession on the revenue and expenditure of the Croatian budget<sup>2</sup>. While a part of the budget revenue flows into the EU budget by standard mechanisms, at the same time there are some new revenue categories appearing as a result of transfers from the EU budget based on participation in joint EU policies. The expenditure side of a member state budget is a subject of changes due to new categories of expenditure, of which the most significant is the member state expenditure on the basis of gross national income (GNI). The assessment in this paper includes the first full year of Croatian membership in the EU (2014), although Croatia will already sense specific effects on the general government budget in 2013. For estimation of the fiscal effects historical data from new member states from the table in the appendix are in part employed, since these cash flows can give us clear impression of the size of certain components of rev-

<sup>2</sup> Throughout the text where budget is mentioned we are actually thinking of the general government budget.

enue and expenditure in these countries. The actual effects on the Croatian budget cannot be exactly estimated, so the paper only provides an insight into the possible effects of accession. Research results should be interpreted with caution.

## 2. THE IMPACT OF ACCESSION ON THE EXPENDITURE SIDE OF THE CROATIAN BUDGET

Upon accession to the EU, member states are obligated to transfer a part of their revenue to the EU budget according to predefined criteria. Own resources of the EU budget are automatically transferred from the member states' budgets into the EU budget and for these revenues no individual national authority decision is necessary<sup>3</sup>. Own resources of the EU budget are: traditional own resources (TOR), revenue from value added tax (VAT) and revenue based on gross national income (GNI). A special part of the EU's own resources consists of various corrections, of which the most important is the UK correction.

Before, but also after, accession to the EU, countries are obligated to harmonize their tax and customs systems with the EU standards. So far, Croatia has mainly already performed this harmonization, for which reason we do not expect significant changes in the structure of budgetary revenue. Croatia still applies a zero VAT rate to a specific product group, while the EU does not allow zero rate, but a maximum of two reduced rates which may not be lower than 5%. With the assumption that the same level of VAT rates is maintained, the state budget will lose only a part of the funds which flows into the EU budget by standard mechanisms, i.e. the applied rate of 0.3% on the VAT base or 50% of Croatian GNI<sup>4</sup>. According to the European Commission (2007), the Croatian VAT base is estimated to 57% of GNI, which means that we will use the rate of 0.3% on 50% of the GNI for the calculation of the VAT revenue. In Croatia, the share of GNI in GDP amounted to about 96.2% (Eurostat database). With the assumption of the maintenance of the same ratio of GNI and GDP at the time of entering the EU, Croatian expenditure for the EU budget on this basis will amount to  $0.3 \times 50\% \times 0.962 = 0.14\%$  of the GDP.

Due to adjustment with the EU guidelines, it can be expected there will be further revenue growth from excise duties in Croatia (European Commission, 2010b). Excise

3 Revenue of the EU budget actually means the budget expenditure of member states.

4 If the VAT base of a country exceeds 50% of the GNI, the applicable rate is 0.3% on 50% of the GNI. This limitation was introduced because it was shown that the consumption of less prosperous countries, and therefore the VAT base, record higher shares of the country's GNI (European Commission, 2010a). Without this restriction, relatively less developed countries would pay out of proportion to their contributive capacity into the EU budget.

duties on cigarettes are lower in Croatia than in the EU (Kuliš, 2010). An increase of excise duties on products has two effects, increased tax revenue and reduced consumption. In 2014, total share of excises duties on tobacco products should be around 60% of the retail price, which is an additional increase of about 5% (3 percentage points) compared to the current 57% (Eur-Lex, 2010). The sum of the shares of excise duties on coffee and tobacco products in the GDP amounted to about 1.03% in 2010 year-end (Ministry of Finance). Upon entry into the EU we can expect an additional revenue growth from excise duties of 0.1% of the GDP.

The degree of harmonization of the Croatian customs system with the European is extremely high and only minor changes are expected in customs revenue (European Commission, 2010b). Croatia will lose a substantial portion from the customs duties which it realizes with the EU states because of the signing of a free trade agreement. In 2010 Croatia imported goods and services worth 110 billion kuna, 60% of imports being from EU countries (DZS, 2011). Assuming a similar ratio is retained after Croatian accession to the EU, only 40% of the imports will be subject to custom duties, and of these 75% of the revenue will be transferred to the EU budget. Only 10% of total revenue from customs may be kept in the state budget. In addition to maintaining the revenue ratio of customs in the GDP of 0.49% as in 2010 (Ministry of Finance database), we can expect a reduction of customs revenue in a total amount of approximately 0.44% of GDP on joining the EU, which is distributed between the traditional own resources of the EU budget and customs harmonization. The optimistic and the pessimistic scenario are defined in a similar way, assuming that the level of imports subject to customs amounts to 50%, i.e. 30%.

Revenues of the EU budget based on gross national income (GNI) are the biggest burden of the state budget after accession to the EU. The total revenue of the EU budget based on GNI is calculated as the difference between total expenditure of the EU budget and revenue on other bases. This revenue "patches" holes in the EU budget and each member state pays in a portion based on the size of GNI. Revenues of the EU budget based on GNI amounted to just over 0.7% of GNI in 2009 and the average share of the EU budget based on GNI of the member states in the period 2005-09 amounted to 0.6% of the GDP per year, with a deviation of 0.066% of the GDP (see Table A1 in the appendix). To estimate the expenditure of the Croatian budget on this basis we assume retention of the share of 0.7% of the GDP. As previously assumed, the proportion of GNI in GDP will amount to 96.2%, which totals in the expected scenario of  $0.7 \times 0.962 = 0.67\%$  of the GDP for the EU budget revenue based on GNI.

Additional cost for the member state budget represents the UK correction<sup>5</sup>. From 2005 to 2009 average annual expenditure of the new member states for the UK correction was 0.07% of the GDP. (Table A1 in the appendix). For the optimistic and pessimistic revenue scenarios of the EU budget on the basis of GNI and expenditure for the UK correction we will correct the expected values for one standard deviation calculated from historical data of new member states in the period 2005-09.

Upon entering the EU, Croatia will have to provide a certain amount for equity and reserves contribution for the European Investment Bank (EIB). Cuculić, Faulend and Šošić estimated that amount to 0.03% of GDP, which is also accordance with the payment of certain member states in the first year of their membership (Money-Go-Round.eu database).

### 3. THE IMPACT OF ACCESSION ON THE REVENUE SIDE OF THE CROATIAN BUDGET

Besides the effects that joining the EU has on the current budget revenue (customs, VAT, excise duties), new categories of revenue appear as a result of transfers from the EU budget on the basis of participation in common EU policies. The positive side of getting transfers from the EU budget is manifested in a reduction of expenditure for financing the existing aid systems because the funds from the EU budget will be replaced with national funding (substitution effect).

Transfers from the EU budget can be divided into *transfers that are not related to projects* so their amount automatically becomes the revenue of the member state budget and into *transfers that depend on projects* so the inflow depends on the absorptive capacity of an individual state, i.e. if it is capable of co-financing projects on the state and local level.

Agricultural market-related expenditure, direct aids and transfers on the basis of internal policies belong to the first group. The second group includes transfers from the structural funds, cohesion fund and rural development funds. There is also a third group of revenue which includes other pre-accession assistance, special arrangements and budgetary compensations, though compared to the first two, this component has a negligible effect.

<sup>5</sup> After the EU accession, Great Britain has become the largest contributor to the EU budget, mainly due to the low level of transfers from the Common Agricultural Policy (CAP) because of its relatively small agricultural sector. Therefore, since 1985, a part of the EU budget in the amount of 66% of UK's net position has been refunded to Great Britain each year. Loss of revenue of the EU budget is jointly compensated by other member states, whereby Germany, the Netherlands, Austria and Sweden (biggest net contributors) bear only one-quarter of this share.

In addition to the above mentioned assistance programs, there are numerous EU programs aimed at increasing co-operation between member states in implementation of common policies. The EU considers that it is better to implement common policies through various organizations, associations and legal entities, rather than by public authorities only. Other expenditure of the EU budget includes programs to strengthen the competitiveness for growth and employment, programs for investment in citizenship, freedom, security and justice, payments for the funds agreed in the pre-accession phase and administration and compensation. The share of other expenditure of the EU budget is reduced over time after accession to the EU (Table A5 in the appendix).

The most difficult part of estimating the impact of Croatian membership in the EU on the general government budget is related to new components of budget revenue, since there is no clear concept of their assessment. Below we estimate the size of these effects. In this part of the assessment we have to rely on the previous experiences of the new member states. The expected impact can be defined as the average impact in the first years of membership based on the experience of the new member states with a correction of one standard deviation up/down (see Table 1).

**Table 1**  
Average amount and standard deviation of the budget expenditure for the new EU member states in the first three years (% of the GDP)

|                         |           | 1 <sup>st</sup> year* | 2 <sup>nd</sup> year | 3 <sup>rd</sup> year |
|-------------------------|-----------|-----------------------|----------------------|----------------------|
| Structural funds        | Average   | 0.35                  | 0.43                 | 0.79                 |
|                         | Deviation | 0.19                  | 0.17                 | 0.32                 |
| Cohesion fund           | Average   | 0.10                  | 0.23                 | 0.37                 |
|                         | Deviation | 0.08                  | 0.12                 | 0.18                 |
| Rural development funds | Average   | 0.29                  | 0.41                 | 0.51                 |
|                         | Deviation | 0.24                  | 0.17                 | 0.22                 |
| Agricultural markets    | Average   | 0.27                  | 0.39                 | 0.39                 |
|                         | Deviation | 0.21                  | 0.19                 | 0.17                 |
| Other EU budget revenue | Average   | 0.86                  | 0.62                 | 0.34                 |
|                         | Deviation | 0.34                  | 0.30                 | 0.31                 |

\* For the first year for countries that became EU members on 1<sup>st</sup> of May 2004, 2005 was taken, but for Romania and Bulgaria 2007.

Source: European Commission; Eurostat; author's calculation

The assessment of the impact on the Croatian budget in the first full year of membership will be formed by the average amount, assuming that all funds from the EU budget flow directly into the general government budget (all funds from the EU funds are used by the public sec-

tor). It is assumed that in the expected scenario the state co-finances 35% of funds from structural and rural development funds, as well as 25% of funds from the cohesion fund.

In the pessimistic scenario, the state co-finances 50% of funds from structural and rural development funds and 35% of funds from the cohesion fund, but in the optimistic scenario 25% of funds from structural and rural development funds and 15% of funds from the cohesion fund. The reason for such assumptions is the minimum prescribed co-financing rate of a member state, which corresponds to the optimistic scenario. On the other hand, the EU has

historically co-financed mainly between 50 and 85% (The European Bank Coordination (“Vienna”) Initiative, 2011). The implicitly contained assumption in the calculations is that all of these funds truly create the effect of substitution, i.e. they replace national financing in certain areas. Otherwise, the level of national funding would remain the same, while some funds from the EU budget would be an additional source of funds for projects and grants, but also an additional pressure on the budget.

State aid to the Ministry of Agriculture, Fisheries and Rural Development for agriculture in 2009 amounted to 3.7 billion kuna, or 1.1% of the GDP (Kesner-Škreb and Jović,

**Table 2**

*Estimation of total effects on the Croatian budget and the net relation of the EU and the Croatian budget (% of the GDP)*

|  |  | Expected amount in<br>the first full year of<br>EU membership | Pessimistic<br>scenario | Optimistic<br>scenario |
|--|--|---|-------------------------|------------------------|
| <b>EU budget impacts on revenue side of the Croatian budget</b>  |  |   |                         |                        |
| I.1.   | Net revenue from the Structural funds                      | 0.16  | 0.00                    | 0.36                   |
| I.1.1.   | Revenue from the Structural Funds (EU budget)              | 0.35  | 0.16                    | 0.54                   |
| I.1.2.   | Budget expenditure for project co-financing                | -0.19   | -0.16                   | -0.18                  |
| I.2.   | Net revenue from the Cohesion Fund                         | 0.07  | 0.01                    | 0.15                   |
| I.2.1.   | Revenue from the Cohesion Fund (EU budget)                 | 0.10  | 0.02                    | 0.18                   |
| I.2.2.   | Budget expenditure for project co-financing                | -0.03   | -0.01                   | -0.03                  |
| I.3.   | Net revenue from the Rural Development Funds               | 0.13  | 0.00                    | 0.36                   |
| I.3.1.   | Revenue from the Rural Development Funds (EU budget)       | 0.29  | 0.04                    | 0.53                   |
| I.3.2.   | Expenditure for project co-financing                       | -0.16   | -0.04                   | -0.18                  |
| I.4.   | Revenue for agricultural markets                           | 0.27  | 0.06                    | 0.48                   |
| I.5.   | Total other revenue  | 0.86  | 0.52                    | 1.20                   |
| <b>1.</b>  | <b>Total revenue</b>                                       | <b>1.49</b>   | <b>0.60</b>             | <b>2.54</b>            |
| <b>Impacts on the expenditure side of the Croatian budget because of the payments into the EU budget</b> |  |   |                         |                        |
| 2.1.   | Based on GNI   | 0.67  | 0.74                    | 0.61                   |
| 2.2.   | For the UK correction                                      | 0.07  | 0.08                    | 0.07                   |
| 2.3.   | In traditional own resources                               | 0.15  | 0.06                    | 0.18                   |
| 2.4.   | Based on VAT   | 0.14  | 0.16                    | 0.13                   |
| 2.5.   | Contribution to the EIB                                    | 0.03  | 0.03                    | 0.03                   |
| <b>2.</b>  | <b>Total expenditure</b>                                   | <b>1.07</b>   | <b>1.07</b>             | <b>1.02</b>            |
| <b>Harmonization</b>   |  |   |                         |                        |
| 3.1.   | Harmonization of excises                                   | 0.10  | 0.05                    | 0.15                   |
| 3.2.   | Harmonization of custom duties and free trades with the EU | -0.29   | -0.42                   | -0.25                  |
| 3.3.   | Liquidity gap  | -0.38   | -0.41                   | -0.35                  |
| <b>3.</b>  | <b>Total harmonization</b>                                 | <b>-0.57</b>  | <b>-0.77</b>            | <b>-0.45</b>           |
| <b>Impact on the budget of the Republic of Croatia (1-2+3)</b>   |  | <b>-0.15</b>  | <b>-1.24</b>            | <b>1.07</b>            |
| <b>Net relation of EU and Croatian budget*</b>   |  | <b>0.83</b>   | <b>-0.22</b>            | <b>1.93</b>            |

\*Includes the sum of revenue from the Structural Funds (I.1.1), Cohesion Fund (I.2.1), Rural Development Funds (I.3.1), for agricultural markets (I.4) and total other revenue (I.5) reduced for expenditure based on GNI (2.1), because of the UK correction (2.2), in traditional own resources of the EU budget (2.3) and based on VAT (2.4).

Source: author's calculation



2011). This is significantly higher than the average of new EU member states (see Table A2 in the appendix) so the agricultural markets funds from the EU budget will substitute an equal share of state funding, which is a direct benefit for the budget. Cuculić, Faulend and Šošić (2004) pointed out that payments of individual grants are delayed by about three months, which transfers payments into the next fiscal year. This produces what is called the liquidity gap for which the estimated amount would be about 40% higher than the funds received from the EU budget based on agricultural markets' funds. We will use this result in this assessment with the possible deviation of 10 percentage points in the optimistic and the pessimistic scenarios.

#### 4. EXPECTED NET FISCAL IMPACT OF ACCESSION

Actual data of all costs of EU accession are not publicly available and existing research does not give concrete answers. However, the accession process leads to a negative net fiscal impact on general government budget, which varies depending on the degree of harmonization and can amount up to 3% of GDP in first years after member status is obtained (Antczak, 2003).

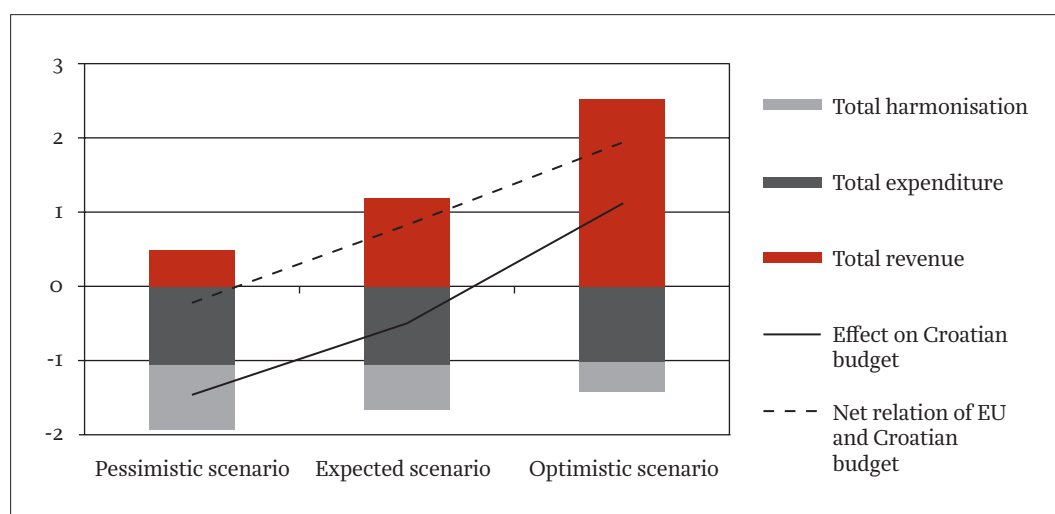
Overall effects of accession can be viewed from two different perspectives. First we have the so-called total fiscal effects, which include the net effect of all changes in revenue and expenditure categories arising from Croatian membership in the EU and different costs of harmonization. Secondly there is the net relation of the EU and Croatian budget, which is the difference between the EU budget revenue transferred to the Croatian budget and

expenditure of the Croatian budget for the EU budget. In other words, net relation of the EU and the Croatian budget does not include expenditure for projects co-financing, expenditure for the EIB and the costs of harmonization. Based on the above mentioned assessment of the impact of Croatian accession to the EU on budget revenue and expenditure, an estimation of overall effects on the Croatian budget and net relation of EU and Croatian budget is presented in three scenarios (see Table 2).

There is also a part of expenditure that is not easy to assess. There are different costs of harmonization of infrastructure, environment or building administrative capacity in order to meet minimum EU standards, which are an additional expenditure for the budget of the Republic of Croatia. In the last available Report of using pre-accession assistance programs from the EU (Ministry of Finance, 2010) it is stated that the institutional framework for using the EU funds is mainly the continuation of a structure that is involved in the implementation of the pre-accession program IPA. In October 2010 the Government adopted a strategy of organizational development for each institution designed to work with future EU funds and in December 2010 a strategy for institutional development and capacity building. Croatia has so far invested considerable efforts in preparing for EU entry and through the pre-accession funds it should build up satisfying administrative capacity, which would facilitate the absorption of EU funds. The cost of institutions involved in implementation of EU programs is already included in the budget, but planning of the future costs of the mentioned institutions should be taken into account.

**Figure 1**

*Estimation of total revenue, expenditure and harmonization costs in the first full year of Croatian membership in the EU (% of the GDP)*



Source: author's calculation

The expected impact of accession on the budget of the Republic of Croatia in its first full year of membership is negative and amounts to -0.15% of GDP. In the pessimistic scenario, the negative impact rises to as much as -1.24% of GDP. In the optimistic scenario, there is a positive effect of the accession of 1.07% of the GDP. As in the case of all new member states, Croatia will be a net recipient in which the anticipated Croatian net position in the EU budget is equal to 0.83% of the GDP. Croatia will receive approximately 0.83% of GDP more funds from the EU budget than it will pay into it. In an optimistic scenario, the Croatian net position in the EU budget amounts to 1.93% of the GDP, while in the pessimistic scenario it is negative and amounts to about -0.22% of the GDP. It should be noted that it is not possible to assess the actual effects on the budget of the Republic of Croatia fully and accurately. The estimated figures (see Table 2) only provide a good insight into the size and direction of the effects of accession. This confirms the relatively large deviations of the expected projection to optimistic and pessimistic.

The short-term negative fiscal impact should be reversed in the long run, the effect becoming positive. Namely, after the Croatian accession to the EU, the process change in the revenue structure will continue, especially in parts of pre-accession and accession EU funds due to reduction of pre-accession funds for projects agreed and financed in stages before entering the EU. With absorption capacity growth, the share of funds from the cohesion fund, the structural and agricultural funds will also increase.

Already in the mid-term, the net fiscal effects of accession are considered to be neutral or even slightly positive, while the main uncertainty lies in the significance of several individual effects, including the need for future public investment (Hallet, 2004). A study of the Institute of Economics Zagreb (Lejour, Mervar and Verweij, 2007) showed that by 2025 GDP per capita could increase by about 1.1% as a consequence of joining the common internal market, but particularly significant positive effects could be reflected in an increase in the production of the textile and clothing industry. If, as a result of membership in the EU, Croatia could manage to improve its institutions, the income level could rise further. Approximate estimates indicate that GDP per capita in this case could increase by an additional 8%. The authors of the study suggest that the estimated figures can be considered as

the upper limit because it is not entirely likely that Croatia will take advantage of this potential.

## 5. CONCLUSION

Croatian accession to the EU opens up many controversies about the costs and benefits of membership and the influence on economic development and increase of standard of living. In the long term, Croatia should benefit from the EU membership, but some progress is already present because of investments in the development of institutions, infrastructure and environmental protection. Previous experience from the ten new member states, from 2005 to 2009, showed that they withdrew more funds from the EU budget than they paid in. The average ratio of net EU budget and the budgets of member states in this period varies from 0.41% of the GDP in the case of Slovenia up to 3.15% in case of Lithuania (data from Tables A1-A5 in the appendix). On the other hand, the EU accession process has had a negative net financial impact on the budgets of member states in an average annual amount estimated at between 1 and 1.5% of GDP and the greatest pressures on the budget are expected in the first years of membership.

The actual effects of accession on the Croatian budget cannot be fully assessed, and the estimated figures provide only a good insight into the size and direction of the effects of accession. Accepting the many limitations of the conducted analysis, we can expect the impact of Croatian accession to the European Union on the budget of Republic of Croatia in the first full year of membership to be negative and to amount to about -0.15% of the GDP. In the pessimistic scenario, the negative effect on the Croatian budget will rise to as much as -1.24% of GDP, while in the optimistic scenario the effect is positive and amounts to 1.07% of GDP.

Since Croatia, by joining the EU, will have to take into account the implementation of fiscal policy in accordance with the rules of the Stability and Growth Pact, the mentioned expectations of increased expenditure or reduced revenue should certainly be incorporated into the planning of future budgets.

However, there is also good news - Croatia should be a net recipient and the expected net relation of the EU and the Croatian budget is equal to 0.83% of GDP in the first full year of membership.

**APPENDIX****Table A1***GNI based revenue and the UK correction for the new EU member states, 2005-09 (% GDP)*

|                | <b>GNI own resource (% GDP)</b> |             |             |             |             | <b>Average</b> |
|----------------|---------------------------------|-------------|-------------|-------------|-------------|----------------|
|                | <b>2005</b>                     | <b>2006</b> | <b>2007</b> | <b>2008</b> | <b>2009</b> |                |
| Bulgaria       | -                               | -           | 0,53        | 0,55        | 0,69        | <b>0,59</b>    |
| Czech Republic | 0.61                            | 0.56        | 0.55        | 0.57        | 0.63        | <b>0.58</b>    |
| Estonia        | 0.55                            | 0.60        | 0.61        | 0.55        | 0.68        | <b>0.60</b>    |
| Latvia         | 0.63                            | 0.60        | 0.56        | 0.57        | 0.80        | <b>0.63</b>    |
| Lithuania      | 0.61                            | 0.61        | 0.55        | 0.59        | 0.76        | <b>0.62</b>    |
| Hungary        | 0.61                            | 0.56        | 0.54        | 0.56        | 0.63        | <b>0.58</b>    |
| Poland         | 0.61                            | 0.57        | 0.56        | 0.59        | 0.65        | <b>0.60</b>    |
| Romania        | -                               | -           | 0.55        | 0.53        | 0.78        | <b>0.62</b>    |
| Slovenia       | 0.62                            | 0.56        | 0.57        | 0.61        | 0.72        | <b>0.62</b>    |
| Slovakia       | 0.62                            | 0.57        | 0.55        | 0.56        | 0.73        | <b>0.61</b>    |
| <b>Average</b> | <b>0.61</b>                     | <b>0.58</b> | <b>0.56</b> | <b>0.57</b> | <b>0.71</b> | <b>0.60</b>    |
|                | <b>UK correction (% GDP)</b>    |             |             |             |             | <b>Average</b> |
|                | <b>2005</b>                     | <b>2006</b> | <b>2007</b> | <b>2008</b> | <b>2009</b> |                |
| Bulgaria       | -                               | -           | 0.07        | 0.08        | 0.07        | <b>0.07</b>    |
| Czech Republic | 0.08                            | 0.07        | 0.07        | 0.08        | 0.07        | <b>0.07</b>    |
| Estonia        | 0.07                            | 0.07        | 0.07        | 0.09        | 0.08        | <b>0.08</b>    |
| Latvia         | 0.08                            | 0.07        | 0.07        | 0.08        | 0.08        | <b>0.08</b>    |
| Lithuania      | 0.08                            | 0.09        | 0.07        | 0.08        | 0.07        | <b>0.08</b>    |
| Hungary        | 0.08                            | 0.07        | 0.07        | 0.08        | 0.06        | <b>0.07</b>    |
| Poland         | 0.08                            | 0.07        | 0.07        | 0.08        | 0.07        | <b>0.07</b>    |
| Romania        | -                               | -           | 0.07        | 0.08        | 0.08        | <b>0.07</b>    |
| Slovenia       | 0.08                            | 0.07        | 0.07        | 0.08        | 0.08        | <b>0.08</b>    |
| Slovakia       | 0.08                            | 0.07        | 0.08        | 0.08        | 0.07        | <b>0.08</b>    |
| <b>Average</b> | <b>0.08</b>                     | <b>0.07</b> | <b>0.07</b> | <b>0.08</b> | <b>0.07</b> | <b>0.07</b>    |

*Source: European Commission; Eurostat; author's calculation*



**Table A2***Traditional own resources and VAT based revenue for the new EU member states, 2005-09 (% GDP)*

|                | Traditional own resources (% GDP) |             |             |             |             |             |
|----------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|
|                | 2005                              | 2006        | 2007        | 2008        | 2009        | Average     |
| Bulgaria       | -                                 | -           | 0.20        | 0.24        | 0.15        | <b>0.20</b> |
| Czech Republic | 0.15                              | 0.13        | 0.14        | 0.14        | 0.12        | <b>0.14</b> |
| Estonia        | 0.14                              | 0.14        | 0.27        | 0.21        | 0.17        | <b>0.19</b> |
| Latvia         | 0.16                              | 0.14        | 0.15        | 0.13        | 0.10        | <b>0.13</b> |
| Lithuania      | 0.16                              | 0.16        | 0.16        | 0.19        | 0.15        | <b>0.16</b> |
| Hungary        | 0.13                              | 0.12        | 0.11        | 0.11        | 0.10        | <b>0.11</b> |
| Poland         | 0.11                              | 0.10        | 0.11        | 0.12        | 0.10        | <b>0.11</b> |
| Romania        | -                                 | -           | 0.13        | 0.14        | 0.11        | <b>0.13</b> |
| Slovenia       | 0.10                              | 0.11        | 0.24        | 0.24        | 0.19        | <b>0.18</b> |
| Slovakia       | 0.11                              | 0.12        | 0.16        | 0.17        | 0.13        | <b>0.14</b> |
| <b>Average</b> | <b>0.13</b>                       | <b>0.13</b> | <b>0.17</b> | <b>0.17</b> | <b>0.13</b> | <b>0.15</b> |
|                | VAT own resource (% GDP)          |             |             |             |             |             |
|                | 2005                              | 2006        | 2007        | 2008        | 2009        | Average     |
| Bulgaria       | -                                 | -           | 0.15        | 0.15        | 0.15        | <b>0.15</b> |
| Czech Republic | 0.15                              | 0.15        | 0.16        | 0.15        | 0.12        | <b>0.15</b> |
| Estonia        | 0.13                              | 0.16        | 0.17        | 0.15        | 0.14        | <b>0.15</b> |
| Latvia         | 0.13                              | 0.16        | 0.17        | 0.15        | 0.12        | <b>0.15</b> |
| Lithuania      | 0.14                              | 0.12        | 0.16        | 0.16        | 0.16        | <b>0.15</b> |
| Hungary        | 0.12                              | 0.13        | 0.14        | 0.14        | 0.12        | <b>0.13</b> |
| Poland         | 0.15                              | 0.15        | 0.16        | 0.16        | 0.14        | <b>0.15</b> |
| Romania        | -                                 | -           | 0.13        | 0.12        | 0.14        | <b>0.13</b> |
| Slovenia       | 0.15                              | 0.15        | 0.16        | 0.16        | 0.15        | <b>0.16</b> |
| Slovakia       | 0.12                              | 0.13        | 0.15        | 0.11        | 0.12        | <b>0.13</b> |
| <b>Average</b> | <b>0.14</b>                       | <b>0.15</b> | <b>0.16</b> | <b>0.15</b> | <b>0.14</b> | <b>0.14</b> |

*Source: European Commission; Eurostat; author's calculation*

**Table A3**

Structural, cohesion and rural development funds for the new EU member states, 2005-09 (% GDP)

|                | Structural funds (% GDP)  |             |             |             |             |             |
|----------------|---------------------------|-------------|-------------|-------------|-------------|-------------|
|                | 2005                      | 2006        | 2007        | 2008        | 2009        | Average     |
| Bulgaria       | -                         | -           | 0.29        | 0.37        | 0.50        | <b>0.39</b> |
| Czech Republic | 0.14                      | 0.22        | 0.54        | 0.71        | 0.90        | <b>0.50</b> |
| Estonia        | 0.61                      | 0.65        | 0.86        | 0.77        | 2.81        | <b>1.14</b> |
| Latvia         | 0.67                      | 0.41        | 1.34        | 0.98        | 1.79        | <b>1.04</b> |
| Lithuania      | 0.52                      | 0.58        | 1.10        | 1.18        | 3.15        | <b>1.31</b> |
| Hungary        | 0.29                      | 0.62        | 0.93        | 0.73        | 1.42        | <b>0.80</b> |
| Poland         | 0.31                      | 0.59        | 1.01        | 0.83        | 1.19        | <b>0.79</b> |
| Romania        | -                         | -           | 0.21        | 0.28        | 0.53        | <b>0.34</b> |
| Slovenia       | 0.16                      | 0.19        | 0.30        | 0.35        | 0.57        | <b>0.32</b> |
| Slovakia       | 0.30                      | 0.43        | 0.82        | 0.79        | 0.61        | <b>0.59</b> |
| <b>Average</b> | <b>0.37</b>               | <b>0.46</b> | <b>0.74</b> | <b>0.70</b> | <b>1.35</b> | <b>0.72</b> |
|                | Cohesion fund (% GDP)     |             |             |             |             |             |
|                | 2005                      | 2006        | 2007        | 2008        | 2009        | Average     |
| Bulgaria       | -                         | -           | 0.19        | 0.26        | 0.26        | <b>0.23</b> |
| Czech Republic | 0.02                      | 0.19        | 0.18        | 0.42        | 0.54        | <b>0.27</b> |
| Estonia        | 0.03                      | 0.41        | 0.51        | 0.70        | 0.92        | <b>0.51</b> |
| Latvia         | 0.16                      | 0.47        | 0.73        | 0.69        | 0.75        | <b>0.56</b> |
| Lithuania      | 0.23                      | 0.22        | 0.53        | 0.77        | 1.29        | <b>0.61</b> |
| Hungary        | 0.09                      | 0.15        | 0.37        | 0.39        | 0.92        | <b>0.38</b> |
| Poland         | 0.01                      | 0.12        | 0.34        | 0.44        | 0.77        | <b>0.34</b> |
| Romania        | -                         | -           | 0.13        | 0.19        | 0.26        | <b>0.19</b> |
| Slovenia       | 0.03                      | 0.10        | 0.16        | 0.28        | 0.47        | <b>0.21</b> |
| Slovakia       | 0.11                      | 0.17        | 0.33        | 0.46        | 0.32        | <b>0.28</b> |
| <b>Average</b> | <b>0.08</b>               | <b>0.23</b> | <b>0.35</b> | <b>0.46</b> | <b>0.65</b> | <b>0.36</b> |
|                | Rural development (% GDP) |             |             |             |             |             |
|                | 2005                      | 2006        | 2007        | 2008        | 2009        | Average     |
| Bulgaria       | -                         | -           | 0.00        | 0.68        | 0.36        | <b>0.35</b> |
| Czech Republic | 0.15                      | 0.16        | 0.28        | 0.17        | 0.27        | <b>0.20</b> |
| Estonia        | 0.44                      | 0.32        | 0.45        | 0.33        | 0.69        | <b>0.44</b> |
| Latvia         | 0.70                      | 0.59        | 0.53        | 0.54        | 0.56        | <b>0.58</b> |
| Lithuania      | 0.66                      | 0.58        | 1.08        | 0.23        | 0.93        | <b>0.70</b> |
| Hungary        | 0.15                      | 0.26        | 0.47        | 0.15        | 0.57        | <b>0.32</b> |
| Poland         | 0.27                      | 0.42        | 0.61        | 0.30        | 0.34        | <b>0.39</b> |
| Romania        | -                         | -           | 0.00        | 0.40        | 0.49        | <b>0.30</b> |
| Slovenia       | 0.24                      | 0.38        | 0.37        | 0.25        | 0.32        | <b>0.31</b> |
| Slovakia       | 0.27                      | 0.29        | 0.40        | 0.29        | 0.46        | <b>0.34</b> |
| <b>Average</b> | <b>0.36</b>               | <b>0.37</b> | <b>0.42</b> | <b>0.33</b> | <b>0.50</b> | <b>0.39</b> |

Source: European Commission; Eurostat; author's calculation

**Table A4***Agricultural markets for the new EU member states, 2005-09 (% GDP)*

|                | Agricultural markets (% GDP) |             |             |             |             |             |
|----------------|------------------------------|-------------|-------------|-------------|-------------|-------------|
|                | 2005                         | 2006        | 2007        | 2008        | 2009        | Average     |
| Bulgaria       | -                            | -           | 0.00        | 0.50        | 0.65        | <b>0.39</b> |
| Czech Republic | 0.28                         | 0.28        | 0.28        | 0.27        | 0.36        | <b>0.30</b> |
| Estonia        | 0.24                         | 0.25        | 0.25        | 0.27        | 0.40        | <b>0.28</b> |
| Latvia         | 0.21                         | 0.26        | 0.26        | 0.28        | 0.43        | <b>0.29</b> |
| Lithuania      | 0.61                         | 0.70        | 0.59        | 0.54        | 0.81        | <b>0.65</b> |
| Hungary        | 0.58                         | 0.68        | 0.47        | 0.48        | 0.80        | <b>0.60</b> |
| Poland         | 0.36                         | 0.36        | 0.39        | 0.40        | 0.56        | <b>0.42</b> |
| Romania        | -                            | -           | 0.01        | 0.34        | 0.52        | <b>0.29</b> |
| Slovenia       | 0.12                         | 0.13        | 0.14        | 0.13        | 0.21        | <b>0.15</b> |
| Slovakia       | 0.30                         | 0.34        | 0.29        | 0.26        | 0.35        | <b>0.31</b> |
| <b>Average</b> | <b>0.34</b>                  | <b>0.38</b> | <b>0.27</b> | <b>0.35</b> | <b>0.51</b> | <b>0.37</b> |

*Source: European Commission; Eurostat; author's calculation***Tablica A5***Other expenditure of the EU budget for the new member states, 2005-09 (% GDP)*

|                | Other EU expenditure (% GDP) |             |             |             |             |             |
|----------------|------------------------------|-------------|-------------|-------------|-------------|-------------|
|                | 2005                         | 2006        | 2007        | 2008        | 2009        | Average     |
| Bulgaria       | -                            | -           | 1.45        | 0.93        | 1.02        | <b>1.13</b> |
| Czech Republic | 0.49                         | 0.32        | 0.07        | 0.07        | 0.08        | <b>0.21</b> |
| Estonia        | 0.90                         | 0.61        | 0.31        | 0.22        | 0.35        | <b>0.48</b> |
| Latvia         | 1.22                         | 0.78        | 0.33        | 0.17        | 0.30        | <b>0.56</b> |
| Lithuania      | 1.16                         | 1.25        | 0.35        | 0.79        | 0.57        | <b>0.82</b> |
| Hungary        | 0.41                         | 0.35        | 0.17        | 0.13        | 0.13        | <b>0.24</b> |
| Poland         | 0.70                         | 0.45        | 0.15        | 0.13        | 0.13        | <b>0.31</b> |
| Romania        | -                            | -           | 0.94        | 0.70        | 0.75        | <b>0.80</b> |
| Slovenia       | 0.73                         | 0.50        | 0.15        | 0.22        | 0.17        | <b>0.35</b> |
| Slovakia       | 0.60                         | 0.34        | 0.13        | 0.12        | 0.16        | <b>0.27</b> |
| <b>Average</b> | <b>0.78</b>                  | <b>0.57</b> | <b>0.40</b> | <b>0.35</b> | <b>0.37</b> | <b>0.52</b> |

*Source: European Commission; Eurostat; author's calculation*

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