

# Chapter 2: The Impact of Enlargement on the Current and Prospective Member States

## 1. Motivation

There are 10 new members to be welcomed from 1 May 2004 into the European Union; notwithstanding the historical opportunity to achieve the reunification of Europe on the basis of values such as democracy, competition and social welfare, is EU enlargement good news for the economies of current member states?

Future enlargement raises several concerns in current EU members. First of all this enlargement episode will involve a large number of countries and is thus raising institutional issues. Secondly, these countries have per capita income levels much lower than the ones in current member states, which raises the issue of social competition and the fears of massive relocation of industries or migrations. Last but not least, the agricultural sector represent a disproportionate share of GDP and employment in certain accessing countries, which raises the issue of the Common Agricultural Policy (CAP) and how it is adjusted or not in order to take into account the new member states.

However, these impacts should be smoothed by the fact that liberalisation of markets is an ongoing process, and has been developing for at last ten years. EU industries are already confronted to the competition of East European producers, and adjustments have taken place, mostly via big FDI flows or plant relocation. In the same way, convergence of accessing countries will reduce the competitive pressure and enlarge the markets opened to incumbent countries' producers.

These are typically issues that have to be tackled by taking into account general equilibrium mechanisms. Such an approach allows to take fully into account the relationships between goods markets and factor markets, while accounting for the sizes of the countries considered, which is a very important determinant of the magnitude of the impacts to be expected.

There have been a lot of recent studies adopting such methodology. Bchir & Maurel (2002), Lejour & Nahuis (2002) or Maliszewzka (2002) all raise the issue of integration aspects going beyond the reduction of formal tariffs: full entry means accession to the internal market (and thus reduction in border formalities or decisions taken by firms on a different geographical scope, for instance) and eventually expected migration flows. Bchir & Maurel develop three

scenarios, namely trade integration, economic integration, and economic convergence in line with Total Factor Productivity (TFP) catch up. Lejour & Nahuis start by assessing the impact of the accession to the internal market by estimating gravity equations at the industry level. This first step is used as an input in a second step in which this trade potential is used in a CGE model of the world economy. Maliszewska focuses on Single market-related mechanisms.

As far as agriculture is concerned, the final impact relies on the type of assumption made on transfer payments and farm support granted to accessing countries. Assumptions can range from zero to full benefit; in the latter case one can either redistribute the shares of the pie, or increase the size of the pie with constant shares (Frandsen & Jansen, 2001; Bhir & Maurel, 2002). A key assumption is the magnitude of the output changes in accessing countries when farm support is introduced, namely the elasticity of production. Reciprocally, any general increase in the output in agriculture should be constrained by the availability of arable land and other resources used. Depending on the set of assumptions made, the change in output can be either limited or very large.

In sum, if it is rather elementary to compute how the EU budget will be affected by this enlargement, it is much more difficult to assess how economies of incumbent member states will be affected at the macro-economic as well as sectoral level.

## **2. EU Enlargement: key issues**

Some issues such as the EU budget and the impact on immigration have been extensively dealt with in the last few years.

### *2.1 European Budget*

A comprehensive survey can be found in Weise (2002), which also presents some simulations. A great deal of discussion is centred on the effect on the CAP. The size of the farming sector (both as percentage of GDP and as number of people employed) in the new EU members would call for sizeable transfer of funds to accession countries, under the current CAP rules. Therefore, enlargement is likely provoke a redistribution of resources at the expenses of current EU member states. The EU has agreed a temporary rural development package, entailing direct aids for the new members for a total amount of €5.1 billions for 2004-2006. Afterwards, direct aids will be phased in over 10 years. If no changes are made to current CAP rules, some problems could arise, even if we leave aside any consideration about

European budget. Income support via direct payments to farmers can hardly fit constraints associated with the decoupling process under WTO rules, but more importantly can raise serious problems in accession countries. Farmers' income will be sustained by the generalised increase in food price CAP is likely to bring about and by EU payments. This will increase the already high level of income inequality within these countries.

At the same time the huge disparities between accession countries and current member states in terms of per capita income and infrastructures will entail a major reallocation of structural funds. As Weise (2002) points out, as a consequence of enlargement, average GDP per capita in the EU will drop by roughly 10-15%. Consequently all current EU regions will improve their relative position: if rules do not change, regions currently benefiting from Objective 1 support risk losing EU structural funds. Back of the envelope calculations show that nearly 50% of the Objective 1 regions (concentrated mainly in Germany, Greece and Italy) run this risk. Moreover, enlargement will change the way EU budget is financed: assuming no dramatic changes in agricultural policy, the burden of enlargement will be split in quite an inegalitarian way (see Weise (2002) Table A2), with Germany being particularly badly affected.

## *2.2 Immigration*

Boeri and Brücker (2000) look at the effects on goods and factor markets. According to their analysis higher trade openness will exert a small influence on employment and wages in current EU members and will be limited to some specific, labour intensive industries, located in a few regions sharing borders with accession countries, as the economic size of new members is too small to have an important effect on the EU. The very slow convergence in per capita income will surely trigger migration to current EU members, once the barriers to labour movements from Central and Eastern Countries are lifted. However if we assume that the pattern of migration follows the one observed in post-war Europe, huge flows of immigrants appear to be unlikely. Boeri and Brücker estimates that peak in migration will be reached within 30 years from the lifting of the barriers and that immigrants will represent no more than 1.1% of EU-15 population. Such a relatively small flow can be explained by the high adjustment cost immigrants have to bear and by negative network effects, that is the propensity to migrate being negatively correlated to the proportion of people which has already emigrated. Sinn (1999) develops a theoretical model of capital and labour migration, based on the German unification experience. The result he obtains is that labour migration to EU current member states will be only temporary. While capital has only set up costs slowing

down installation without affecting the long run allocation, immigrant workers must bear permanent costs lasting for the whole period they live and work abroad, and consisting of higher rents, the discomfort of not living at home and the costs of regular visits back home. While not influencing the short term reallocation of labour across countries, these last factors, according to Sinn, are likely to affect the long term equilibrium, tending to stabilise the initial allocation of labour. However these results are somehow weaker once minimum wage and welfare payments in current EU members are taken into account.

### *2.3 Institutional issues*

Increasing the number of member countries to 25 (possibly 27 in 2007) is likely to raise problems with the way the European Council takes decision. Baldwin et al. (2000) show that with the current voting rules, an increase in the number of EU member will lead to a jump in the probability of having coalitions blocking important decision and to a much higher risk of decision making process being slowed down by the polarisation between the block of Northern richer countries and that of less well off Southern and Eastern states.

### *2.4 Good and factor markets*

Given the very large gap in per capita income and factor endowments, one natural concern is that the EU enlargement will dramatically alter the specialisation pattern in the continent, with existing EU member suffering the high re-allocation costs. In particular a clear risk commonly envisaged is that labour intensive industries will relocate massively to new member states (whose wages are on average 15% at current exchange rate or one fourth at Purchasing Parity levels of EU levels). According to the traditional Stolper-Samuelson effect, such a dramatic shift would possibly harm blue collars who would face a drastic reduction in wages or (more probably given the characteristics of EU labour market) mounting unemployment.

The potential impact should be different for accession countries since they will join a hugely integrated area, what is much more than simply entering into a free trade arrangement. Moreover, combining transition and enlargement can have interesting outcomes associated with imperfect competition mechanisms: Boeri & Oliveira-Marins (2002) point out that taking into account the “love for variety” of consumers profoundly affects conclusions. Confronting the consumers to a huge variety of products, as compared to the previous situation of planned economies, has translated in an initial large trade deficit in differentiated goods to be balanced by large exports of the homogeneous goods. In the same way, it is difficult to assess a priori what will be the behaviour of firms changing dramatically the scale

of their playing field, in terms of investment, mark ups etc. On top of that it is important to stress the role joining the Euro could have. Frankel and Rose (2002) show that the size of the gains in terms of increase in trade volumes can be huge.

In this paper we will deal with these last issues, analysing the impact of enlargement on both EU as a whole and on accession countries.

### **3. The current situation**

East-West trade patterns have already dramatically changed within a decade. The European Union is already CEECs main trading partner, absorbing roughly 68% of their total exports. Of course, given the difference in economic size, the reverse is not true: only the 4% of EU total imports come from these countries. With the exception of agriculture and antidumping, accession countries have been granted free access to the European market. The reverse is not true however, as some accession countries still keep some forms of import restriction. However, as a consequence of transition to market economy and ongoing integration to the rest of Europe, the accession economies are undergoing a deep change in production structures. Redirecting resources towards sectors in which accession countries are granted a comparative advantage is only part of the story. As highlighted in various studies on European integration, intra-industry trade, defined as two-way trade in (horizontally or vertically) differentiated products is a by-product of integration (Fontagne and Freudenberg (2000)). Freudenberg and Lemoine (1998) and Landesmann (2003) highlight a similar phenomenon in the case of accession countries. For instance, at the 6 digit level of the nomenclature of traded products, the share of intra-industry trade in total trade for the Czech Republic is equal to the EU average, and increasing at a high pace in every accession country.

The increasing bilateral trade integration has thus led to an increasing share of intra-industry trade reflecting the move from a trade based upon low wage-costs in CEECs towards a trade based on more diversified and catching up economies. Benefits from this latter trade are theoretically higher, because of the presence of increasing returns to scale. On the other hand, adjustment costs associated with such trade are expected to be much more limited (Fontagné and Freudenberg, 2002). This is why the impact on wages in incumbent countries is not necessarily detrimental to their low-skilled labour force: in sectors characterised by increasing returns to scale, imperfect competition and cross-hauling, the impact on blue collar wages is more complex than what the traditional Stolper-Samuelson view suggests. The same

reasoning applies to blue collars competing in actual Member states with imports of labour intensive goods produced in accession countries.

Still, a rapid evolution of the specialisation of accession countries economies in the recent period, as measured by the revealed comparative advantage (defined as the contribution of each sector to the trade balance) can be observed. Hungary (Figure 1) is specialising in computers, consumer electronics and engines and to a lesser extent cars and cycles. In contrast, Poland (Figure 2) is largely specialised in (unskilled) labour-intensive activities such as clothing, furniture, or primary products (coal). Coke, shipbuilding, iron and steel, metallic structures, or wood articles also characterise a specialisation in production inherited from the previous regional division of labour. A slight specialisation in electrical apparatus or consumer electronics has been developing only recently. Contemplating this specialisation, much higher transition costs associated with the accession are expected for Poland than for Hungary.

Noticeably, the specialisation of Baltic countries (figure 3) is very specific: refined oil and non-edible agricultural products, and to a lesser extent clothing, are the sectors in which these countries have increasingly allocated their resources in the recent period. Other fields of specialisation comprise furniture, knitwear, wood articles, coal, fertilisers, non ferrous and ferrous ores. Telecommunication equipment is the only dynamic sector in which Baltic countries are positioned.

#### **4. General equilibrium dimensions of enlargement**

As long as the EU15 economies are concerned, the big difference in size with respect to the accession countries and the pronounced asymmetry in the trade structure hints at a very limited impact of trade integration.

On the contrary, the effects on new members will be enormous. At this stage, accession countries have already reaped the short-term benefits from previous trade agreements with the EU, as they have been trading with it roughly without barrier for the last seven years. However, the medium run adjustment is likely to have at least two adverse consequences for them. First of all, the removal of the remaining trade barriers will entail a deterioration in their terms of trade. The second, and probably more important consequence, is that a higher exposure to international competition will harm those sectors still showing large inefficiencies. Huge and painful adjustments are expected, noticeably in sectors characterised

by large increasing returns to scale. After that, however, the efficiency gains are expected to increase overall welfare.

A full account of the integration dynamics and the quantification of its effects need to take into account a wide range of transmission channel. Moreover one has to control for the general equilibrium effects of the changes in production and trade patterns, the role played by market structures (i.e. the type of competition) and the degree of factor specificity (which is very important for agriculture) and the degree of substitutability across goods from different sectors and/or country of origin.

In order to meet these needs we carry on the analysis using MIRAGE (see Bchir et al. (2002) for a detailed description of the model), a multi-region, multi-sector computable general equilibrium model (CGEM), developed by CEPII and devoted to trade policy analysis.

Mirage has a sophisticated treatment of market structure, where products are differentiated by variety and by quality. Imperfect competition is modelled in an oligopolistic framework<sup>1</sup>, in which firms exploit their market power and adopt a *pricing-to-market* strategy. Horizontal product differentiation is associated with varieties as well as with geographical origin. The elasticity of substitution is higher for goods having the same quality level. Then, for example, a EU15 firm will face much harder competition from other EU firms or CEECs' ones than for developing countries' ones.

The number and the size of firms by sector adjust progressively to market conditions.<sup>2</sup> This change in the number of firms is associated with a pro-competitive effect: mark-ups are affected, as well as returns to scale. Consumers are affected too, given the *love for variety* assumption made. Capital accumulation is gradual and subject to adjustment costs. Data on trade barriers are provided by MAcMaps\_2001 (Bouët et al, 2001).<sup>3</sup>

The simulation with MIRAGE provides results at the sectorial level for the Euro Area as a whole, and for a selected group of accession countries: we considered Poland and Hungary in isolation, aggregated Estonia, Latvia and Lithuania under the label "Baltic States", and the rest of accession countries as "other CEECs". The variables analysed are trade patterns,

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<sup>1</sup> Competition is *à la Cournot* : firms do not take into account the impact their decision might have on competitors or on the global level of demand.

<sup>2</sup> Each sector is characterised by its market structure: in some sectors, called "fragmented", growth increases the number of firms: in others, called "segmented", it is the size of existing unit that expands (see for example, Sutton (1991) and Oliveira-Martins et al. (1996)). Profits are thus driven to zero much faster in fragmented than in segmented sectors.

<sup>3</sup> This database includes ad-valorem tariffs, ad-valorem equivalent of specific tariffs, tariff quotas, prohibitions and anti-dumping duties, on bilateral and tariff line level.

structure of employment and wages by qualification level, activity and firms' number and size.

## **5. Enlargement scenarios**

Enlargement has at least two different meanings. First of all trade liberalisation with the break-up of the residual tariffs and non-tariffs (essentially anti-dumping) protection, and the applications by new members of the same common external tariff as the existing EU countries. Secondly it will mean economic integration, in line with the completion of the Single market. Firms, both in the EU15 and the CEECs, will take their production decision considering an enlarged market of 25 members. Products from the CEEC will be regarded by consumers as belonging to the same quality ladder as EU15 ones. The end of market fragmentation will make competition harder, pushing mark-up down. On average, firms' size will increase. The magnitude of these effects is bound to vary greatly across industries, with the difference between fragmented and segmented sectors playing a crucial role.

The assumptions about product differentiation play a key role in determining the results of economic integration. As long as vertical differentiation is concerned, a process of integration in which the entrant countries' goods are sharing the same quality as incumbent countries' ones will increase greatly the level of competition faced by entrant countries' firms, lowering thereby mark-ups. The assumption is central as well for the behaviour of accession countries' firms. Full entry in the EU increases their share in this area, thus enabling them to increase their mark-up in this market. On the contrary, fiercer competition with EU firms on their domestic market will oblige them to reduce the mark-up there, with beneficial welfare effects on the accessing countries.

Here we use a specific development inspired from Smith & Venables (1988) in which economic integration eventually translates into the elimination of firms' ability to price-discriminate between different national markets.

In order to disentangle the effects of the different steps of integration we ran three scenarios.

In a first attempt to identify the basic mechanisms associated with the removal of formal trade barriers alone, we cancel all remaining barriers at the date of accession but leave the markets fragmented from a competition point of view. This first scenario will be referred to as "trade liberalisation". This is a kind of pre-Single market situation in which formal barriers are

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abolished but where markets are still hardly integrated. Moreover, accession countries will adopt the EU common external Tariff.

In a second scenario – “market integration”- the market is fully integrated: not only trade barriers are scrapped, but also firms take their decisions considering the EU15 plus CEECs as a single market. This affects the degree of competition they face on domestic as well as foreign markets, their pricing behaviour and lastly their size and the benefits to be reaped from increasing returns in industry and services. Moreover, since the perceived quality of CEEC is the same as EU15 ones, accession countries will face a much higher competition from existing members’ firms. In both scenarios, CAP remains unchanged and accession countries do not benefit from it.

In the third scenario, we combine economic integration with farm support in accessing countries. This scenario will be referred to as “accession”. In this scenario all countries contribute to the CAP according to their GDP, a sum which is augmented by EU tariff revenues on agricultural products. This amount is then shared among incumbent and accessing countries in proportion of their agricultural output, as follows: current member states receive immediately the full amount, whereas accessing countries receive only 30% in 2005 and increase progressively their share up to 100% in 2012 on a linear basis.

For each scenario, the percentage deviations from the baseline (no-integration) solution, in 2005, 2010 and 2015 are provided<sup>4</sup>. There is no endogenous process of catching-up in the baseline. Efficiency gains and the associated increase in per capita income rely solely on microeconomic mechanism associated with the monopolistic competition framework. Our aim is to answer three basic questions

- i) What is the impact on production and microeconomic equilibrium, i.e. the size and efficiency of firms, and the number of varieties produces and offered to consumers?
- ii) What are the macroeconomic effects in terms of trade welfare and factor prices (especially skilled and unskilled workers’ wage)?
- iii) What are the most affected sectors and in which countries will production relocate?

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<sup>4</sup> In the baseline solution economies grow according to factor accumulation, without any technological catching up. However it must be recalled that MIRAGE is not a forecasting model and therefore the only data to consider are the deviation from the baseline induced by policy changes.

### *5.1 Trade liberalisation*

Trade liberalisation has a negligible impact on firms within the Eurozone: markets are already wide open to accession countries' exports, with the exception of agriculture (where perfect competition is assumed) and a limited range of sensitive industrial products. Hence, additional imports do not affect market structure and mark up behaviour. And if accession countries open their market, which was more protected, its size is too limited to have an impact on current member states. Hence, even if trade liberalisation may foster trade, microeconomic efficiency gains might be limited. This is confirmed by a glance at change in the size of the firms in the various industries after all adjustments have taken place, in table 1. With the exception of metal products in Hungary and Poland, and automobile in the latter country and the rest of accession countries, economies of scale cannot be achieved as a result of trade liberalisation.

As far as the macroeconomic impact is concerned, effects are highly asymmetric, as expected. This asymmetry is reflected by the expected changes in trade volumes, ranging from less than a percentage point deviation from the baseline for the eurozone to 20% in 2010 and 30% in 2015 for Hungary and up to 50% for Polish exports. This first scenario has a negligible impact on the eurozone (see table 2), either in decrease of welfare in the short run that is reversed afterwards when adjustments have taken place. The real exchange rate adjusts in order to balance the current account in value terms. The euro first appreciates in order to offset the increase of EU15 exports to the CEECs. Afterwards it depreciates, as integration increase competition from CEECs which develop gradually a new pattern of specialisation. The impact on wages is less intuitive: there is no sizeable impact on unskilled wages, even in the long run, whereas a slight decrease of the skilled wages is to be expected. This is the result of the slight change of the pattern of eurozone exports, and the of the real exchange rate appreciation with respect to its trading partners, with which trade consist mainly in skilled labour intensive goods. The only sizeable impact is on land's rate of return, as a result of our set of assumptions: both eurozone and accessing countries are cancelling their tariffs in agriculture (in fact its tariff equivalents of tariffs, tariff quotas and possibly prohibitions). But the difference is that initially accessing countries where protecting their agriculture by means of tariffs only, whereas eurozone members are largely relying on domestic support. Since the latter is neither dismantled nor extended to accessing countries in this first scenario, current member states benefit from a competitive advantage which is beneficial to the specific factor used in agriculture.

The effect is similar for the rest of EU15 (table 3), however a bit more unfavourable in terms of GDP and welfare as a result of a slight trade diversion.

The macroeconomic impact is much more pronounced for accession countries as a result of limited initial efficiency, greater liberalisation, and limited economic size. The static effect is detrimental to GDP (-0.5% in Hungary, up to -1.8% in Poland, -1.2% for the rest of accessing countries: see tables 4, 5 and 7). Real exchange rate initially depreciates, in order to counter the increase in imports from EU15. Over time CEECs specialisation pattern change and their productive structure become more able to match European demand. Foreign demand increases, leading the real exchange rate to revert. We can observe that the impact on the exchange rate is much more severe in Poland than in Hungary. Unskilled and skilled wages decline during the adjustment process and recover only in the long run. Noticeably, the impact on agriculture is highly detrimental: this is due to the set of assumption used here: in this first scenario, accession countries do not benefit from any payment associated with the CAP. Hence, one should not pay too much attention to this result at this stage: these figures simply confirm that these countries cannot join without receiving support in the agricultural sector. In the long run, GDP is 2.6% above the baseline in Hungary but only 1.4% in Poland and 4.0% in the rest of accession countries. It must be stressed that if the evolution of factor incomes is detrimental to unskilled labour in Hungary and Poland, skilled wages are 3.1% above the base line in Hungary and 5.6% in Poland in the long run. In contrast unskilled wages remain below their baseline in these countries.

A glance at results for Baltic countries (table 6) points out different evolution. The static effect is positive, but the dynamic and long term effect is detrimental: trade, GDP and skilled wages below their baseline, contrasted with increased unskilled wages. This is due to the very peculiar pattern of specialisation they have (see figure 3).

The results shown here are obtained despite a sizeable increase in trade flows, which are magnified in the long run. In total, we can expect a potentially adverse macroeconomic effect that should be taken into account by policy makers: there is a case for a transitory support to these countries. However, before addressing such issue, it must be kept in mind that integration is more than simply trade liberalisation. Additional mechanisms associated to full market integration will now be taken into account in a second scenario.

## *5.2 Market integration*

From a microeconomic point of view, this scenario highlights the changes in market structures and the induced responses of firms. Mark ups are similar over the whole (enlarged) Single market: there is no country-specific price discrimination. At the same time, the number of competitors is changing. These changes impact much more accession countries: given their small domestic market before market integration, the competitive shock is very large (table 8). This is not the case for current member states in contrast. For the latter countries, the only significant economic impact is observed in the car industry, and is slightly negative. Here the increase of market size does not compensate for the competition effect. In Poland, large gains in efficiency are obtained for metal products, wood and other services. In Hungary, the size of the representative firm increases by a quarter for wood, metal products and in other services. In the latter country, sizeable efficiency gains are also recorded in the car industry. For Baltic countries, a similar evolution is recorded (wood, other services).

In terms of macroeconomic effects, for the eurozone, as well as for the rest of EU15 (tables 9 and 10) this new set of assumptions does not change the results significantly and we can rely on previous comments: accession is a negligible shock to current European member states. In the steady state GDP recovers after a marginal decline during the adjustment process.

Sizeable differences with the previous scenario are in contrast observed for accession countries. First, GDP does no longer decline as a result of the shock in the short run. Even the static impact is slightly positive (0.5%) in Hungary (table 11), whereas the adverse evolution is smoothed in Poland (-0.7% instead of -1.8%), as shown in table 12. Similarly, the adverse effect on unskilled wages is much more limited than in the previous scenario. In the long run, skilled and unskilled wages are above the level reached in the previous scenario. This scenario is also beneficial to Baltic countries (table 13): GDP increase more in the short run and stays above the baseline in the long run, in contrast to the previous scenario. For the rest of accessing countries (Table 14), the positive impact already observed with the previous scenario, with a positive impact on GDP and wages (skilled and unskilled) increasing over time. The effects on real exchange rate are higher than in the previous scenario.

The reasons explaining these favourable outcomes have already been identified above: under imperfect competition a full market integration leads to a reduction in mark ups, a reduction in the number of firms, an increase in the size of firms. All this turns into efficiency gains thanks to increasing returns. In total, the positive impact of efficiency overcompensates the

negative impact on welfare of the reduction in the number of varieties offered to the consumers.

### 5.3 “Accession”

In this scenario, accession countries are eligible to the CAP, along the lines of the agreement reached in Copenhagen. They do contribute to the European budget in proportion of their GDP, and CAP payments (modelled as a negative tax on production) are increasing progressively to the levels suggested by their agricultural output. Therefore this simulation is the closest to what is likely to happen.

The results in terms of firm size, displayed in table 16 are roughly the same as in the previous scenario, with a slight increase in the magnitude of the deviation from the baseline.

In this scenario, the negative impact for the eurozone is more pronounced, but it remains modest: -0.7% of GDP in 2015. The outcome for the other EU countries is roughly similar.

In contrast, the macroeconomic gains are much larger for accession countries except Baltic States (tables 18, 19 and 21).

The most surprising result is probably the substantial welfare loss incurred by Baltic States (Table 21). The explanation has to do to a large extent with the perverse effect CAP funds will have on their pattern of specialisation: the full adoption of EU tariff system will entail a sizeable loss in tariff duties. At the same time CAP flow will lead to a dramatic shift of resources to the agricultural sector (in which Baltic States is less efficient than the rest of the EU) at the expenses of the rest of the economy.

### 5.4 Comparison across scenarios

In order to evaluate the relative contribution of the different elements of economic integration, figures 4 to 9 show the impact on GDP of the three different scenarios.

The most striking effect is the impact CAP rules would have on most accession countries. Agricultural subsidies are bound to amplify the beneficial effect of full market integration. On the contrary, CAP only would be the only responsible for the small GDP loss EU15 would get from integration. The same applies for Baltic state, for which the most beneficial situation is the one not including CAP. It must be stressed that, given the time frame decided at the Copenhagen meeting, accession countries will receive agricultural funds since their entry and therefore their agricultural sector will be affected immediately.

## **6. Comparison with other studies using a similar methodology**

The most striking result is that due to the difference in size between the incumbent and accessing Member States, economic consequences of enlargement will be rather negligible for the former. This is confirmed by Vaitinen (2002) and Maliszewska (2002).

Secondly according to Vaitinen (2002), EU's enlargement will have a significant economic impact on the new entrants, with GDP 10 % above its baseline within 10 years. This is qualitatively the same result as ours, but quantitatively much larger (2% to 5% at most in our simulations). In both cases the model are of dynamic nature. These differences are due to different basic assumptions: we do consider that rigidities and factor specificity impede the reallocation of factors. We do not allow for migrations, since huge migrations (up to 5.6 million migrants over ten years in Vaitinen) would certainly not be easily accepted by incumbent countries concerned and, however, have not been recorded in the past, as discussed above. In addition there has been so far evidence of limited mobility of labour for accession countries. Lastly, we do not take into account foreign investments, due to a lack of reliable data and to the fact that firms have already anticipated this accession and invested (in Hungary for instance). In contrast Vaitinen finds that a large share of the increased output is generated by FDI and that increase in per capita consumption is partially driven by migration flows towards incumbent countries that decrease the labour force faster than the GDP. Lastly, Vaitinen introduces a 10% cut in transportation costs associated with integration plus immediate benefit of CAP payments for accessing countries, plus structural funds. Lastly, payments on services of foreign capital strongly reduce the benefit of integration, and income is only 6% above the baseline. In total 6% gains in income should be considered as an upper bound, our own estimate being the lower bound.

Maliszewska (2002) finds gains for accessing countries more in line with our own estimates. She evaluates the implications of enlargement by focusing on Single market-related mechanisms such as the removal of border costs and reduced costs for achieving national standards. The volume of GDP increases by 1.4% to 2.4% in accession countries as a result of these mechanisms. After adjustment of the capital stock, these static welfare gains are more than doubled.

We assume that the new Member States will gain immediate access to the EU's Common Agricultural Policy. Structural Fund Transfers are phased in gradually as they are indicated in

Financial Perspectives of the EU. Increased capital mobility is modelled as a reduction in the required rate of return for investment in the accessing region. Migration between the old and new EU countries is assumed to reflect income disparities. The sensitivity of migration to income disparities is assumed to follow the results from study of Boeri and Brücker (2000).

## **Conclusions**

The simulation shows that the impact on the EU15 economy as a whole is negligible, because of the relatively small economic size of accession countries and the new opportunities Western firms will find on the Eastern markets. Therefore, the fears of eastward integration producing massive delocalisation of firms and hurting low skilled workers appear not to be grounded. However, as pointed out for example by Boeri and Brücker, some effects on specific sectors in some neighbouring regions cannot be ruled out. This could call for some specific policy intervention. Obviously the identification of the regions and sector is not possible within the framework we adopted. The impact on CEECs will be major and highly positive in the medium-long run. However the transition is unlikely to be smooth, and will entail sizeable reallocation of factors (especially labour force) across sectors. This is likely to create temporary unemployment: in this case too public policy will be needed in order to smooth the effects of the integration. Inter European trade would increase by around 5% by 2015.

Looking at the long run results, Eurozone would lose roughly 0.7% of its GDP from accession, and CEECS (whose combined GDP is more or less 10% of Eurozone's one) would gain 7%. At a first look one might therefore conclude that enlargement is a sort of "zero-sum game" and boils down to a simple resource transfer from the West to the East. Such a reasoning would be misleading. In our simulation we deliberately omitted an important consequence of trade integration, technological catching up. In a very recent paper on industrial specialisation in CEECs, Landesmann (2003) show that in these economies productivity catching up with respect to the rest of Europe is already very fast, and will probably be increased by further economic integration. We decided not to consider the effect of an exogenous productivity increase for essentially two reasons. First of all, being impossible to quantify exactly the productivity gains generated by economic integration (with the exception of the microeconomic effects associated with imperfect competition) any assumption would have been totally arbitrary. Secondly the effects of the productivity increase would have overshadowed those due to tariff scrapping, market enlargement and

agricultural policy, which are probably more interesting from a policy perspective. However, Behr and Maurel (2002) present some results about productivity catching up. The implicit assumption is that integration in the EU boost total factor productivity via a stronger catching up effect. This magnifies the positive results obtained in our simpler accession scenario.

Another important issue concerns the exchange rate. Market accession will provoke huge swings on relative prices and therefore big fluctuations in the real exchange rate. Such a phenomenon should be taken into account by the accession countries for their decision about exchange rate arrangements, and especially on the timing of the adoption of the Euro. If on the one side, the adoption of a common currency has been proven to boost trade and economic integration, on the other side loosing monetary freedom too quickly could be harmful for countries undergoing big macroeconomic and structural adjustments<sup>5</sup>. This should warn against the proposals of quick adoption of the Euro or “euroisation” put forward by some authors. By the same token, countries which adopt a monetary policy based on inflation targeting should take into account the big adjustment in relative price market integration is likely to bring about.

We cannot conclude without stressing the drawbacks of our approach. As already recalled, MIRAGE does not take into account the externalities openness and integration create in recipient economies, such as technological spillovers, which might affect dramatically the economic structure. Here again we avoided introducing any *ad hoc* assumption. Moreover, a key domain of future improvement of such approaches is to properly model the labour market and to assess the differences in labour market flexibility. In particular, Baltic countries appear to have relatively flexible markets (Paas & Eamets, 2002), and this could favour the adjustment process and bring about more favourable outcomes than those obtained by our simulations.

## **References:**

Bach, Christian Friis, Soren E. Frandsen and Hans Grinsted Jensen (2000) “Agricultural and Economic-Wide Effects of European Enlargement: Modelling the Common Agricultural Policy”, *Journal of Agricultural Economics*, 51(2)

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<sup>5</sup>Larèche-Révil and Egert [2003] estimate real equilibrium exchange rates for five accession countries (Czech Republic, Slovakia, Slovenia, Poland and Hungary), finding that some currencies are strongly overvalued with respect to the Euro and the dollar.

- Baldwin, R., Berglöf, E., Giavazzi, F. and Widgrén, M. 2000. "EU Reforms for Tomorrow's Europe". CEPR Discussion Paper 2623
- Bchir M. H., Decreux Y., Guérin J.-L. and Jean S. (2002), "Mirage, A General Equilibrium Model for Trade Policy Analysis", CEPII Working Paper, forthcoming.
- Bchir, M. H., Maurel, M. (2002) "Impacts économiques et sociaux de l'élargissement sur l'Union Européenne et la France" CEPII Working Paper 2002-03.
- Boeri T., Brücker H. (2000) "The Impact of Eastern Enlargement on Employment and Labour Markets in the EU Member States", European Integration Consortium, Berlin.
- Boeri T., Oliveira-Martins J. (2002), "Transition, variété et intégration économique", *Economie et prévision*, (152-153):55-69
- Bouët A., Fontagné L., Mimouni M. and Pichot X. (2001) "MAcMaps : a bilateral and disaggregated measure of market access ", CEPII Working Paper, 2001-18.
- Bouët A., Fontagné L., Mimouni M. and von Kirchbach F. (2002), "MAcMaps for GTAP 5: A Bilateral and Disaggregated Measure of Trade Obstacles in GTAP", paper presented at the 5th GEA Conference, Taipei, June.
- Decreux Y., Guérin J.-L. and Jean S. (2003), "Trade and the Relative Wages: What Can We Learn from CGE Models?", forthcoming in *Integration and Trade*.
- Dimaranan B.V., McDougall R.A. (2002), "Global Trade Assistance and Production: the GTAP 5 Data Base", Center for Global Trade Analysis, Purdue University.
- Fontagné L., Freudenberg M., (1999) Endogenous symmetry of shocks in a Monetary Union, *Open Economies Review* 10(3) pag. 263-287
- Fontagné L., Freudenberg M., (2002) "Long-term Trends in IIT", Chapter 8 of *Frontiers of Research on Intra-industry Trade*", Peter Lloyd & Hyun Lee eds, Palgrave: 131-158
- Fontagné L., Freudenberg M., Péridy N. (1998) "Intra-Industry Trade and the Single market: Quality Matters", CEPR Discussion Paper, #1959.
- Frandsen S.E. Jensen H.G. (2001) "Economic Impacts of the Enlargement of the European Union", mimeo Danish Institute of Agricultural and Fisheries Economics

Frenkel and Rose (2002) An Estimate of the Effect of Common Currencies on Trade and Income, Quarterly Journal of Economics 117(2) pag. 437-466

Freudenberg, M., Lemoine, F. (1999) "Central and Eastern European Countries in the International Division of Labour in Europe" CEPII Working Paper 1999-05

Jensen, H. G., Frandsen S.E., Bach C.F. (1998) Agricultural and Economic-Wide Effects of European Enlargement: Modelling the Common Agriculture Policy, Working Paper 11/98, Danish Institute of Agricultural and Fisheries Economics

Lahrèche-Révil, A. Ęgert (2003) "Estimating the Fundamental Equilibrium Exchange Rates of Central and Eastern European Countries. The E(M)U Enlargement Prospect" CEPII Working Paper, forthcoming

Landesmann, M.A. (2003) "Structural Features of Economic Integration in an Enlarged Europe: Patterns of Catching up and International Specialisation" European Commission Economic Papers 181.

Lejur and Nahuis (2002) "EU Enlargement: Economic Implications for Countries and Industries" *mimeo*, CPB Netherlands Bureau for Economic Analysis.

Maliszewska M. (2002) Eastern EU Expansion: Implications of the Enlarged Single Market for Current and New Member States. Presented at the 5th Annual Conference on Global Economic Analysis, Taipei, 2002

Nagarajan N. (1999) "The millennium round: An economic appraisal", DG Ecfm economic papers, 139 November

Oliveira-Martins, J., Scarpetta Pilat (1996) "Mark-up ratios in manufacturing industries - Estimates for 14 OECD countries" OECD Economics Department Working Papers 162

Paas T., Eamets R. (2002) "Labour Flexibility and Migration in the EU Eastward Enlargement Context: The Case of the Baltic States", Free University Berlin, Jean Monnet Centre of Excellence, Eastward Enlargement of the Euro-zone Working Papers, working paper #11.

Sinn, H. 1999. 'EU Enlargement, Migration and Lessons from German Unification'. CEPR Discussion Paper no. 2174

Smith, A. Venables, A (1988) "Completing the internal market in the European Community : Some industry simulations" European Economic Review Volume 3,(7) Pages 1501-1525

Sutton J. (1991), Sunk Costs and Market Structure, MIT press.

Vaitinen R. (2002) Eastern Enlargement of the EU: Factor mobility and Transfers - Which Matters Most? by, Presented at the 5th Annual Conference on Global Economic Analysis, Taipei

Weise, C. How to finance Eastern Enlargement of the EU, ENEPRI working paper 14.  
Available at [www.enepri.org](http://www.enepri.org)

## TABLES

« Trade liberalisation » : Output per firm

Sector	Eurozone	Rest of EU15	Hungary	Poland	Baltics	Rest of CEECs
Agriculture	-	-	-	-	-	-
Machine and tools	0.08	0.01	-0.55	1.1	-0.52	-1.66
Automobile	-1.55	-1.65	0.93	7.68	ns	6.73
Textile clothing	0.07	-0.07	-1.11	1.35	-0.65	-0.98
Wood	0.24	0	-0.45	-3.62	-1.6	-4.56
Electronics	-0.14	-0.19	1.08	0.72	-0.42	-2.45
Chemicals	0.2	-0.11	-1.38	2.75	-0.25	-8.66
Metal products	0.11	-0.1	6.59	9.28	-4.97	-6.71
Transport	0.78	0.51	0.28	1.75	-2.68	-13.1
Other industry	0.08	0.01	-0.24	0.66	-0.25	-1.7
Other Services	0.03	0	0.25	0.67	-0.34	-0.67

% deviation from baseline in 2015

Table 1. Trade liberalisation: output per firm

« Trade liberalisation » : Macroeconomic impact on eurozone

	2005	2010	2015
Welfare	-0.03	0	0.05
GDP (volume)	-0.02	-0.01	0.04
Terms of trade	-0.07	-0.23	-0.34
real effective exchange rate	0.09	-0.41	-0.61
Unskilled wage	0.03	-0.05	-0.05
Skilled wage	-0.08	-0.26	-0.29
Return to capital	0.07	0.18	0.27
Land return	2	2.49	3.05
Exports (volume)	1.43	2.4	3.29
Imports (volume)	1.47	2.46	3.34

% deviation from baseline

Table 2. Trade Liberalisation: impact on Eurozone

« Trade liberalisation » : Macroeconomic impact for the rest of EU15

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-0.05	-0.08	-0.1
GDP (volume)	-0.02	-0.05	-0.06
Terms of trade	0.12	0.01	-0.02
Real effective exchange rate	0.14	-0.06	-0.14
Unskilled wage	0.02	-0.06	-0.09
Skilled wage	-0.09	-0.21	-0.26
Return to capital	0.11	0.17	0.23
Land return	3.65	4.06	4.61
Exports (volume)	0.7	0.57	0.57
Imports (volume)	0.68	0.55	0.55
% deviation from baseline			

Table 3. Trade Liberalisation: impact on the rest of the EU

« Trade Liberalisation » : Macroeconomic impact on Hungary

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-0.68	0.92	2.62
GDP (volume)	-0.53	1.21	2.98
Terms of trade	-0.84	0.35	0.98
Real effective exchange rate	-0.93	1.54	3.2
Unskilled wage	-7.27	-4.89	-2.72
Skilled wage	-2.11	0.47	3.19
Return to capital	-2.53	-0.21	1.3
Land return	-50.8	-51.3	-52.2
Exports (volume)	14.29	22.91	30.55
Imports (volume)	12.63	20.76	28.21
% deviation from baseline			

Table 4. Trade Liberalisation: Effects on Hungary

« Trade Liberalisation » : Macroeconomic impact for Poland

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-1.85	-0.12	1.38
GDP (volume)	-1.89	0.28	1.84
Terms of trade	-4.98	-2.75	-2.32
Real effective exchange rate	-4.81	-2.08	-1.61
Unskilled wage	-11.1	-6.01	-3.59
Skilled wage	-3.25	2.03	5.64
Return to capital	-4.88	-2.59	-2.16
Land return	-77.8	-77	-76.1
Exports (volume)	41.35	49.18	52.63
Imports (volume)	26.37	32.46	35.82
% deviation from baseline			

Table 5. Trade Liberalisation: Effects on Poland

« Trade liberalisation » : Macroeconomic impact for Baltic countries

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	0.38	-0.56	-0.89
GDP (volume)	0.91	-0.33	-0.77
Terms of trade	2.33	0.88	0.34
Effective real exchange rate	3.24	1.29	0.72
Unskilled wage	5.9	3.69	3.02
Skilled wage	1.23	-1.81	-2.67
Return to capital	4.18	3.07	3.21
Land return	34.49	33.85	33.52
Exports (volume)	10.72	6.24	4.56
Imports (volume)	6.49	3.79	2.65

% deviation from baseline

Table 6. Trade Liberalisation: Effects on Baltic countries

« Trade liberalisation » : Macroeconomic impact for the rest of CEECs

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-1.18	2.93	4.04
GDP (volume)	-1.26	3.68	4.87
Terms of trade	-2.1	1.94	5.49
Real effective exchange rate	-1.71	5.88	7.37
Unskilled wage	-0.16	6.27	8.85
Skilled wage	1.17	7.98	9.89
Return to capital	-0.08	4.48	4.87
Land return	-29.4	-32.1	-34.7
Exports (volume)	23.47	54.73	64.89
Imports (volume)	19.88	45.56	57.85

% deviation from baseline

Table 7. Trade Liberalisation: effects on the rest of CEECs

« Market integration » : Output per firm

Sector	Eurozone	Rest of EU15	Poland	Hungary	Baltics	Rest of CEEC
Agriculture	-	-	-	-	-	-
Machine and tools	-0.37	-0.05	-0.65	3.8	0.11	-0.94
Automobile	-2.51	-1.61	2.35	12.93 ns		6.77
Textile clothing	-0.01	-0.08	-0.92	1.49	0.12	1.23
Wood	-0.3	-0.05	8.25	23.41	22.25	32.85
Electronics	-0.29	-0.21	0.95	1	-0.03	-1.35
Chemicals	-0.05	-0.15	1.15	6.76	1.22	-4.64
Metal products	-0.8	-0.21	15.3	24.43	4.11	24.31
Transport	0.76	0.49	0.51	1.83	-2.67	-13
Other industry	0	-0.02	1.6	6.07	2.33	3.27
Other Services	-0.03	-0.03	24.97	24.7	22.49	23.09

% deviation from baseline

Table 8. Market Integration: Effects on Output per firm

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-0.04	-0.01	0.04
GDP (volume)	-0.03	-0.02	0.03
Terms of trade	0.01	-0.3	-0.39
Real effective exchange	0.25	-0.23	-0.4
Unskilled wage	-0.02	-0.06	-0.06
Skilled wage	-0.12	-0.29	-0.31
Return to capital	0.04	0.18	0.27
Land return	2.06	2.57	3.11
Exports (volume)	1.08	2.1	2.94
Imports (volume)	1.11	2.14	2.97

% deviation from baseline

Table 9. Market integration: impact on eurozone.

« Market integration » : Macroeconomic impact on rest of EU15

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-0.05	-0.08	-0.1
GDP (volume)	-0.03	-0.05	-0.07
Terms of trade	0.1	-0.02	-0.05
Real effective exchange rate	0.2	0	-0.07
Unskilled wage	0.01	-0.06	-0.09
Skilled wage	-0.1	-0.22	-0.27
Return to capital	0.1	0.17	0.23
Land return	3.68	4.11	4.66
Exports (volume)	0.65	0.52	0.53
Imports (volume)	0.61	0.49	0.5

% deviation from baseline

Table 10. Market integration: impact on the rest of EU

« Market integration » : Macroeconomic impact for Hungary

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	0.35	2.08	3.74
GDP (volume)	0.53	2.42	4.13
Terms of trade	-1.27	-0.27	0.27
Real effective exchange rate	-3.34	-0.97	0.74
Unskilled wage	-4.16	-3.54	-1.45
Skilled wage	1.27	1.82	4.82
Return to capital	0.95	1.03	2.03
Land return	-49.8	-51	-51.9
Exports (volume)	11.46	20.43	28
Imports (volume)	10.07	18.95	25.85

% deviation from baseline

Table 11. Market integration: impact on Hungary

« Market integration » : Macroeconomic impact for Poland

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-0.73	1.18	2.89
GDP (volume)	-0.7	1.68	3.5
Terms of trade	-5.54	-3.77	-3.14
Real effective exchange rate	-7.41	-5.04	-4.28
Unskilled wage	-7.66	-4.59	-2.19
Skilled wage	0.65	4.07	8.03
Return to capital	-1.11	-1.28	-1.12
Land return	-77.2	-76.6	-75.8
Exports (volume)	34.01	49.92	48.92
Imports (volume)	21.65	28.37	33.39

% deviation from baseline

Table 12. Market integration: impact on Poland

« Market integration » : Macroeconomic impact for Baltics

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	1.4	0.4	0.15
GDP (volume)	2.05	0.74	0.38
Terms of trade	2.17	0.27	-0.28
Real effective exchange rate	1.01	-1.95	-1.97
Unskilled wage	8.94	4.98	4.31
Skilled wage	4.6	-0.83	-1.6
Return to capital	7.4	4.07	4.03
Land return	36.42	35.4	35.15
Exports (volume)	7.6	3.31	1.75
Imports (volume)	4.83	1.74	0.65

% deviation from baseline

Table 13. Market integration: impact on Baltic states

« Market integration » : Macroeconomic impact for rest of CEECs.

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	0.13	4.58	5.26
GDP (volume)	0.16	5.49	6.14
Terms of trade	-2.43	1.61	1.66
Real effective exchange rate	-3.62	4	4.89
Unskilled wage	3.79	8.31	9.96
Skilled wage	5.25	10.42	12.25
Return to capital	3.86	5.92	5.12
Land return	-28.1	-31.6	-33.8
Exports (volume)	17.61	47.77	58.14
Imports (volume)	14.88	41.55	51.87

% deviation from baseline

Table 14. Market integration: impact on the rest of CEECs

« Accession » : Output per firm

Sectors	Eurozone	Rest of EU15	Hungary	Poland	Baltics	Rest of CEEC
Machine and tools	-0.45	-0.13	-0.58	3.69	-0.42	0.90
Automobile	-1.73	-0.76	4.97	14.14	1407.00	7.18
Textile clothing	-0.04	-0.03	-0.81	0.92	-0.40	2.07
Wood	-0.48	-0.05	8.41	22.42	22.00	34.60
Electronics	-0.24	-0.24	0.82	0.95	-0.93	0.39
Chemicals	-0.26	-0.13	2.28	6.28	-1.86	2.55
Metal products	-0.92	-0.21	13.68	23.17	2.07	28.35
Transport	-0.18	-0.24	2.24	1.67	-7.25	-2.62
Other industry	-0.07	-0.05	1.75	5.94	1.50	4.51
Other Services	-0.16	-0.11	25.00	24.84	21.67	23.03

% deviation from baseline in 2015

Table 15. Accession: Effects on firm size

« Accession » : Macroeconomic impact for eurozone

	2005	2010	2015
Welfare	-0.72	-0.82	-0.93
GDP (volume)	-0.5	-0.64	-0.73
Terms of trade	-0.18	-0.32	-0.4
Real exchange rate	-0.04	-0.17	-0.26
Unskilled wage	1.1	0.72	0.53
Skilled wage	-0.51	-0.91	-1.13
Return to capital	-0.2	-0.06	0.12
Land return	2.94	1.97	1.98
Exports (volume)	-0.67	-0.55	-0.2
Imports (volume)	-0.15	0.05	0.26

% deviation from baseline

Table 16. Accession: effects on the eurozone

« Accession » : Macroeconomic impact for the rest of the EU15

	2005	2010	2015
Welfare	-0.57	-0.66	-0.74
GDP (volume)	0.11	-0.04	-0.12
Terms of trade	0.03	0.01	0
Effective real exchange rate	0.25	0.22	0.17
Unskilled wage	0.28	0.08	0
Skilled wage	-0.15	-0.44	-0.62
Return to capital	0.41	0.55	0.74
Land return	8.94	8.1	8.86
Exports (volume)	1.72	1.63	1.64
Imports (volume)	0.24	0.22	0.2

% deviation from baseline

Table 17. accession: effects on the rest of EU15

« Accession » : Macroeconomic impact for Hungary

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	3.44	4.9	6.67
GDP (volume)	3.02	5.79	7.59
Terms of trade	0.02	0.01	0.17
Real effective exchange rate	-1.15	-0.04	1.12
Unskilled wage	-4.14	-2.32	-0.23
Skilled wage	1.8	3.23	6.26
Return to capital	0.27	-0.95	-0.86
Land return	-40.5	-30.8	-28.4
Exports (volume)	5.52	11.34	15.78
Imports (volume)	7.87	12.56	17.07
% deviation from baseline			

Table 18. Accession: Effects on Hungary

« Accession » : Macroeconomic impact for Poland

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-1.1	1.81	4.33
GDP (volume)	0.91	4.57	6.98
Terms of trade	-4.17	-2.48	-1.53
Real effective exchange rate	-5.03	-2.27	-0.99
Unskilled wage	-9.52	-5.75	-3.13
Skilled wage	-1.09	3.5	8.09
Return to capital	-3.32	-3.42	-3.65
Land return	-4.86	-6.92	-6.89
Exports (volume)	27.04	33.40	39.95
Imports (volume)	15.06	20.75	27.26
% deviation from baseline			

Table 19. Accession: Effects on Poland

« Accession » : Macroeconomic impact for Baltics

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	-11.9	-17.6	-20.6
GDP (volume)	0.89	-1.11	-3.36
Terms of trade	0.51	-1.32	-1.65
Real effective exchange rate	-1.25	-2.86	-2.88
Unskilled wage	9.24	5.84	3.44
Skilled wage	-1.79	-12.6	-18.2
Return to capital	6.18	7.25	10.54
Land return	48.7	61.58	64.15
Exports (volume)	-5.70	-10.90	-13.00
Imports (volume)	-2.60	-2.60	-2.62
% deviation from baseline			

Table 20. Accession: Effects on Baltic States

« Accession » : Macroeconomic impact for the rest of CEECs

	<b>2005</b>	<b>2010</b>	<b>2015</b>
Welfare	4.51	5.62	6.7
GDP (volume)	3.15	6.17	7.22
Terms of trade	0.03	-0.13	-0.15
Real effective exchange rate	-0.71	-0.27	0.17
Unskilled wage	2.97	4.34	5.31
Skilled wage	5.37	6.61	8.55
Return to capital	3.01	1.71	1.07
Land return	-11.2	-0.19	1.48
Exports (volume)	1.94	7.08	10.70
Imports (volume)	7.52	10.78	14.46
% deviation from baseline			

Table 21. Accession: Effects on the rest of CEEC

# FIGURES

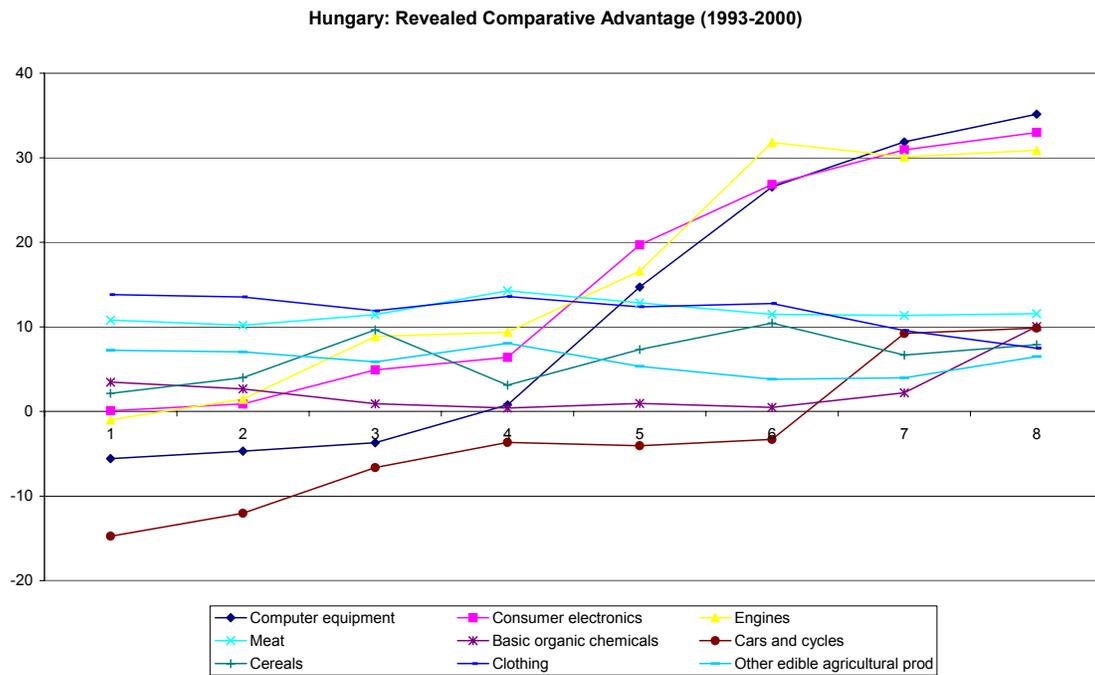


Figure 1. Hungary : Revealed Comparative advantage. Unit, per thousand of GDP – Source CHELEM Database

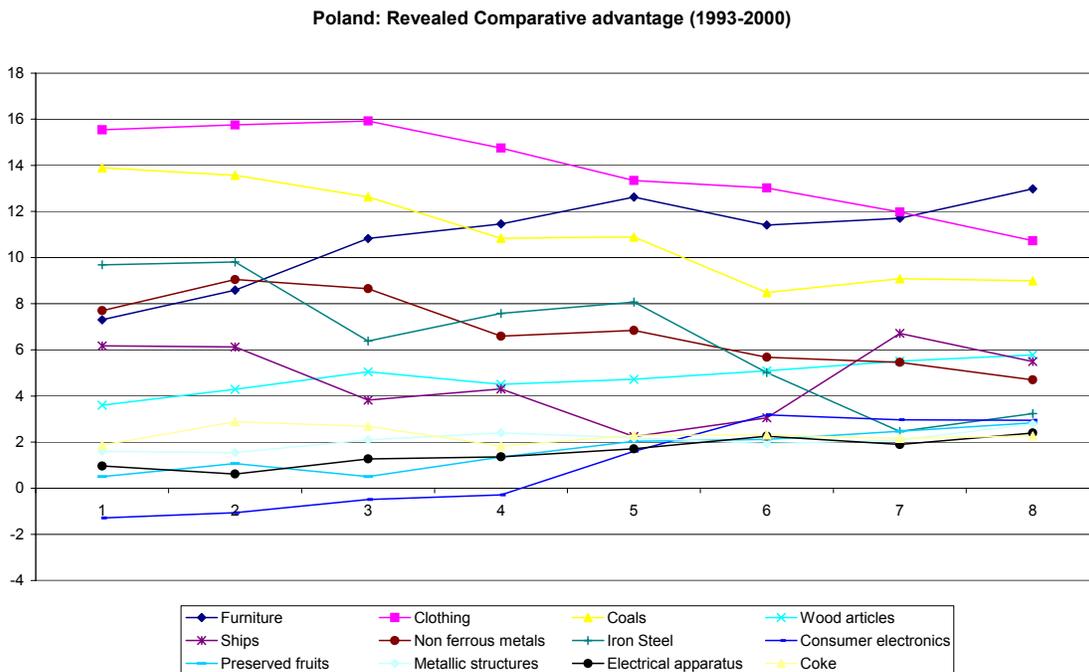


Figure 2. Poland : Revealed Comparative advantage. Unit, per thousand of GDP – Source CHELEM Database

Baltic States: Revealed Comparative advantage (1993-2000)

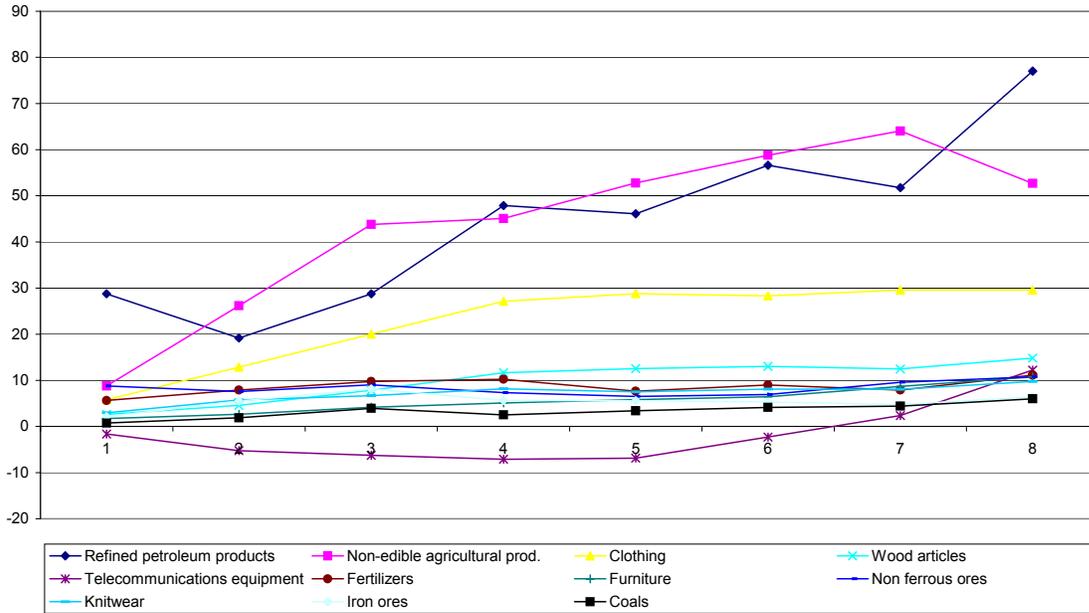


Figure 3. Baltic States: Revealed Comparative advantage. Unit, per thousand of GDP –  
Source CHELEM Database

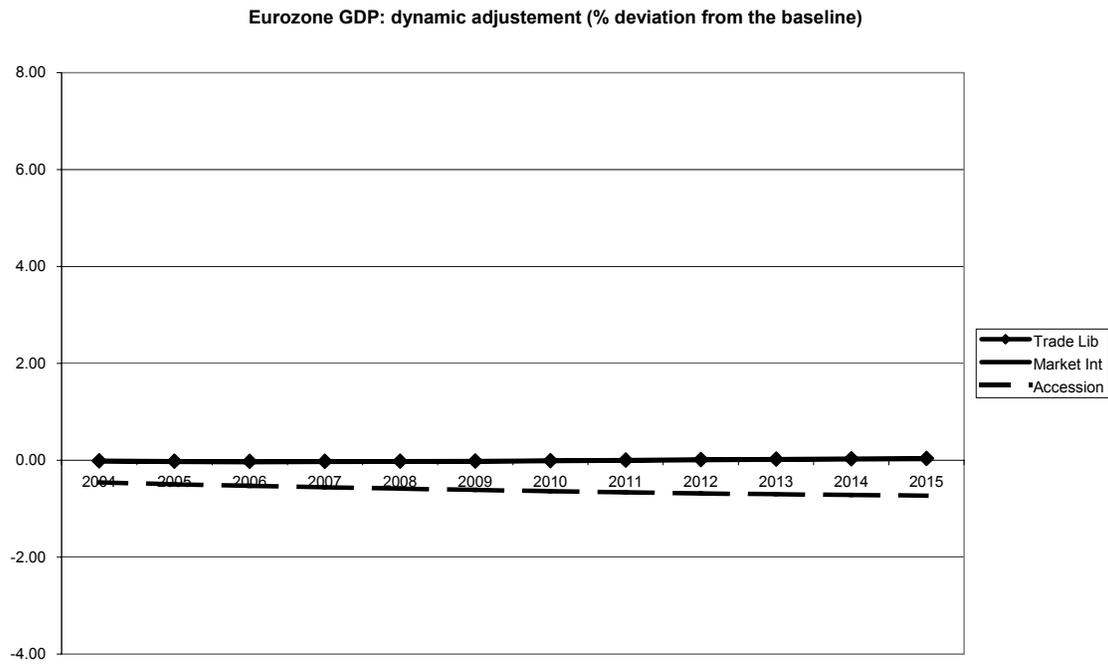


Figure 4 Eurozone: impact on GDP of different enlargement scenarios

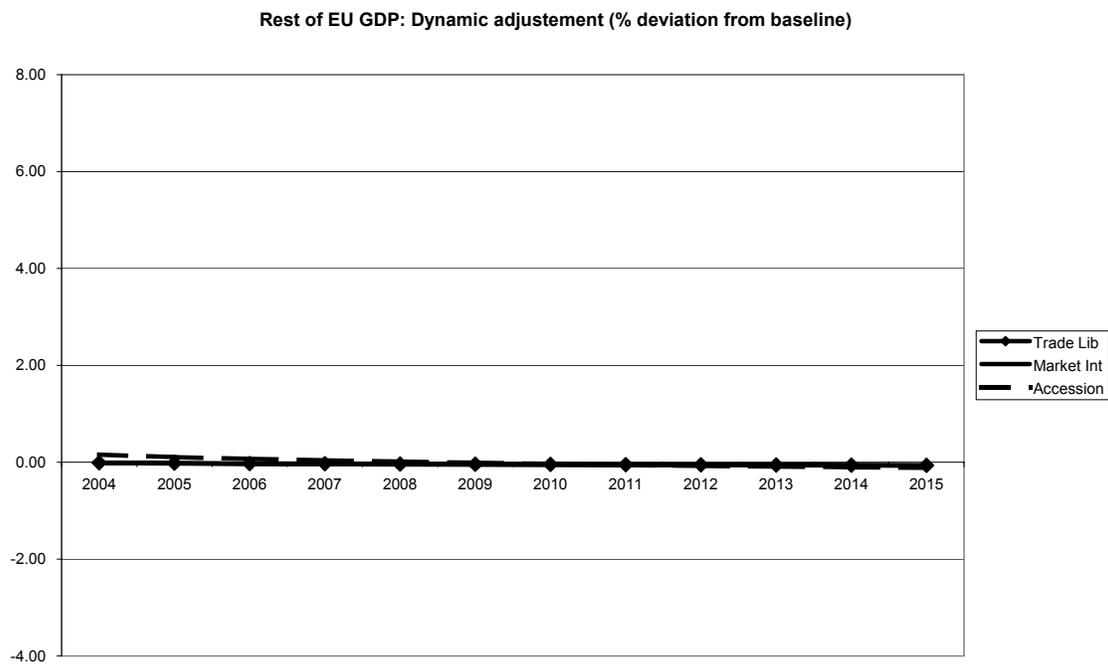


Figure 5. Rest of EU: impact on GDP of different enlargement scenarios

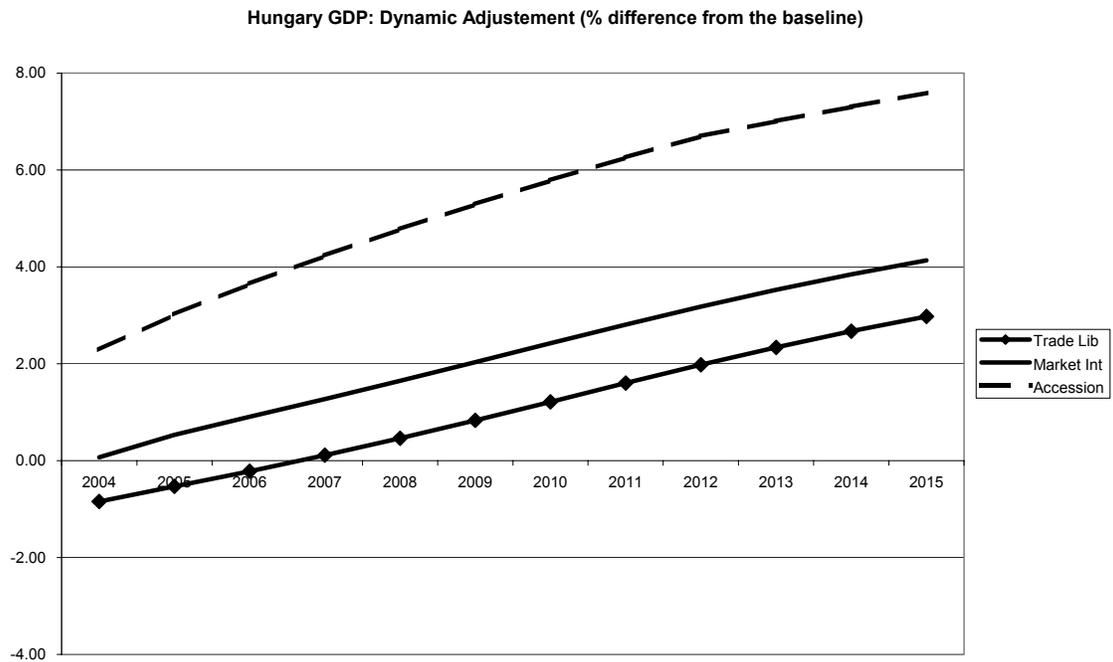


Figure 6. Hungary: impact on GDP of different enlargement scenarios

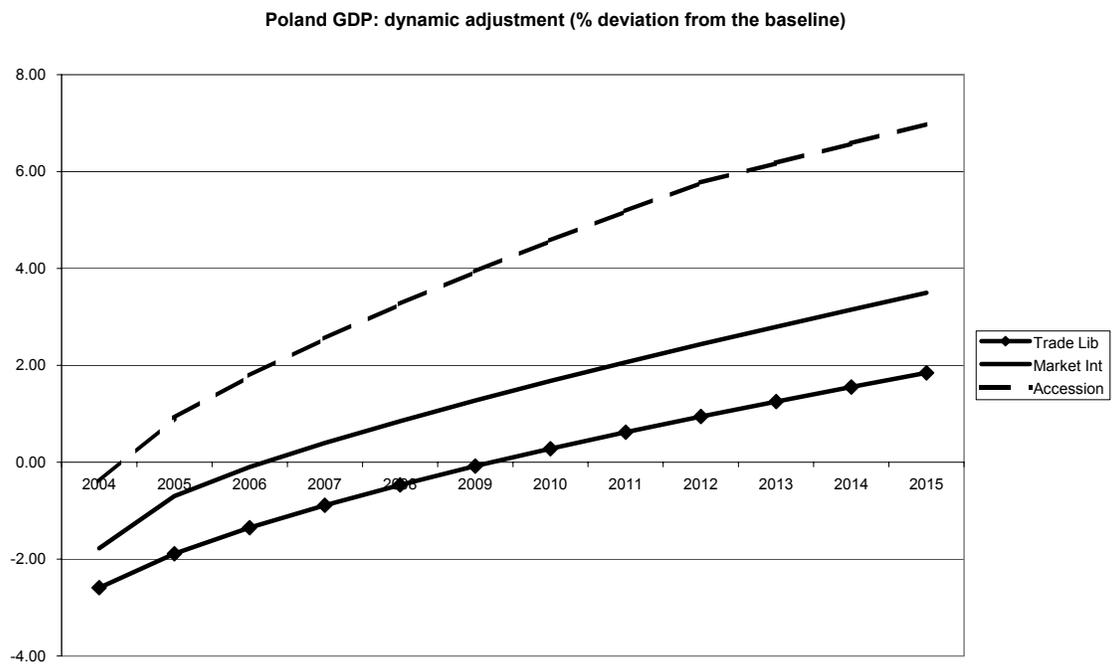


Figure 7. Poland: impact on GDP of different enlargement scenarios

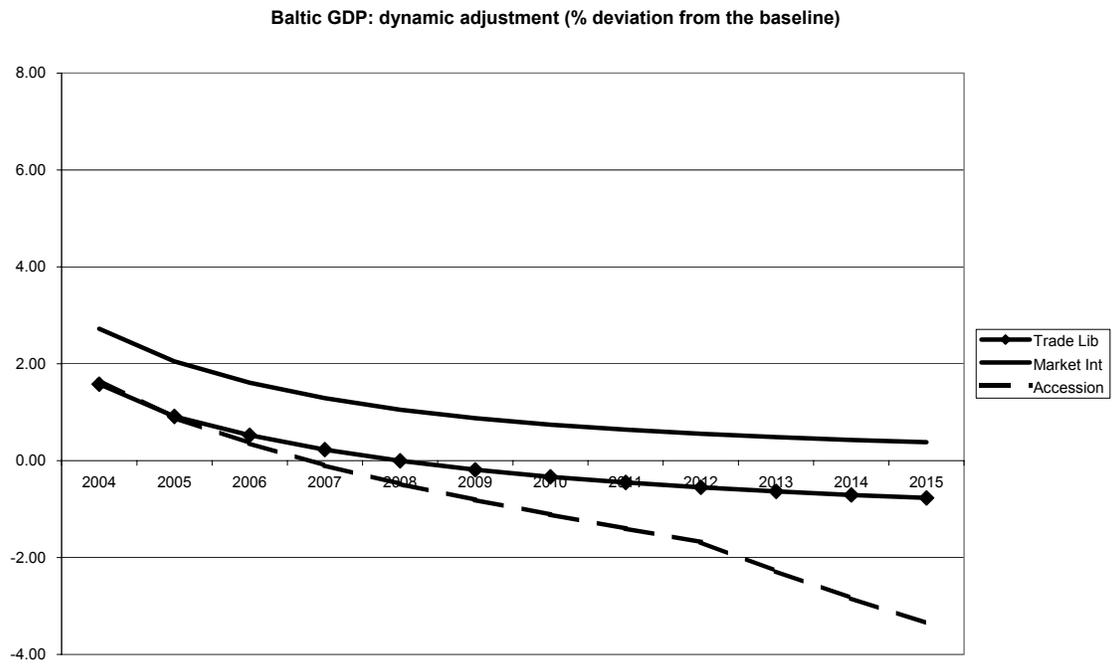


Figure 8. Baltic Countries: impact on GDP of different enlargement scenarios

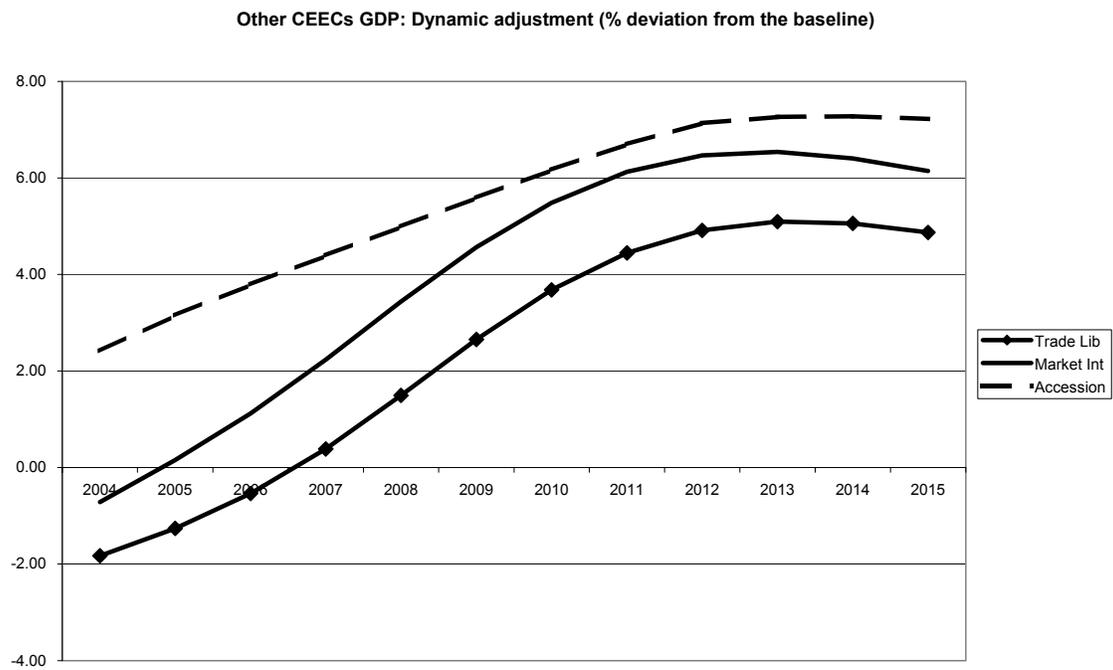


Figure 9. other CEECs: impact on GDP of different enlargement scenarios