The Effects of Foreign Trade Liberalization and Financial Flows between Slovenia and the EU after the Accession

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Abstract

The new version of the CGE model of the Slovenian economy, based on the 1998 SAM, was used for simulations of the consequences of further foreign trade liberalization after 1998 as the outcome of the finished processes of implementation of Free Trade Agreements and the European Agreement, adaptation of the Customs Tariff to the EU Common External Tariff for the manufacturing products, adoption of the EU Common External Tariff after the accession of Slovenia to the EU as well as the estimated transfers between both budgets. Results obtained show a positive net outcome of the Slovenian accession to the EU in the long run. On the other hand, rational behaviour of the government will certainly moderate possible short run negative effects and improve favourable long run effects.

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1. Introduction

Slovenia successfully concluded accession negotiations with the EU in December 2002, along with other nine candidate countries. Results obtained on the financial issues for the period 2004-2006 revealed some official conclusions. First, the aims for the agriculture sector were fulfilled, i.e. the possibility for direct payments from own budget, the same level of direct payments from the year 2007 on, the production quotas not below the level of current production and financially very attractive solution for the rural development. Second, for the regional policy and structural funds Slovenia will receive 404 mill. of EUR, with the possibility for the further regionalization on the NUTS-2 level. Third, the EU will partially cover the costs (45% or 107 mill. EUR) of the construction and maintenance of the Schengen border. Fourth, regarding the transfers and the net budget position Slovenia succeeded to raise budgetary compensations from 45 mill. EUR in 2003 to 85 mill. EUR for each year within the 2004-2006 period. Fifth, and finally, Slovenian net budgetary position will remain positive in the 2007-2013 period.

These conclusions should in fact demonstrate that for the financial part of negotiations Slovenia succeeded to achieve the best combination in order to fulfil two aims. Namely, the agreement with the EU should enable the continuation of the process of real convergence and should not worsen budgetary position and thus provide no additional difficulties with the fiscal part of Maastricht criteria. However, it is questionable whether all these very favourable official conclusions reflect reality, i.e. whether all effects of financial package were taken into account, whether all transfers between both budgets were estimated correctly and whether there are any other financial flows connected with the accession.

Within the article we will try to answer the questions above through the analysis of the continued foreign trade liberalization process, the official transfers between both budgets and some additional financial flows and effects on domestic budget. Namely, one should take into account decreased budget revenues due to the complete liberalization of trade with the EU and candidate countries as well as decreased efficiency of value added tax collection. And on the other hand, there will be additional transfers to the EU institutions and increased costs due to the preparation of Schengen border with Croatia. A partial equilibrium analysis will then be complemented with the general equilibrium simulation results in order to estimate more complex mutual effects at the aggregate and sectoral levels.

The outline of the article is as follows. In Chapter 2 a short description of the computable general equilibrium (CGE) model is presented. The process of further foreign trade liberalization in being analyzed in Chapter 3, together with the calculation of the average rates of collected import duties in the period 1998-2001 and after the accession to the EU. In Chapter 4 the Slovenian net budgetary position is analyzed, while in Chapter 5 some of the simulation results are presented. In the final chapter we summarize the central findings of the article.

2. Description of the CGE model

The static CGE model used (Majcen and Buehrer, 2001) is broadly based upon the model used in Buehrer (1994), augmented with data from the 1998 Social Accounting Matrix (SAM) and parameters from the Global Trade Analysis Project (GTAP) model (Hertel, 1997). The basic structure of this model is similar to that used in many CGE models of developing countries (*cf*. Devarajan, Lewis and Robinson, 1991), previous models of Yugoslavia (Labus, 1990) and models of transition economies (Silver and Tesche, 1992).

Slovenia is treated as a small country in this model for purposes of both imports and exports. Given the focus of this exercise is on impacts on the Slovenian economy of joining the EU, trade with the EU in this model is separated from trade with the rest of the world. Output in the model is produced from a combination of capital, labour and intermediate goods by profit-maximizing enterprises. Since this is a short run model, firms are assumed to have a fixed stock of capital and there are decreasing returns to labour. Labour markets are assumed to be subject either to a fixed wage or a fixed supply of labour, depending on the simulation. Enterprises either sell their output domestically or to the international market. Domestic output is first transformed either into domestically used goods or aggregate exports, using a constant elasticity of transformation (CET) function and the first order condition of profit maximization of the transformation function. Aggregate exports are then transformed into different

goods for the two foreign markets through another constant elasticity of transformation function and its first order condition. Prices for all exports are fixed in foreign exchange and export demand is assumed to be perfectly elastic.

Domestic consumption is met from a cost-minimizing mix of domestic and imported goods from the two regions. Aggregate imports are a cost minimizing combination of imperfectly substitutable imports from the 'Rest of the World' and from the EU. The substitution between imports from the EU and the 'Rest of the World' is modelled using constant elasticity of substitution functions. Domestically-produced aggregate imported goods are assumed to be imperfect substitutes in consumption. In the model this is represented by equations, which are based on the Almost Ideal Demand System (AIDS; *cf*. Deaton and Muelbauer, 1980). Final domestic demand can take the form of intermediate goods, goods for household or government consumption or goods for investments in physical capital or inventories.

Once the allocation of demand between domestic output and imports in tradable sectors is determined, the price of composite domestic sales can be calculated. Given this price, the demands of the various actors in the economy for final output can be established. Households are assumed to spend fixed value shares of their disposable income to purchase goods from each sector. These shares are derived from a Cobb-Douglas utility function. Disposable income is obtained as difference between the total household income and taxes at a tax rate, interest payments, transfers, and household savings at assumed fixed savings rate. Government demand is derived from an exogenously fixed level of real demand, allocated in fixed shares among a small number of sectors. Investment demand by sector is based on fixed shares of total investment after inventories. The last two components of final demand are increases in inventories and intermediate demand. Both demands are proportional to the level of output.

The above description of the demand system has ignored the origin of income for each agent. Households are assumed to receive all of the income from labour not sent abroad or paid to the government as taxes. Households also receive income from remittances from the 'Rest of the World' and certain transfers. Transfers are assumed to be fixed in real terms. Since government consumption is fixed, government savings is assumed to be the difference between government revenues and consumption, taking into account interest payments, subsidies, and payments to the transfer account. Government revenue is the sum of various tax sources and transfers to the government. Closure between savings and investment is reached by defining investment being equal to savings. As a result, there is no independent investment function. Total savings are determined as a fixed share of household after-tax income, combined with government and enterprise savings. Enterprise savings are defined as a fixed fraction of after-tax and interest enterprise income. Government savings are defined as the difference between the fixed real level of government expenditure and government revenues from all taxes.

In the foreign exchange market, the exchange rate between the 'Rest of the World' and the EU is assumed fixed. Thus the exchange rates between Slovenia and the EU and the 'Rest of the World' shift proportionally. Foreign exchange market closure is obtained by assuming that the exchange rate with the EU is fixed. All inbound foreign transfers are assumed to be fixed in foreign currency. Outbound transfers are generally functions of income, though this varies from item to item. The two separate foreign exchange markets clear through changes in domestic prices and changing hard currency transfers from the 'Rest of the World' account to the EU account. The *numéraire* of the model is the exchange rate with the EU.

Many of the parameters in the model come directly from the 1998 SAM. The consumption shares are the shares of sectoral consumption in total household consumption. The intermediate uses coefficients are also derived directly from the SAM, just like the parameters for allocating investment expenditures among goods. While these and other parameters come from the SAM, certain behavioural parameters have to be obtained from other sources. These are primarily the various elasticities of substitution and transformation, used in the import and export functions. The parameters for price elasticities on the import side of the model are drawn from the GTAP model (Hertel, 1997). Since the AIDS function also requires income elasticities, we drew those from Buehrer (1994). For the purposes of the simulations in this model we used a value of 2.0 for the elasticity of transformation between domestic and aggregate export goods. The elasticities of transformation between exports to the EU and to the 'Rest of World' were assumed to be higher.

3. Foreign Trade Liberalization in the Process of Accession of Slovenia to the EU

In this chapter we analyze the levels and changes of the rates of import duties due to continued foreign trade liberalization process after 1998. These in fact cover the following: (1) full implementation of Free Trade Agreements in 2001; (2) the process of gradual adjusting of Slovenian Customs Tariff to the EU Common External Tariff for manufacturing products; (3) complete liberalization of trade with EU and candidate countries after the accession and (4) adoption of EU Common Customs Tariff and trade regime after the accession to the EU. The results obtained certainly show a relatively quick on-going process of foreign trade liberalization with the adoption of new customs system, the entrance into the GATT/WTO, signing of several FTAs and particularly of the European Agreement. High orientation of Slovenian economy towards foreign markets is revealed in the low paid tariff rates for the imports from the third countries. Full implementation of almost all agreements was finished in 2001.

Analysis of the average rates of collected import duties in the year 2001 shows very low figures at the aggregate level (1.2%), as well as at the level of imports from the EU-15 (0.7%), candidate countries (1.2%) and third countries (2.5%). Outstanding results were found for the agricultural products, since in case of Europe and other FTAs they reveal that these products are subject of concessions only to some extent. And these are products for which we can expect the greatest trade diversion/creation effects after the accession of Slovenia to the EU[1]. Theoretically, European and almost all other FTAs should be fully implemented at the beginning of 2001. Nevertheless, more than 11 bill. SIT were collected on the imports from the EU member states. The main reason can be found in the imports of agricultural products that contributed 8.8 bill. SIT of import duties. The group of products from other sectors that were imported without the use of preferential treatment within the European Agreement is also quite interesting, since for these products importers paid more than 2 bill. SIT of import duties. Obviously it was more simple (or even less expensive) to pay tariff according to the official Customs tariff than to use preferential treatments.

<TABLE 1>

[1] Lower average rates of import duties for imports from the third countries are primarily the outcome of different structures of imports of agricultural products.

In the year 2001 almost half of total import duties were collected on imports of products from EU15 and candidate countries. With the accession to the EU, Slovenia will loose these import duties. On the other hand, Slovenia collected 14.7 bill. SIT on products imported from other countries by the average rate of 2.5%. The use of the estimated rates of collected import duties on imports of the EU from the 'Rest of the World' on Slovenian structure of imports from the 'Rest of the World' did not change the average rate of import duties on the aggregate level by a high margin (from 2.50% to 2.37% only). Collected import duties would thus amount to 13.9 bill. SIT. Comparison of rates on the sectoral level reveal the most important changes in the sectors of food, beverages and tobacco industries and for furniture and other non-covered products of manufacturing, for which rates will decrease substantially.

Estimated rates of collected import duties on Slovenian imports from the 'Rest of the World' countries together with the assumption of null rate for the imports from the EU15 and 'Leaken' group countries, estimated trade creation/diversion effects and growth rates of imports were than used for the estimation of values of traditional own resources that Slovenia will pay to the EU budget after the accession to the EU[2]. Final results are presented in Table 2.

<TABLE 2>

It can be concluded that Slovenian traditional own resources payments in the period 2004-2006 will be between 10.3 and 11.8 bill. SIT (in 1999 prices) or between 52.9 and 60.6 mill. EUR (at 1999 exchange rate)[3]. It can be concluded that continued process of foreign trade liberalization will cause substantial reduction of budget revenues based on import duties. Remained revenues based on import duties will represent 25% of import duties collected on the imports from the 'Rest of the World' countries. In 1998 budget revenues from import duties amounted to almost 48 bill. SIT (1999 prices) and in the year 2001 represented only a half of the 1998 amount (23.2 bill. SIT). With the entrance to the EU Slovenia will loose additional 9.5 bill. SIT because of the complete liberalization of imports from the EU and 'Laeken' group countries and additional 10.2 bill. SIT transferred to the EU budget. Only 3.4 bill. SIT will remain for covering the costs of collection of import duties.

The estimates we arrived to using as real assumptions and data as possible are significantly higher from the first and also the last EU estimates, obtained using revised volume of Slovenian GNP (28-29 mill. EUR per year). Both EU estimates are using some very simplifying assumptions; the same share of import duties in the GNP as the average share of the EU member states, the same average rate of collected import duties as the average rate of import duties for the imports from the 'Rest of the World' countries in 2001, further decrease in this average rate because of future new preferential agreements being fully compensated with the future growth of imports and the existence of no trade creation/diversion effects. On the other hand we based our

[2] For complete presentation of the estimation of traditional own resources that Slovenia will have to pay to the EU budget see Majcen (2002).

[3] The assumption under which Croatia and FYR of Macedonia completely take advantage of the undersigned Stabilization and Association Agreement (SAA) with the EU would decrease the estimated traditional own resources payments to 8.2 – 9.8 bill. SIT or 44.3 – 50.7 mill. EUR. In reality, Croatian exporters could take advantage of preferential treatment for the minor part of their exports to the EU. It can thus be concluded that the estimated value would be closer to the higher amounts in Table 2, which do not take the SAA into account.

estimations on the eight digit CN levels taking into account our import structure from the 'Rest of the World' countries, using the share of collected/official rates of import duties for two groups of products (agriculture and other products). We further estimated the possible trade creation/diversion effects using the general equilibrium model of the Slovenian economy. We believe that taking all considerations into account, real traditional own resources for the period 2004-2006 will be much closer to our estimates than to the estimates of the EU.

<TABLE 3>

It can be concluded that all direct effects of continued process of foreign trade liberalization have not been taken into account when the Slovenian net budget position was calculated. On one hand Slovenian budget revenues will decrease for additional 41.5 – 65.7 mill. EUR in 1999 prices and on the other Slovenia will not pay only 29 mill. EUR of traditional own resources to the EU budget each year, but from 52.9 to 60.9 mill. EUR (see Table 3).

4. Transfers between Slovenian Budget and the EU Budget

Considering the negotiation process, which has been concluded on 13 December 2002 in Copenhagen, it has to be stated that the real levels of transfers from both sides are not as obvious as might be seen at first glance. Namely, there are many different factors that will influence the final outcome in reality: (1) real growth rates of production and imports after the accession of Slovenia to the EU; (2) inflation rates; (3) exchange rate changes and (4) absorption capacity of the Slovenian economy. On the other hand we should take into account some additional 'costs' as well; Slovenia will have to pay funds to different EU institutions and will loose significant amount of VAT because of decreased efficiency of gathering the tax. Namely, according to Bole (2004) both average VAT revenue as % of GDP and VAT revenue as % of GDP per percentage point of standard VAT rate are higher in Slovenia than in the EU, while this is to be changed with the accession to the EU for three reasons: (1) openness of the Slovenian economy, (2) large amount of transactions between Slovenia and the EU and (3) smallness of the Slovenian economy[4]. One should also take into account additional budget sources for compensating the difference between allowed subsidies and the actual payments from the EU budget in order to reach the complete volume of direct payments to the agriculture sector, as well as additional costs of establishing the external Schengen border.

It is obvious that when speaking about the Slovenian net budgetary position after the accession we should distinguish two positions. The first one is strictly considering only the flows between the two budgets, while the second one takes into account additional changes in Slovenian budget due to the accession. Considering both figures we can arrive to the estimate of direct impact of transfers on Slovenian budget. Of course, we should also have in mind that the accession to the EU will have a favourable positive

[4] The level of control of taxable persons for VAT is therefore to be decreased due to worsened communications between tax administrations of Slovenia and the EU member states after the abolishment of customs control; tax administrations of the Slovenian key trade partners are not likely to be prepared to supply the Slovenian tax administration with full information for the relatively small volume and value of trade, relative to the EU member states with the highest GDP per capita.

effects on Slovenian economy as well. Finally, we will be able to estimate direct and indirect effects with the use of the CGE model.

<TABLE 4>

Regarding the flows between the two budgets it could be concluded that at the end of negotiations Slovenia succeeded to improve its positive net budgetary position from the one in 2003 (45 mill. EUR) to 81 mill. EUR for each year of the 2004-2006 period (see Table 4). With the added lump-sum cash flow and budgetary compensations Slovenian net budgetary position would be positive, arising to 0.32-0.34% of the GDP. This outcome has been realized due to the finally accepted corrections of the future GDP growth rates and revised volumes of GDP. Such a result certainly gives us some additional space in the (quite possible) situation of lower absorption capacity than assumed on basis of the resources from structural funds and for rural development. We should also be aware of the fact that the EU did not accept Slovenia's estimations of traditional own resources to be paid to the EU budget. With the revenues lost due to the complete liberalization of foreign trade with the EU and other accession countries (see Table 3), quite favourable positive net budgetary position disappears. Adding already stated other additional costs and decreased budget revenues we arrive to the total direct impact of accession on the Slovenian budgetary position (Table 5). The figures were calculated in current prices using assumed 2% annual increase from the year 1999 on. The final outcome will probably be even less favourable if we take into account the fact that exchange rates are not following the inflation rates in Slovenia completely.

<TABLE 5>

It can be concluded that estimated total direct impact of the Slovenian accession on its net budget position will clearly be negative. Slovenian budget deficit will increase by 155 mill. EUR in the first year of accession[5] and will amount to 0.6% of GDP. The greatest increase of deficit is expected in the second year after the accession (0.77%). Of course, we should have in mind that all these estimates are only partial, without taking into account the reactions of economic agents as well as the government. Further trade liberalization, increased domestic market and also the competition, lowered collected VAT and lowered transaction costs, will generate changes in domestic production, trade, employment, investment and consumption. What will be the final outcome is hard to conclude without an appropriate tool. In the next section we will thus try to prepare some simulations of possible complex effects of changes in Slovenian budgetary position after the accession to the EU, using a static computable general equilibrium model of the Slovenian economy.

5. Results of the Simulations

Simulations were prepared using the corrected version of computable general equilibrium (CGE) model of the Slovenian economy, based on SAM for 1998 (Majcen and Buehrer, 2001). Namely, we had to correct the 'Rest of the World' account by splitting it down into two separate accounts; the EU15 and 'Laeken' Group on one side

[5] If one month of postponement of VAT payments are taken into account as well, then the result for the year 2004 would be even less favourable.

and the 'Rest of the World' on the other. We also added a new institution in order to simulate transfers between the two budgets after the accession of Slovenia to the EU. The new version of the model was then used for simulations of the consequences of further foreign trade liberalization in the period after 1998 as the outcome of the finished process of implementation of FTAs and the European Agreement, adaptation of Customs Tariff to the EU and of Common External Tariff for the manufacturing products, adoption of the EU Common External Tariff after the accession of Slovenia to the EU and estimated transfers between both budgets.

5.1. Foreign Trade Liberalization

For the CGE model, data on collected import duties for both groups of countries (EU15 + 'Laeken' Group and the 'Rest of the World') for the base year 1998 and the year 2001 were prepared. Additionally, estimated rates of collected import duties on imports from the 'Rest of the World', valid for the period after the accession 2004-2006, were also used. In Table 1 we present rates of collected import duties implemented within the CGE model. The main deficiency of the final estimates is certainly the use of only two shares of collected to official import duties. Results on sectoral level are therefore only rough approximations to be improved in the future.

The following three assumptions were used during the estimation of the levels and changes of rates of import duties applied within the CGE model: (1) final estimation is based on the estimated collected import duties for 2004; (2) valid foreign trade regime is reflected in the share of collected import duties compared with the official import duties (in the base year 1998 and in 2001) and (3) in 2001 applicable official rates of the EU Common External Tariff and estimated collected rates also reflect the situation in the analysed period of 2004-2006. With these assumptions in mind simulations were performed in two steps. Firstly, we estimated the effects of continued foreign trade liberalization due to the implementation of the European and other FTAs within the 1998-2001 period, taking into consideration rates of collected import duties. New equilibrium solution for 2001 was then applied as a basis for comparison with the solution obtained in the second step of accession of Slovenia to the EU.

Simulations were performed using the estimated elasticities of substitution and transformation. Additionally, we tested the sensitivity of the model results on changes of the assumptions regarding the adaptation of wages or employment as well as regarding the possible reaction of the government to changed collected import duties. Decreased incomes can be compensated with decreased government consumption, savings or with the introduction of a new tax or increase of an already existing one. We assumed that government compensates lost revenues with increased value added tax; the CGE model was therefore adapted to obtain new equilibrium solution with the unchanged government consumption and savings, compensating the loss with an increase of the value added tax. All simulations (see Table 6) were performed using the assumption of fixed aggregated balance of payments (and variable balances for both foreign accounts), with the exchange rate with the EU being the *numéraire*.

<TABLE 6>

The effects of the foreign trade liberalization due to the accession to the EU on the aggregate level are presented in Table 7. We only used the results with the assumed

possibility of change in employment. Simulations 1, 3 and 5 represent the outcome of further foreign trade liberalization and adoption of the EU Common Customs Tariff as well as its trade regime after the accession, regarding different possible reactions of the government to decreased revenues. Government was assumed to compensate decreased revenues either by decreasing consumption (Scenario 1), increasing VAT (Scenario 2), or by decreasing savings (Scenario 3). Revenues from the import duties were estimated to fall by 59% compared to 2001. Using this figure in order to compare the estimates of collected import duties after the accession (Majcen, 2002) we arrive to the estimate being some 1.5 billion SIT lower (12 bill. SIT in 1999 prices).

<TABLE 7>

However, we should have in mind that for using the static model this outcome has only taken into account the trade creation/diversion effect due to changes in import duties and not real increase of imports in the 2001-2004 period. Complete liberalization of imports from the EU and candidate countries will decrease import prices and thus increase imports from these countries. To preserve unchanged balance of payments, exports should therefore also rise through decreased prices (partially as the outcome of decreased import prices of intermediate goods). Final outcome on the level of GDP and employment is slightly negative (–0.10 and –0.34, respectively) as well, mainly because of the assumed compensating decreased government consumption (–2.3%) and thus decreased production of non-market services (Scenario 1).

Another possible government reaction to decreased revenues is appropriate increase of one of the taxes. Here we assumed that VAT should change to the extent that government consumption and savings remain unchanged. The outcome of such policy on the economy is clearly negative; final necessary increase of VAT was estimated to be 10% with the employment decreased by 2.5%, GDP by 1.6%, investment by 2.2%, exports by 2% and imports by 1.6%. Compensation with the government savings (–30.9%) does not have a negative effect on aggregate employment and GDP. On the contrary, it shows positive effects of liberalization on trade, though again with decreased investment activity. In the Scenarios 2, 4 and 6 we added the estimated decrease of VAT collection (0.5% of GDP) in order to obtain the reaction of the economy[6]. It can be concluded that assumed decreased rates indeed have a favourable positive impact on the economy, as expected.

If we sum up the results obtained regarding the (isolated) effects of foreign trade liberalization, it has to be concluded that the effects are indeed very sensitive to assumed reaction of the government. Insisting on unchanged government consumption through the adequate rise in the VAT rate will have clearly negative effects on the Slovenian economy. On the other hand, compensation with decreased government savings will have a negative impact on investment activity and thus lower growth rate of the economy as an outcome. In case we had used dynamic CGE model for the simulation of changes of particular aggregates compared with the steady growth of the economy, these negative effects on investment activity would have become obvious. It is therefore evident that a static CGE model can not provide the final answer regarding the effects of changes in the Slovenian budget. Namely, a great share of transfers is

[6] We assumed that the decrease of collected VAT is the outcome of decreased collection of the tax on imports of goods. The basic sector rates were then decreased accordingly and applied in the simulations.

connected with changes in structure and in the levels of investment activities and can have indirect effects on investment activity.

5.2. Financial Flows between Slovenia and the EU after the Accession

In this section we attempt to obtain some estimates of the complex effects of accession to the EU. Due to the static nature of the model the results obtained do not show complete short and long run effects, but are mainly focused on the short run outcome; short enough that changes in the investment activity can not affect the level of capital. Nevertheless, we try to capture some (medium run, at least) effects through the assumed decrease of transaction costs.

During the preparation of particular scenarios we tried to get as close as possible to the reality. We assumed that quantity of labour is variable, that government will try to preserve unchanged level of its consumption and savings, compensating the changes with the changes in the VAT rate. We did not make any changes in the structure of government consumption and in the structure of investment. Finally, eight scenarios have been prepared (see Table 8), starting with foreign trade liberalization and ending with complex set of transfers between both budgets, decreased collection of VAT and changes in government savings, consumption and subsidies.

<TABLE 8>

With the assumptions within the Scenarios 1 to 5 we tried to capture changes in the protection, the transfers between budgets and some additional costs Slovenia will acquire after the accession. We also added an estimate of decreased transaction costs using the estimates prepared for the EU member states (Emerson, 1988, p. 18). We continued with the assumed lower absorption capacity in order to get some notion of the possible effects of not so unrealistic outcome; no changes in transaction costs (to capture only the very short run effects) and the possibility of decreased government consumption. The results on the aggregate level are presented in Table 9. The results of first two scenarios were already presented in the previous section; possible positive effects of foreign trade liberalization disappear, if the government tries to preserve its unchanged consumption and savings with increased VAT rates. Estimated loss in collected VAT, on the other hand, does have a positive impact on the macro aggregates despite the necessary additional increase in the VAT rates.

<TABLE 9>

With the accession and the abolishment of borders in the next few years we can expect a decrease of transaction costs, where we assumed that this decrease will be equal to 2% of the value of trade with the EU member states[7]. As transaction costs are

[7] Direct costs of frontier formalities and associated administrative costs of the private and public sector were estimated to be of the order of 1.8% of the value of goods traded within the Community (Emerson, 1988, p. 18). With the abolishment of technical regulations and other non-border barriers this figure was estimated to be, on average, around 2% of enterprises' total costs or 3.5% of industrial value-added. Of course, there are substantial differences between industrial and service branches subject to market entry restrictions that could experience considerably higher potential costs and price reductions of the order of 10 to 20% and even more in some cases, e.g. energy, transport, office and defence equipment, financial services, and road and air transport sector. It is obvious that some very important effects of abolishment

not explicitly analyzed in the model, only import prices were corrected by 2%. The results obtained in Scenario 3 clearly point out a very positive impact; real GDP would rise by 2.2%, employment by 3.2%, exports by 5.5% and imports by 6.7% with trade diversion towards EU member states. Despite unchanged government consumption and savings, abolished import duties and decreased effective VAT rates, new equilibrium VAT rate remained almost unchanged (0.5% decrease, compared to the base solution).

We than proceeded to the introduction of officially estimated net outcome of assumed transfers between two budgets (0.33% GDP) and increased subsidies for the agriculture sector in the amount of 0.26% GDP. We did not make any corrections in the structure of government consumption or investments. Compared to the results obtained in Scenario 3 our results are even more favourable, as expected. Additional inflow of money at the unchanged government consumption and savings resulted in even lower VAT rates (–6.5%), resulting in higher competitiveness of the economy.

More realistic situation is certainly the fifth scenario with all additional transfers and payments from the Slovenian budget included. Results obtained are still positive with increased GDP, employment, investment and trade, despite the necessary increase of VAT tax to compensate all additional transfers and payments. But we can ask ourselves, what would happen if the absorption capacity is lower than assumed, e.g. 50% of the assumed. The fact is that the EU assumed much higher absorption capacity for the new member states for the use of structural funds than it was obtained for the existing EU member states; with the assumption of compensation of lower transfers through VAT, which has to rise by 15% and thus decrease the competitiveness of the economy. The final outcome show considerable decrease in almost all macro aggregates (with still positive changes), with the exception of decreased employment.

All former results could be regarded as the effects in at least medium or long run. Given the assumptions and the model used, they show positive net outcome of the Slovenian accession to the EU. But they are indeed quite sensible to the assumption of decreased transaction costs which will not be realised in a very short period. This was the reason for trying to comprehend the effects without decreased transaction costs (Scenario 7). Results obtained point to the fact that in the very short run a negative outcome of the accession should be expected if the government still wants to have its consumption unchanged and investment activities increased. In case that the government tries to behave more rationally and finds a possibility to decrease its own consumption (5% decrease is assumed in Scenario 8), this would greatly diminish negative short run effects. Results obtained therefore show the importance of the behaviour of the government in the short run after the accession to the EU; rational behaviour will certainly moderate possible short run negative effects of the accession and improve already favourable long run effects.

6. Concluding Remarks

The main aim of the article has been the estimation of the effects of continued process of foreign trade liberalization and Slovenian net budgetary position after the accession to the EU, taking into account some additional important changes in Slovenian budget. For the simulations an adapted CGE model of the Slovenian economy has been used.

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of non-tariff barriers have not been taken into account. One possible way to capture them would be to incorporate estimated *ad valorem* equivalents for non-tariff barriers into the existing CGE model.

It can be concluded that continued process of foreign trade liberalization will cause substantial reduction of budget revenues based on import duties. Remaining revenues based on import duties will represent 25% of import duties, collected on the imports from the 'Rest of the World' countries. In 1998 budget revenues from import duties amounted to almost 48 bill. SIT, while in 2001 represented only half of the 1998 amount (23.2 bill. SIT). With the entrance to the EU Slovenia will loose additional 9.5 bill. SIT due to complete liberalization of imports from the EU and 'Laeken' group countries, and also additional 10.2 bill. SIT transferred to the EU budget. Only 3.4 bill. SIT will be left for covering the costs of collection of import duties. It is important to note that these estimates are higher than the estimates prepared by the EU.

Regarding the Slovenian net budgetary position after the accession two positions should be distinguished. The first one is strictly considering only the flows between the two budgets, while the second one also takes into account additional changes in Slovenian budget due to the accession. Regarding the flows between the two budgets it could be concluded that at the end of the negotiations Slovenia succeeded to improve its positive net budgetary position from that in 2003. With the added lump-sum cash flow and budgetary compensations Slovenian net budgetary position would be positive, arising to 0.32-0.34% of GDP. This outcome has been realized due to the finally accepted corrections of the future GDP growth rates and revised volumes of GDP. Such result certainly gives Slovenia some additional space in the (quite possible) situation of lower absorption capacity than assumed on basis of resources from structural and rural development funds.

On the other hand we should take into account decreased budget revenues due to complete liberalization of trade with the EU and candidate countries as well as decreased efficiency of value added tax collection. There will also be additional transfers to the EU institutions and increased costs due to the preparation of Schengen border with Croatia and 'top up' direct payments to farmers. Taking into account these figures we arrive to the total direct impact of accession on the Slovenian budget position, which will clearly be negative. Slovenian budget deficit will increase by 155 mill. EUR in the first year of accession and will amount to 0.6% of GDP. The greatest increase of deficit is expected in the second year after the accession (0.77%). Of course we should have in mind that all these estimates are only partial, without taking into account the reactions of economic agents as well as the government. Further trade liberalization, increased domestic market and the competition lowered collected VAT and transaction costs, generating changes in domestic production, trade, employment, investment and consumption.

All results connected with decreased transaction costs could be regarded as effects in medium or (preferably) long run. Given the assumptions and the model used, they show positive net outcome of the Slovenian accession to the EU. But they are indeed quite sensible to the assumption of decreased transaction costs, which will not be realised in a very short period. Results obtained without the use of decreased transaction costs point to the fact that in the very short run a negative outcome of the accession should be expected, as long as the government still wants to have its consumption unchanged and investment activities increased. In case that the government tries to behave more rationally and finds a possibility to decrease its consumption, this would greatly diminish negative short run effects. Behaviour of the government is therefore crucial even in the short run after the accession to the EU, as rational behaviour will

certainly moderate possible short run negative effects of the accession and improve already favourable long run effects.

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Table 1. Estimation of changes in rates of import duties after the adoption of the EU Common External Tariff (in 2001 prices)

SECTOR	Situation in 2001			Accession to the EU
	EU15	'Laeken' Group	'Rest of the World'	'Rest of the World'
A	6.52	2.84	2.00	1.76
B	2.16	0.96	2.39	1.36
C	0.03	0.04	0.29	0.40
DA	11.75	10.56	7.65	1.80
DB	0.07	0.50	6.57	6.95
DD	0.14	0.16	0.81	0.62
DE	0.11	0.03	1.06	0.92
DG	0.14	0.04	0.91	2.87
DH	0.16	0.15	4.07	3.90
DI	0.08	0.16	1.40	2.94
DJ	0.08	0.05	0.85	2.51
DK	0.16	0.35	3.29	1.59
DL	0.20	0.27	1.73	1.00
DM	0.13	0.08	5.71	5.49
DN	0.27	0.38	10.08	3.50
E	0.01	0.03	0.03	2.28
Total	0.68	1.15	2.50	2.37
Import duties (bill. SIT)	11.324	2.402	14.724	13.947

Source: Import Customs Declarations for 2001; EU Common External Tariff; own calculations.

Table 2. Estimation of traditional own resources to be paid in the 2004-2006 period

SCENARIO	1999 (mill. SIT)			1999 (mill. EUR)		
	2004	2005	2006	2004	2005	2006
Accession of all 10 candidate countries	10266	11011	11769	52.9	56.7	60.6

Source: Majcen (2002).

Table 3. Corrections of the Slovenian net budgetary position due to complete liberalization of foreign trade with the EU and candidate countries and adoption of the EU Common External Tariff (mill. EUR, in 1999 prices)

CORRECTION	2004	2005	2006
1. Budget revenues	–41.5*	–63.6	–65.7
2. Transfers to the EU budget	–15.9*	–18.5	–21.3
3. Total	–57.4*	–82.1	–87.0

Note: Figures denoted by * refer only to eight-month period due to the date of accession of 1 May 2004.

Source: Majcen (2002); own calculations

Table 4. Estimated net budgetary position for Slovenia after the enlargement of the EU

	2004				2005				2006			
	EUR	SIT	% GDP	%GNI	EUR	SIT	% GDP	%GNI	EUR	SIT	% GDP	%GNI
Pre-accession aid	51.0	9.9	0.22	0.22	43.0	8.3	0.17	0.17	27.0	5.2	0.10	0.10
1. Agriculture	43.4	8.4	0.18	0.18	124.6	24.1	0.50	0.51	158.2	30.6	0.61	0.61
1a. Common Agricultural Policy	14.9	2.9	0.06	0.06	65.2	12.6	0.26	0.27	71.6	13.9	0.28	0.28
Market measures	14.9	2.9	0.06	0.06	38.3	7.4	0.15	0.16	38.8	7.5	0.15	0.15
Direct payments	0.0	0.0	0.00	0.00	26.8	5.2	0.11	0.11	32.8	6.4	0.13	0.13
1b. Rural development	28.5	5.5	0.12	0.12	59.4	11.5	0.24	0.24	86.6	16.8	0.33	0.34
2. Structural actions after capping	27.0	5.2	0.11	0.11	59.2	11.5	0.24	0.24	72.8	14.1	0.28	0.28
Structural Fund	25.9	5.0	0.11	0.11	45.9	8.9	0.19	0.19	48.9	9.5	0.19	0.19
Cohesion Fund	1.2	0.2	0.01	0.01	13.3	2.6	0.05	0.05	23.9	4.6	0.09	0.09
3. Internal Policies	49.7	9.6	0.21	0.21	59	11.4	0.24	0.24	66.3	12.8	0.26	0.26
Existing policies	12.1	2.3	0.05	0.05	20.9	4.0	0.08	0.09	28.2	5.5	0.11	0.11
Institution building	2.0	0.4	0.01	0.01	2.5	0.5	0.01	0.01	2.5	0.5	0.01	0.01
Schengen	35.6	6.9	0.15	0.15	35.6	6.9	0.14	0.14	35.6	6.9	0.14	0.14
Sub-total (1 + 2 + 3)	120.1	23.3	0.51	0.51	242.9	47.0	0.98	0.99	297.3	57.6	1.15	1.15
Cash flow lump-sum	65.0	12.6	0.27	0.28	18.0	3.5	0.07	0.07	18.0	3.5	0.07	0.07
Total allocated expenditure	236.1	45.7	1.00	1.00	303.8	58.8	1.23	1.24	342.3	66.3	1.32	1.33
Traditional own resources	18.0	3.5	0.08	0.08	29.0	5.6	0.12	0.12	29.0	5.6	0.11	0.11
VAT resource	22.0	4.3	0.09	0.09	35.0	6.8	0.14	0.14	36.0	7.0	0.14	0.14
GNP resource	129.0	25.0	0.55	0.55	198.0	38.3	0.80	0.81	203.0	39.3	0.78	0.79
UK rebate	17.0	3.3	0.07	0.07	27.0	5.2	0.11	0.11	28.0	5.4	0.11	0.11
Total own resources	186	36.0	0.79	0.79	289.0	56.0	1.17	1.18	296.0	57.3	1.14	1.15
Net balance before budgetary compensation	50.1	9.7	0.21	0.21	14.8	2.9	0.06	0.06	46.3	9.0	0.18	0.18
Budgetary compensation	30.0	5.8	0.13	0.13	66.0	12.8	0.27	0.27	36.0	7.0	0.14	0.14
Net balance after budgetary compensation	80.1	15.5	0.34	0.34	80.8	15.6	0.33	0.33	82.3	15.9	0.32	0.32

Note: The calculations are based on revised GDP; 1999 prices, mill. €, mill. SIT.

Source: The Final Negotiation Results (2002); calculations by the Ministry of Finance, Budget Department (2002).

Table 5. Estimated budget deficit of Slovenia after the accession to the EU (% of GDP)

	2004	2005	2006	2004	2005	2006
		mill. EUR			bill. SIT	
Expected budget revenues	5.634	5.844	6.088	1.500	1.622	1.752
Expected budget expenditures	5.852	6.023	6.199	1.559	1.671	1.784
Expected budget deficit	–219	–178	–112	–58	–49	–32
Expected budget deficit without the EU accession effect (%GDP)	–0.97	–0.75	–0.45	–0.97	–0.75	–0.45
1. Expected transfers from the EU budget	294	417	435	68.4	97.0	101.1
2. Expected transfers from the Slovenian budget	205	324	340	47.8	75.8	79.2
3. Expected additional change of the budgetary position after the accession (Σ (3a...3f))	243	309	303	57	72	71
3a. Expected decreased amount of collected VAT 0.5% of GDP)	83	133	142	19.4	31.1	33.2
3b. Obligations towards EU institutions	7	12	21	1.5	2.9	4.8
3c. Expected decrease of revenues from import duties	46	72	75	10.7	16.7	17.6
3d. 'Top up' payments of direct payments	23	19	14	5.2	4.3	3.3
3e. Schengen border	67	52	26	15.6	12.0	6.0
3f. Estimated additional transfers of collected import duties	18	21	24	4.1	4.9	5.7
4. Increase of budget deficit due to EU accession (1-2-3)	–155	–216	–209	–36	-51	–49
Increase of budget deficit due to EU accession (% of GDP)	–0.60	–0.77	–0.68	–0.60	–0.77	–0.68
Total estimated budget deficit	–373	–395	–320	–94	–100	–81
Total estimated budget deficit (% of GDP)	–1.56	–1.52	–1.13	–1.56	–1.52	–1.13

Source: The Final Negotiations Results (2002); calculations by the Ministry of Finance, Budget Department (2002); own calculations.

Table 6. The scenarios of the CGE model for the analysis of trade liberalization between Slovenia and the EU

SCENARIO	DESCRIPTION OF THE SCENARIO
Scenario 1	Quantity of labour is variable (fixed wages), decrease of government consumption is equal to decreased revenues from import duties.
Scenario 2	Scenario 1 + assumed decrease in collected VAT equal to 0.5% of GDP.
Scenario 3	Quantity of labour is variable (fixed wages), government consumption unchanged, decreased revenues compensated with increased VAT.
Scenario 4	Scenario 3 + assumed decrease in collected VAT equal to 0.5% of GDP.
Scenario 5	Quantity of labour is variable (fixed wages), government consumption unchanged, decreased revenues compensated with decreased government savings.
Scenario 6	Scenario 5 + assumed decrease in collected VAT equal to 0.5% of GDP.

Table 7. Some macroeconomic effects of foreign trade liberalization process in the period 2001-2004 (changes in %)

AGGREGATE	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6
Labour	–0.34	0.55	–2.48	–2.07	0.05	1.05
Capital	0.00	0.00	0.00	0.00	0.00	0.00
Import duties	–59.03	–58.41	–60.43	–60.13	–59.11	–58.54
Government consumption	–2.30	–2.95	0.00	0.00	0.00	0.00
Government savings	0.00	0.00	0.00	0.00	–30.89	–39.66
Investment	–0.38	0.33	–2.19	–1.92	–2.05	–1.79
GDP	–0.11	0.50	–1.59	–1.32	0.10	0.76
Exports (total)	1.10	2.56	–1.96	–1.19	0.92	2.33
– EU25	1.28	2.99	–2.22	–1.32	1.08	2.72
– others	0.65	1.53	–1.32	–0.87	0.53	1.37
Imports (total)	1.14	2.47	–1.63	–0.94	0.96	2.23
– EU25	1.17	2.53	–1.60	–0.88	0.96	2.25
– others	1.11	2.35	–1.66	–1.07	1.00	2.21
GDP deflator	–0.73	–0.88	–0.05	–0.03	–0.65	–0.77
VAT	0.00	0.00	10.25	13.35	0.00	0.00

Note: Elasticities of substitution and transformation are taken from Buehrer (1994) and GTAP Data Base. Unchanged government consumption is obtained by the increase of VAT (Scenarios 3 and 4).

Table 8. The scenarios of the CGE model for the analysis of financial flows between Slovenia and the EU

SCENARIO	DESCRIPTION OF THE SCENARIO
Scenario 1	Further foreign trade liberalization due to the accession to the EU.
Scenario 2	Scenario 1 + decreased VAT rate (0.5% of GDP).
Scenario 3	Scenario 2 + decreased transaction costs (2% decrease of world import prices).
Scenario 4	Scenario 3 + net transfers from the EU budget (0.33% GDP; 0.26% going to agriculture).
Scenario 5	Scenario 4 + corrected payments of import duties, additional payments to the EU institutions, additional government investments due to the Schengen border, additional direct payments to farmers.
Scenario 6	Scenario 5 + lower absorption capacity (only 50% of the estimated use of sources for rural development and sources from structural and cohesion funds).
Scenario 7	Scenario 6 + no changes in transaction costs.
Scenario 8	Scenario 7 + decrease of government consumption by 5%.

Table 9. Some macroeconomic effects of the accession to the EU (changes in %)

AGGREGATE	SCENARIO 1	SCENARIO 2	SCENARIO 3	SCENARIO 4	SCENARIO 5	SCENARIO 6	SCENARIO 7	SCENARIO 8
Labour	–2.475	–2.071	3.157	5.091	1.996	–0.449	–5.699	–0.928
Capital	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Import duties	–60.43	–60.13	–58.48	–57.54	–59.08	–60.32	–61.97	–59.15
Government consumption	0.000	0.000	0.000	0.000	0.000	0.000	0.000	–5.000
Government savings	0.000	0.000	0.000	13.88	13.88	13.88	13.88	13.88
Investment	–2.193	–1.915	2.166	4.230	3.025	1.018	–3.099	0.989
GDP	–1.587	–1.322	2.192	3.485	1.443	1.018	–3.781	–0.440
Exports (total)	–1.960	–1.190	5.451	6.951	3.467	1.007	–5.557	1.179
– EU25	–2.225	–1.321	6.357	8.054	4.009	1.181	–6.336	1.347
– others	–1.321	–0.874	3.264	4.285	2.158	0.588	–3.677	0.775
Imports (total)	–1.628	–0.936	6.631	8.838	5.343	2.464	–4.972	1.138
– EU25	–1.603	–0.879	7.871	10.092	6.589	3.693	–4.876	1.231
– others	–1.660	–1.067	2.999	5.165	1.691	–1.140	–5.222	0.898
GDP deflator	–0.050	–0.030	–0.285	–0.589	0.050	0.499	0.866	–0.723
VAT	10.245	13.347	–0.541	–6.489	5.741	15.157	30.618	5.760

Note: Elasticities of substitution and transformation are taken from Buehrer (1994) and GTAP Data Base.