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Fiscal Costs of Delaying the EMU Accession - Medium Term Fiscal Projection for Selected New EU Members

Contents

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Abstract

The paper presents series of medium term economic simulations, evaluating fiscal costs of different EMU entry scenarios for six of the new EU members. Projections cover period of 2004-2012 and use basic macroeconomic equations in an attempt to assess the value of public debt-related costs that may occur in each of the countries, under specific assumptions. Four series of simulations were run, assuming two different EMU entry dates (2007 and 2012), and two growth scenarios (2% and 5% of real GDP growth p.a.). For each growth variant the early and late accession projections are compared in order to evaluate the net fiscal effect of delaying the EMU entry. Those effects depend on country's starting position and are quite significant for most of the countries in question. Poland and Hungary are the biggest winners of the earlier EMU entry simulations, both saving equivalence of 18-20% of their 2004 GDP levels (as compared to results of the late accession scenarios). It appears that the GDP growth rate does not seriously affect the volume of the gains, which are rather generated by the faster interest rate reduction and tighter fiscal policies in case of the earlier EMU accession.

1. Introduction

This paper contains comparative analysis of fiscal costs that can result from a delay in EMU accession. The analysis covers Central and Eastern Europe countries that joined the European Union on May 1st, 2004. The approach of the paper is simple - it contains simulation covering main economic indicators for the countries in question. The costs of the public debt are evaluated for the period from 2004 up to the year 2012. The macroeconomic projection is calculated separately for two different dates of the EMU accession - in the first scenario, it is assumed that the CEE countries will join the EMU in the year 2007, while the second scenario assumes that the accession will take place in year 2012. The projection is based on today's amounts of public debt and budget deficit, the debt structure, and the interest rates level. It also includes assumptions on the future values of GDP growth (fast and slow growth options), the budget deficit, and the interest rates. The level of public debt at the end of projection period, together with the total costs of the debt service during the years covered, are the projection's output.

It must be stressed, however, that the numerical predictions of the future GDP (or deficit, or interest rates) paths are not the aim of the analysis. The goal of the projection is to provide data for comparison, both between the different EMU accession scenarios, and the new EU members. Aiming at comparable result leads, however, to some simplification of the model. Comparative simulation, not accurate forecast, is the underlying goal, so one should not treat some of the final years' numbers as a strict reflection of author's views.

The structure of the paper is as follows. Section II explains the main economic mechanisms that increase the fiscal costs in case of delay of the EMU accession. In Sections III and IV a formal description of the simulation mechanism is provided, followed by detailed assumptions on input data (which are the real GDP growth, the primary budget deficit or surplus, and the interest rate). Sections V-VII present the results of the two accession scenarios, both according to the fast growth assumption, that vary by different EMU entry dates. The development path of public debt and the total costs of debt service are presented for each country and scenario. Section VIII describes results of analogical simulations performed under the slow growth assumption, with the detailed results available in Appendix 1. Finally, the last section compares the effects of the two versions of the analysis. The main conclusion of the paper is that the sooner the EMU accession date, the stronger the incentives for the policymakers to carry out fiscal adjustments that would result in significant savings in the near future. Additionally, the earlier accession date means a faster decrease in the interest rates, which also substantially reduces costs of the debt service. Therefore

faster EMU accession is equivalent to a considerable fiscal savings for most of the countries analyzed in this paper.

2. Fiscal costs of the delay of EMU membership

They are several reasons, for which the delay in joining the monetary union may impose additional fiscal costs. The strongest of them are strictly connected to the conditions that are to be fulfilled by all candidate countries. The Maastricht criteria must be met no later than two years before joining the EMU. Among others, these criteria define maximum levels of public debt and fiscal deficit, which must not be exceeded. It is assumed in the projection, that the candidate countries will do their best in order to reduce the debt to the permitted level, or - for those that are not endangered by excessive debt to GDP ratio - will keep it at some predefined level, at a specified date of the two years before accession to the EMU. The date of the accession is the main determinant here, as it differs amongst the EMU accession scenarios assumed in the projection. The sooner the accession, the less time is left for meeting the criteria. Keeping the deficit (and/or debt) below the specified level may be such a heavy effort for some countries, that governments would rather not undertake this task quickly without the EMU accession incentive.

In other words, the perspective of EMU accession may be the factor that "forces" governments to choose the path of faster debt reduction. If there was no accession requirement, governments could choose not to be so quick and radical in cutting their expenditures, or increasing their revenues (since one cannot expect decisions that are healthy for the economy, but very unpopular). Therefore, for indebted countries, faster EMU accession may mean (as it is assumed in this projection) a quicker path of debt reduction. The faster the debt reduction, the smaller the amounts of yearly interest payments – according to this model, the change in the EMU entry date clearly affects the total fiscal costs during the period in question.

In fact, the **interest payments** are expected to be the main element of fiscal costs that is altered in case of change of the monetary union accession date. The difference in the final debt to GDP ratio will be another result. In a simple model, the amounts of interest payments depend on the amount of debt, and the interest rate itself. The method used in the projection follows this mechanism. This is an obvious simplification, since the amount of debt plus the level of interest rate may be used to calculate interest payments on one's bank credit, rather than to determine substantial positions of countries' budgetary expenditures - which would depend on debt structure and market conditions. However, the method adopted for the projection (i) allows for clear

comparisons, as interest payments for all countries are evaluated according to the same rules, and (ii) makes it possible to employ other reasonable assumptions[1].

Since both of the two main factors that influence the long-term behavior of interest rates (the monetary policy and the expectations concerning the interest rate levels) are strongly connected to the planed date of monetary union accession, it may be assumed that the interest rates should be treated in this projection according to the same main assumption as the public debt: the convergence path depends on the date of the accession. This means, that the sooner the EMU joining date, the lower the debt service fiscal costs.

3. Model description

The projection mechanism uses the basic macroeconomic equations. The current level of debt depends on the debt from previous period, plus the current fiscal balance. The interest rate has impact on interest payments, and a change of the "domestic to foreign" interest rate ratio alters the exchange rate. Exchange rate changes determine the domestic currency value of the debt denominated in foreign currency. Additional, more specific assumptions formalize the model: it is assumed, that the terms "domestic debt" and "the debt denominated in domestic currency" are the same, just as "foreign debt" is the "foreign currency debt". The fiscal deficit, finally, increases the domestic debt, and if a surplus occurs – it reduces the foreign part. The debt and deficit values are shown in relative terms, as a proportion of GDP – so growth in the latter reduces the debt ratio:

$D_d = D_{d, t-1} / (1+g) * (1+r) - B$; where:

D_d - domestic debt (as a percent of GDP),
g – the real GDP growth rate,
r - interest rate,
B - primary fiscal balance (deficit has minus sign; as a percent of GDP).

Similarly, for foreign debt:

$D_f = D_{f, t-1} / (1+g) * (1+r) * (1+\Delta E)$; where:

D_f - foreign debt,

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[1] It also allows for realization of the main goal of the analysis, which is to compare, not to accurately predict.

E - exchange rate; and

$(1+\Delta E)$ - exchange rate loss factor.

$(1+\Delta E)$ represents the exchange rate depreciation[2] factor, (E/E_{t-1}), and equals to $(1+r)/(1+r_w)$, where r_w is the "world", i.e. external real interest rate. The projection uses this formal, exact formula instead of the simplified uncovered interest parity equation, according to which $r = r_w + \Delta E$ (and where the exchange rate gains on interest payments are ignored).

4. Detailed assumptions on input data

This part of the paper describes the input data of the projection, which are the accession year and the paths of GDP, primary fiscal balance and interest rate.

The projection compares two EMU accession scenarios. These scenarios differ by the EMU accession date; which is 2007 in the faster scenario (so the Maastrich criteria must be met as early as in 2005), or 2012 (2010, respectively). In case of countries that are not endangered by breaking any of the criteria, the public debt to GDP ratio is assumed not to be in a worse position than it was prior to the beginning of the projection.

The most problematic assumptions of the projection are those concerning the GDP growth paths. Since the prediction of the real GDP future values is far beyond the scope of this paper, the comparability of the results was the most important criterion. Exogenous paths of the GDP growth were finally chosen, including two variants of the growth rate value: 5% and 2% per annum through the whole projection period. Therefore, simulations for all countries are performed twice, under the fast and slow growth assumptions (see sections V-VIII). The term "GDP growth" refers to the real values, anywhere in this paper.

It shall be noted that in the search for an objective growth measure, reflecting both countries' starting positions and reasonable estimations of future real GDP paths, solution based on recent GDP behavior was also taken into account[3]. However, this would make the whole projection extremely dependable on country's economy performance in the last years, which could be considered both as a benefit (because the future <u>does</u> depend on the starting position) and as a disadvantage (… but to which extent?) of the model.

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[2] Appreciation, if the domestic interest rates were lower than "foreign".
[3] To be specific, an average growth from three years preceding the projection was assumed for the first years, increased by one percentage point from the year 2006 – as an expected outcome of the EU membership.

For each country, the path of the **primary fiscal deficit** values makes an input data. The series are modeled separately, and are altered in order to achieve the target deficit/debt values at the appropriate year, 2005 or 2010. It is assumed, that the fastest possible path of primary deficit reduction is by 1% of GDP p.a. For heavily indebted countries it could become necessary to have subsequent budget surpluses – however, it would not be realistic to expect them to reach "abnormally" high levels, even while following the fastest debt reduction path. Since even the toughest debt-reducing policy reaches its limits[4], the maximum level of the budget surplus is defined at 2% of GDP. This value refers to the total fiscal balance, including the interest payments. Also, the overall fiscal balance cannot be in a surplus (i.e. primary surplus must not be greater than the interest payments) after the assessment year (2005 vs. 2010), or after the debt to GDP ratio reaches its target[5] value, which may occur later in some scenarios. From such moment the debt reduction policy is to be terminated. This last condition allows for comparison of fiscal results of different accession scenarios.

The **interest rate** on the public debt assumed in the projection is the same for both domestic and foreign debt. It changes according to the linear function, that allows to reach the target value one year before the accession date – this means, that convergence ends when it is obvious that joining the EMU will take place, and the expected interest rate equals to the foreign rate. The **„world" interest rate** stays on the constant level during the whole projection period, and equals to 4% p.a. This is also the target value for the interest rate on the public debt. The proportion of the foreign and domestic interest rates determines the change of the exchange rate.

The source of all the data used in the projection was the IMF. Two databases were used: Government Finance Statistics for the fiscal deficit, domestic/foreign debt and interest payments, and International Financial Statistics in case of GDP values and interest rates[6]. The debt/deficit ratios were calculated using the year's nominal values, while the GDP growth is in real terms. The primary fiscal deficit, used in the projection, was obtained by adding the interest payment values to the overall fiscal balance, both as shown in IMF GFS.

Few words must be said about the "interest rate" values. In order to achieve comparable results, the data used in projection should origin from one source, according to a single definition. The lack of appropriate statistical data that could be used for projection purposes (and would be available for all the countries in question) forces to choose a specific measure. The interest rate used to calculate both the interest payments, and the exchange rate development, is defined as an average of lending and deposit interest rates, as published by the IMF. There are two main

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[4] …even sooner in countries that are seriously underinvested, as compared to the rest of the European Union…
[5] The "target debt to GDP ratio" is to be defined in Section V.
[6] The GFS debt figures may differ from IFS numbers. In case of discrepancies, the GFS values were used.

advantages of this method[7]: such measure both (i) is available, and (ii) produces results close to the actual interest payments, as it can be checked for the years prior to the projection period.

5. Fast growth, late accession - results of the first scenario

The following tables present results of the first projection – with fast pace of growth (5% p.a.) and the later accession date (2012). The target debt to GDP ratio is to be achieved two years earlier. Primary deficit, the real GDP growth rate and the interest rates are the input data; domestic and foreign parts of the public debt are the model outcome. The deficit is added to the domestic debt, and the foreign part is enlarged due to the exchange losses. Both parts of the debt are increased by interest payments. Additionally, the "exchange rate index" describes the change of exchange rate, assuming that the local to foreign currency rate at the end of year 2003 is equal to 1. **The goal is to have the debt to GDP ratio at the "assessment" year (2010 in this scenario) not greater than prior[8] to the projection period.**

Table 1. Poland, fast growth, late accession scenario

Poland	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	-0.7%	0.1%	0.9%	1.7%	2.5%	3.3%	4.2%	1.7%	1.6%
Domestic Debt	31.6%	32.3%	32.9%	33.3%	33.6%	33.6%	33.5%	33.1%	32.8%
Foreign Debt	20.5%	21.6%	21.6%	20.7%	18.6%	15.5%	11.3%	9.5%	7.8%
Total Debt	52.1%	53.9%	54.6%	54.0%	52.2%	49.1%	**44.8%**	42.7%	40.7%
Interest Rate	8.0%	7.4%	6.9%	6.3%	5.7%	5.1%	4.6%	4.0%	4.0%
Exchange Rate Index	1.14	1.18	1.21	1.24	1.26	1.27	1.28	1.28	1.28

Source: own calculations based on IMF data.

As it can be seen in case of Poland, the goal of debt reduction to the pre-projection level (of 44.8% of GDP) may be reached in 2010, however quite fast primary deficit reduction path (0.8% of GDP p.a.) must be adopted. The total fiscal balance reaches the maximum allowed level, +2% of the GDP, in 2010. The debt ratio rises up to 2006 due to overall budget deficits, caused by interest payments and the exchange losses on the foreign part of the debt. Substantial surpluses that are achieved later, together with a decrease in the interest rate level, allow for accelerated debt reduction in the following years. Primary surplus growth is terminated in year 2010, when the target debt to GDP ratio is reached. Last two years bring a surplus reduction, as an overall surplus is not

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[7] A measure based on average lending/deposit rates leads, of course, to some simplification – that is, however, necessary. Since it would be possible to use the current interest rates on debt, resulting from debt settlements, the evaluations of future interest rate values (or the results of future repayment negotiations) stand far beyond the scope of this paper.

[8] In most cases, 2002 – the date depends on data availability.

to occur, and the primary surplus shown in the table above reflects only the interest payments value - so the nominal value of the debt stays unchanged. Under such conditions Poland is not endangered by not reaching any of the assumed goals.

Table 2. The Czech Republic, fast growth, late accession scenario

Czech Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	-0.7%	-0.5%	-0.2%	0.0%	0.2%	0.4%	0.7%	0.7%	0.6%
Domestic Debt	17.9%	18.2%	18.3%	18.1%	18.0%	17.8%	17.4%	16.5%	15.7%
Foreign Debt	1.1%	1.1%	1.1%	1.1%	0.8%	0.4%	0.0%	0.0%	0.0%
Total Debt	19.0%	19.3%	19.4%	19.2%	18.8%	18.2%	**17.3%**	16.5%	15.7%
Interest Rate	4.2%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01

Source: own calculations based on IMF data.

For much less indebted Czech Republic, the object of not exceeding the current[9] debt to GDP ratio at 2010 is much easier to achieve. In order to obtain this goal, the deficit reduction must follow the modest path of 0.23% percentage point p.a. The country takes the advantage of moderate level of debt at the start of the projection, and – mostly – very low interest rate, not much higher than the "foreign" target rate at the beginning of the period in question. A small overall surplus is achieved in 2010, which – due to lack of the foreign debt at the moment – reduces the nominal value of the domestic part.

Table 3. The Slovak Republic, fast growth, late accession scenario

Slovak Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	0.1%	0.4%	0.6%	0.9%	1.1%	1.4%	1.7%	1.4%	1.3%
Domestic Debt	28.3%	28.9%	29.3%	29.5%	29.7%	29.7%	29.5%	29.2%	29.0%
Foreign Debt	11.5%	11.6%	11.5%	10.9%	10.0%	8.7%	7.0%	5.6%	4.2%
Total Debt	39.8%	40.5%	40.7%	40.4%	39.6%	38.3%	**36.5%**	34.8%	33.1%
Interest Rate	7.5%	7.0%	6.5%	6.0%	5.5%	5.0%	4.5%	4.0%	4.0%
Exchange Rate Index	1.12	1.15	1.18	1.20	1.22	1.23	1.23	1.23	1.23

Source: own calculations based on IMF data.

Just a bit faster debt reduction path (GDP 0.26% p.a.) would be necessary in the Slovak Republic. This country starts with debt twice as high as in the Czech Republic, and suffers from higher initial interest rates. As for preceding countries, during the final years covered by the simulation the assumed rate of GDP growth is higher than the interest rate, so the domestic debt to GDP ratio would fall (in real terms) even if the interest payments would not covered by the primary

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[9] 2002 figure – as the latest available from IMF databases.

surplus (faster real debt/GDP ratio reduction in the Czech Republic was caused by the fact that the foreign debt was reduced to zero during the projection period, and a budget surplus reduced the domestic part). The total fiscal balance never reaches surplus during the period covered. The only reason of so small difference in the annual deficit reduction value between the Czech and Slovak republics is that the latter starts with primary surplus.

Table 4. Hungary, fast growth, late accession scenario

Hungary	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	1.3%	1.4%	1.4%	1.5%	1.6%	1.7%	1.7%	1.8%	1.9%
Domestic Debt	42.7%	43.6%	44.3%	44.8%	45.0%	45.1%	44.9%	44.4%	44.0%
Foreign Debt	15.2%	14.7%	13.9%	12.8%	11.5%	9.9%	8.2%	6.3%	4.4%
Total Debt	58.0%	58.3%	58.2%	57.6%	56.5%	55.0%	**53.1%**	50.8%	48.4%
Interest Rate	7.7%	7.2%	6.7%	6.1%	5.6%	5.1%	4.5%	4.0%	4.0%
Exchange Rate Index	1.13	1.16	1.19	1.22	1.24	1.25	1.25	1.25	1.25

Source: own calculations based on IMF data.

The debt to GDP ratio of Hungary at the beginning of the projection is similar to the one in Poland. However, Hungary's budget notes primary surpluses at the start of the projection, which substantially accelerates the debt reduction, and allows for keeping the 2010' debt at the original level at a very low "cost" of primary surplus increase by 0.08 percent of GDP p.a. Termination of this increase after 2010 would not allow for balancing the overall budget, so the trend continues to the end of the simulation. Primary surplus reaches the level of the interest payments in the final year.

Table 5. Slovenia, fast growth, late accession scenario

Slovenia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	0.7%	0.8%	1.0%	1.2%	1.4%	1.6%	1.7%	1.0%	1.0%
Domestic Debt	16.1%	16.4%	16.7%	16.9%	17.0%	17.0%	16.9%	16.7%	16.6%
Foreign Debt	14.9%	14.9%	14.5%	13.8%	12.7%	11.3%	9.5%	8.4%	7.4%
Total Debt	31.0%	31.3%	31.2%	30.6%	29.6%	28.2%	**26.4%**	25.2%	24.0%
Interest Rate	7.8%	7.3%	6.7%	6.2%	5.6%	5.1%	4.5%	4.0%	4.0%
Exchange Rate Index	1.15	1.19	1.22	1.24	1.26	1.28	1.28	1.28	1.28

Source: own calculations based on IMF data.

As Slovak Republic and Hungary, Slovenia enjoys primary budget surplus at the beginning of the projection. This allows for only a moderate increase of primary fiscal balance by 0.18% of GDP p.a. The budget reaches a small total surplus prior to the assessment year, so the deficit reduction trend may be reversed in 2011.

The situation of Baltic countries is quite similar, as all three started their independence with zero debt accounts. All note small interest rates. The figures for Latvia are presented below, the results for Lithuania and Estonia will be discussed later.

Table 6. Latvia, fast growth, late accession scenario

Latvia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	-0.3%	-0.1%	0.0%	0.2%	0.3%	0.4%	0.6%	0.6%	0.5%
Domestic Debt	6.3%	6.5%	6.5%	6.4%	6.4%	6.4%	6.3%	6.3%	6.2%
Foreign Debt	9.8%	9.9%	10.0%	9.9%	9.6%	9.1%	8.5%	7.8%	7.2%
Total Debt	16.1%	16.4%	16.4%	16.3%	16.0%	15.5%	**14.8%**	14.1%	13.4%
Interest Rate	5.2%	5.1%	4.9%	4.7%	4.5%	4.4%	4.2%	4.0%	4.0%
Exchange Rate Index	1.04	1.05	1.06	1.07	1.07	1.08	1.08	1.08	1.08

Source: own calculations based on IMF data.

Latvia has no causes to worry. According to the projection, cutting the primary deficit by small 0.14% of GDP p.a. allows for returning to the starting debt/GDP ratio level at 2010. It is possible due to moderate debt level, small primary deficit and low interest rates at the beginning of the projection. The overall budget deficit disappears in 2010, so there is no later need for any primary deficit reduction.

The final results for all the countries may be seen in table 7. It contains three indicators describing the performance of each country. Statistics called "surplus" adds up the annual primary fiscal balances in the whole projection period (2004-2012), corrected by the real GDP growth path values, in order to present it as a percent to the 2004 GDP. "Debt" means the 2012 value of the total debt burden, in relation to the 2004 GDP level (real numbers). "Payments" describe the real interest payments in the period 2004-2012, as a percent of 2004 GDP. As with the surplus, it is the sum of yearly interest payments, as a proportion to current GDP values, corrected by the real GDP growth numbers. All three synthetic measures will allow for clear comparisons of the different scenarios results, in the later part of the paper. It must be noted, however, that none of these measures were discounted by the interest rate values.

Additionally, the "deficit path" column reminds the yearly reduction of primary deficit (or increase of primary surplus; as a percent of GDP) assumed during the years prior to reaching the target debt ratio, in the presented simulations. The "71.5" value of the Hungarian "Debt" measure is not a strange figure, since it is the 2012 debt amount compared to the 2004 GDP number (in the real terms). The actual 2012 debt to GDP ratio of this country is less than 50%, in this part of the projection.

**Table 7. Fast growth, late accession scenario results; synthetic measures.
Columns 2-4: percent of 2004 GDP. Column 5: percent of GDP**

	Surplus	Debt	Payments	Deficit path
Poland	20.2%	60.1%	30.1%	0.81%
Czech Republic	2.2%	23.2%	7.8%	0.23%
Slovak Republic	11.5%	49.0%	22.1%	0.26%
Hungary	17.7%	71.5%	32.6%	0.08%
Slovenia	12.9%	35.4%	17.3%	0.18%
Latvia	3.1%	19.8%	7.4%	0.14%

Source: own calculations. Real numbers.

6. The early accession scenario

The second scenario assumes much faster EMU accession (in year 2007), so the debt target must be reached as soon as in 2005. The interest rate decrease (in order to reach the target level) is much faster, and must occur in years 2004-2005. This substantially reduces both the interest payments and the exchange losses (on foreign debt) during the whole projection period; the latter in fact do vanish from 2005 onwards. As in the previous scenario, the deficit reduction policy ends after the moment of assessment (2005 in this part of the projection), if possible. In case of the debt to GDP ratio higher than the target value, and/or the total budget deficit in 2005, the primary deficit reduction (or surplus increase) is to be continued until both of the conditions are fulfilled. Beyond this moment the overall fiscal surplus is assumed to be zero (primary surplus equals to the interest payments, so the nominal value of the debt stays the same). The real GDP growth assumption stays the same: by 5%, annually.

Table 8. Poland, fast growth, early accession scenario

Poland	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	-0.5%	0.5%	1.5%	2.5%	1.1%	1.7%	1.6%	1.6%	1.5%
Domestic Debt	31.1%	31.3%	31.0%	30.7%	30.4%	30.1%	29.8%	29.5%	29.3%
Foreign Debt	20.2%	20.1%	18.3%	15.7%	14.4%	12.6%	10.8%	9.2%	7.6%
Total Debt	51.3%	**51.4%**	**49.3%**	**46.4%**	**44.8%**	42.7%	40.7%	38.7%	36.9%
Interest Rate	7.1%	5.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.13	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15

Source: own calculations based on IMF data.

Although the projection's goal could be achieved in the previous scenario, it cannot be reached now, even after adopting the fastest possible deficit reduction path of GDP 1% p.a. Because there was much less time for the debt reduction, the assessment year (2005) debt value exceeds the

assumed number. The pre-projection, target value is achieved as late as in 2008, when the primary surplus increase may be stopped (and the trend may be even reversed for this year). This date is however acceptable, since Poland did not come even close to the maximum allowed level (60%) of debt to GDP ratio, during none of the years covered by the simulation. The bold numbers in the Table 8 indicate the development of debt to GDP ratio from the assessment year to the moment when it reaches its target value; the same pattern will be used in the following tables. Small primary surplus decrease may occur in Poland from 2010.

Table 9. The Czech Republic, fast growth, early accession scenario

Czech Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	0.0%	0.9%	0.7%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%
Domestic Debt	17.2%	17.1%	16.4%	15.7%	14.9%	14.2%	13.5%	12.9%	12.3%
Foreign Debt	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Debt	18.3%	**17.3%**	16.4%	15.6%	14.9%	14.2%	13.5%	12.9%	12.3%
Interest Rate	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01

Source: own calculations based on IMF data.

The Czech Republic must cut its deficit in 2004-2005 by substantial 0.9% of GDP p.a., if the goal of having the assumed debt/GDP ratio is to be obtained in 2005. Then the primary surplus may be reduced, and slowly decrease. The foreign part of the debt is finally repaid in 2006.

Table 10. The Slovak Republic, fast growth, early accession scenario

Slovak Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	0.4%	1.0%	1.5%	1.4%	1.3%	1.3%	1.2%	1.1%	1.1%
Domestic Debt	28.1%	28.2%	27.9%	27.7%	27.4%	27.2%	26.9%	26.6%	26.4%
Foreign Debt	11.0%	10.2%	8.6%	7.1%	5.7%	4.4%	3.1%	2.0%	0.9%
Total Debt	39.1%	**38.4%**	**36.5%**	34.8%	33.1%	31.5%	30.0%	28.6%	27.2%
Interest Rate	6.7%	5.3%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.11	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12

Source: own calculations based on IMF data.

Trying to catch up with the original debt to GDP ratio (36.5%), the Slovak Republic would have to adopt the fastest path of the deficit reduction (or surplus increase) of one percentage point p.a. However, even such effort would not allow for obtaining the right result, and the debt in 2005 would still exceed the desired level. Moving the target date to 2006 allows for fulfilling the debt/GDP ratio requirements at lower cost of GDP 0.56% of annual increase of primary surplus – and this path is to be used in the projection, in order to avoid rapid changes of budget balance near the

assessment date. Since the total debt value is far from any alarming limits, there is nothing wrong in achieving its target level one year later than assumed. From 2007 the primary surplus path allowing for (and only for) interest payments contains slightly decreasing values.

Table 11. Hungary, fast growth, early accession scenario

Hungary	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	1.5%	1.8%	2.1%	2.0%	1.9%	1.8%	1.7%	1.7%	1.6%
Domestic Debt	42.4%	42.5%	42.1%	41.7%	41.3%	40.9%	40.5%	40.2%	39.6%
Foreign Debt	14.7%	13.2%	11.0%	8.8%	6.8%	4.9%	3.1%	1.4%	0.0%
Total Debt	57.1%	**55.7%**	**53.1%**	50.6%	48.2%	45.9%	43.7%	41.6%	39.6%
Interest Rate	6.8%	5.4%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.12	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13

Source: own calculations based on IMF data.

Hungary would miss some 0.6 percentage point in order to achieve the target debt to GDP ratio in 2005, despite the assumption of the fastest primary surplus growth. The good thing is that adopting the moderate path of 0.3% of GDP p.a. allows for reaching the desired debt level just one year later, as it was in case of the Slovak Republic. Faster (than in the previous scenario) reduction of the interest rates does allow for accelerated fall of the debt ratio in the following years, even without any repayments.

Table 12. Slovenia, fast growth, early accession scenario

Slovenia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Deficit (-) or surplus	1.1%	1.6%	2.2%	1.0%	1.0%	0.9%	0.9%	0.8%	0.8%
Domestic Debt	15.9%	16.0%	15.8%	15.7%	15.5%	15.4%	15.2%	15.1%	14.9%
Foreign Debt	14.3%	12.9%	10.5%	9.4%	8.4%	7.4%	6.5%	5.6%	4.7%
Total Debt	30.2%	**28.9%**	**26.4%**	25.1%	23.9%	22.8%	21.7%	20.7%	19.7%
Interest Rate	6.9%	5.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.14	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16

Source: own calculations based on IMF data.

The situation of Slovenia is similar to the one of Hungary and the Slovak Republic – reaching the target debt to GDP ratio at the end of 2005 is not possible, but achieving this goal in 2006 does not require too excessive effort. The required step of the primary surplus increase is 0.6% p.a.

Table 13. Latvia, fast growth, early accession scenario

Latvia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Deficit (-) or surplus	0.2%	0.8%	0.6%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%
Domestic Debt	6.1%	6.0%	6.0%	5.9%	5.9%	5.8%	5.7%	5.7%	5.6%
Foreign Debt	9.6%	8.8%	8.1%	7.5%	6.9%	6.4%	5.8%	5.3%	4.9%
Total Debt	15.6%	**14.8%**	14.1%	13.4%	12.8%	12.2%	11.6%	11.0%	10.5%
Interest Rate	4.9%	4.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04

Source: own calculations based on IMF data.

As in the first scenario, Latvia has no problems at all. The target debt/GDP value is reached at 2005 by increasing the 2004-2005 primary surpluses by 0.6% of GDP in the consequent years. Lack of total fiscal deficit allows for financing the interest payments from the primary surplus only in the rest of the projection period.

Table 14 summarizes results of the faster EMU accession scenario, presenting measures calculated analogically to those of Table 7:

Table 14. Fast growth, early accession scenario results; synthetic measures.
Columns 2-4: percent of 2004 GDP. Column 5: percent of GDP

	Surplus	Debt	Payments	Deficit path
Poland	14.7%	54.5%	21.4%	1.00%
Czech Republic	6.0%	18.1%	6.5%	0.90%
Slovak Republic	12.8%	40.2%	15.8%	0.56%
Hungary	19.8%	58.5%	23.2%	0.30%
Slovenia	12.2%	29.1%	11.9%	0.58%
Latvia	5.4%	15.5%	5.8%	0.60%

Source: own calculations. Real numbers.

7. Results of the fast growth analysis

Results of the simulations covering two "fast growth" EMU accession scenarios are presented in tables 7 and 14. The "surplus", "debt" and "payments" measures are shown in relation to the 2004 GDP level, and cover the whole simulation period (2004-2012). "Surplus" and "payments" are the totals of primary budget balances and interest payments that have occurred during the projection period, corrected by the real GDP growth values in order to compare them to the 2004 GDP level; "debt" represents the 2012 public debt amount related to the 2004 GDP. Table 15 presents the difference between the numbers resulting from the two accession scenarios (numbers from table 15 are subtracted from those in table 7, and the additional column with the total number of the three figures was added):

Table 15. The earlier accession scenario gains.
Fast growth projection. Synthetic measures, percent of 2004 GDP

Country	Surplus	Debt	Payments	Gains
Poland	5.5%	5.6%	8.7%	19.8%
Czech Republic	-3.8%	5.1%	1.3%	2.6%
Slovak Republic	-1.3%	8.7%	6.3%	13.7%
Hungary	-2.0%	12.9%	9.4%	20.3%
Slovenia	0.7%	6.3%	5.4%	12.5%
Latvia	-2.3%	4.3%	1.6%	3.6%

Source: own calculations.

As for the Czech Republic, the numbers may be explained in the following way. Fulfilling the second scenario (faster EMU accession) requirements, this country must pay the cost of **increasing the total of primary fiscal balances during the projection period by 3.8% of 2004 GDP**, as compared to the first scenario (with later accession). However, realizing the quicker accession scenario would result in **reduction of the 2004-2012 interest payments by value equal to 1.3% of 2004 GDP** (all in real terms), and the public **debt at the end of the projection period would be lower by 5.1% of 2004 GDP.** So, the **net total outcome** of choosing the faster EMU accession scenario **instead** of the later accession scenario would be **2.6% of the 2004 GDP**, as it is shown in the "Gains" column of Table 15. This last column summarizes the three previous numbers, providing one synthetic measure of fiscal effects resulting from the earlier EMU entry.

It is worth to note that the extra cost paid by the Czech Republic, resulting from toughest fiscal policy (meaning higher budget surpluses required in the earlier EMU accession scenario), refers to the primary budget – so it does not include the interest payments. The difference in the latter is therefore presented in a separate column.

It must be noted, that the primary fiscal adjustments mentioned above are to occur in the specific years in the period 2004-2012. The statistics presented in Table 15 do not give the full picture – they do not mean, for example, that any increase of Czech primary budget surplus by 3.8% (of 2004 GDP level), in some of the projection-covered years, would have the expected impact on total interest payments and the final debt reductions. The accurate paths of primary deficits/surpluses, that should be followed in order to obtain the effects described, are presented in previous parts of the paper (Tables 2 and 8, in case of the Czech Republic). **The values in table 15 are for comparison needs only, and should not be interpreted without its full context.** Especially, no interest rate values were taken into account during recalculation of the numbers into 2004 amounts, since the matters of alternate usage of budgetary assets are not to be analyzed here.

The results for Poland are quite surprising. The faster EMU accession means both the interest payments (and the final debt) reduction, **and** less burden for the current fiscal policy, too. All three

kinds of gains stem from the high initial value of the interest rate. Its rapid reduction in period 2004-2006 (in faster accession scenario) significantly reduces the interest payments, and the exchange rate losses on the foreign part of debt. This allows for financing the total interest payments from the primary surplus, which is possible from the year 2009. The trend continues in the next years, so the primary surplus may be further reduced. The increase of surplus in the late accession scenario is not much slower than in the early accession version (0.8% instead of 1% of GDP p.a.), but lasts three years longer, rising the primary surplus to the high value of 4.2% in 2010. It is necessary both to finance high interest payments, and break the initial trend of budget deficits in presence of high interest rates. One should remember than in the first, "late accession" scenario Poland needed the fastest path of deficit reduction amongst all the analyzed countries. It may be concluded that it is rather (very) unfavorable initial position of Poland that causes so much different result for the two scenarios, than some special possibilities offered by the faster accession scenario.

Hungary is in much better position, since it does not suffer from primary deficits at the projection start. Therefore, there is no painful "getting-out-of-deficit" process in this country, which could cause further debt increase, and higher interest payments or exchange losses. This is why Hungary does not follow the Polish way; since no substantial deficit reduction was required in the late accession scenario (but it had to occur in the second part of the simulation) the overall fiscal effort must be greater in the 2007 accession version (by 2.0% of 2004 GDP, totally). This is, however, highly rewarded by astonishing reduction of debt level and interest payments, totaling to over 22% of 2004 GDP. Relatively high GDP growth assumed in the projection clearly helps to achieve such results.

Due to initial primary surpluses and moderate interest rate level Slovenia gains in all three categories. The faster surplus increase realized at the beginning of the early accession projection allows for reduction of surplus values in the following years, making the total surplus number lower than it would be in the first (2012) scenario. A similar conclusion may concern the Slovak Republic: although not in as good position in terms of the "surplus" statistics, it also benefits from good initial fiscal balance and faster surplus increase in the first years or the 2007 scenario. The results for Latvia may be described analogically to those of the Czech Republic, as those countries positions seem to be very similar in terms of change of the accession date.

8. Analysis under the slow growth assumption

Since the future development of GDP growth paths in the countries in question may be quite different from the assumed 5% p.a. (and their prediction clearly exceeds the scope and agenda of this paper), it was decided to perform two versions of the analysis. The following, pessimistic

scenarios assume slower rate of the real GDP growth, equal to 2% p.a. in the whole projection period. The rest of the assumptions underlying previous simulations stays unchanged, and the new calculations are carried out, for the same EMU accession dates: 2012 and 2007. Tables 16-27 (see Appendix 1) present the detailed results of simulations performed under the slow growth assumption.

The results of the 2% p.a. growth scenarios are quite predictable. Since slower GDP growth means slower reduction of the debt/GDP ratio, higher budget surpluses are required in order to control the relative debt level. Sometimes – as in case of Poland, for example – even the fastest path allowed in the projection does not provide enough progress. The target debt level in the **late accession** scenario for Poland is substantially exceeded at the assessment date (2010), and never reached during the years covered by the projection. Moreover, the debt ratio comes close to the 60% limit (over 58% in 2006-2007). Reduction of interest rates in the **early accession** scenario allows for obtaining the projection's goal, but as late as in 2010, five years after the scenario's assessment date. The highest debt level is noted in 2005, and equals to 54.4% GDP. For Poland, see tables 16 and 22 in Appendix 1.

Czech and Slovak Republics do manage to achieve the desired debt level on time in the late accession scenario (see tables 17, 18, 23 and 24). It requires primary surplus increase by 0.4% and 0.6% of GDP p.a., respectively. The early accession assumption calls for the fastest surplus increase, but there still are some delays in reaching the debt target: one year for the Czech, two in case of Slovak Republic. Hungary (tables 19 and 25) follows the same way, with the annual surplus increase of 0.5% of GDP in the late scenario, and two years delay in the early accession one. For Slovenia the numbers are: GDP 0.4% of annual surplus increase in late accession simulation (no delay, table 20) and 2 years of shift in case of 2007 EMU accession (maximum surplus increase path, table 26). Latvia is the only country which manages to keep the debt to GDP ratio at the pre-projection level in the early accession scenario, by increasing the surplus by 0.9% of GDP in 2004-2005 (and by 0.3% in the late accession scenario, tables 21 and 27).

The tables below contain the summary of the slow growth version of the projection, in analogical order as it was presented in sections V and VI. Table 30 compares results of the late and early accession simulations, as it was performed in section VII. As in the previous, fast growth version of the analysis, the "gains" measure (last column of Table 30) presents the **net total outcome** of choosing the faster EMU entry scenario (instead of the later accession one). In other words, it represents the fiscal effects resulting from the earlier EMU entry, under specific conditions assumed for the analysis.

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Table 28. Slow growth, late accession scenario results; synthetic measures.
Columns 2-4: percent of 2004 GDP. Column 5: percent of GDP

	Surplus	Debt	Payments	Deficit path
Poland	27.4%	54.3%	30.1%	1.00%
Czech Republic	6.0%	19.5%	7.4%	0.37%
Slovak Republic	19.2%	41.1%	21.1%	0.56%
Hungary	29.2%	59.8%	31.1%	0.53%
Slovenia	18.6%	29.7%	16.5%	0.42%
Latvia	6.3%	16.6%	7.0%	0.26%

Source: own calculations. Real numbers.

Table 29. Slow growth, early accession scenario results; synthetic measures.
Columns 2-4: percent of 2004 GDP. Column 5: percent of GDP

	Surplus	Debt	Payments	Deficit path
Poland	20.0%	50.5%	21.4%	1.00%
Czech Republic	6.7%	18.0%	6.6%	1.00%
Slovak Republic	15.2%	38.7%	15.6%	1.00%
Hungary	23.2%	56.3%	22.9%	1.00%
Slovenia	14.0%	28.0%	11.7%	1.00%
Latvia	6.2%	15.1%	5.7%	0.90%

Source: own calculations. Real numbers.

Table 30. The early accession scenario gains.
Slow growth projection. Synthetic measures, percent of 2004 GDP.

	Surplus	Debt	Payments	Gains
Poland	7.3%	3.8%	8.7%	19.8%
Czech Republic	-0.7%	1.5%	0.8%	1.6%
Slovak Republic	4.1%	2.4%	5.5%	12.0%
Hungary	6.0%	3.5%	8.3%	17.8%
Slovenia	4.6%	1.8%	4.9%	11.3%
Latvia	0.2%	1.5%	1.3%	3.0%

Source: own calculations.

As it may be seen, the final results of comparison between the late and early accession scenarios ("gains" column of the above table) are very similar to those presented in table 15, where the fast growth scenarios are compared. It could mean that the pace of economic growth is not so important for the benefits offered by quicker EMU accession. Of course, its higher level substantially helps to reduce the real debt to GDP ratio (by definition), and leaves the countries in better situation at the end of the simulation, as compared to the slower growth projection results. However, it does not fundamentally affect the gains coming from faster accession. Slow growth does require bigger effort in terms of fiscal adjustment, but very similar benefits may still be achieved from not delaying the EMU accession date. The faster decrease of the interest rates in the 2007 EMU entry variant appears to be the main reason of this scenario advantages.

It may be noted that the overall gains of the earlier EMU accession are slightly lower in the **slow growth** version of the analysis (compare the last columns of Tables 15 & 30). This is due to the fact that five of the six countries had to adopt the fastest possible deficit reduction path of 1% of GDP p.a. in the **early accession, slow growth** simulation (Table 29). Since the upper limit for deficit reduction (or surplus increase) was so widely met in this scenario, the countries' performance had to be limited as compared to the **fast growth, early accession** version (Table 14). In the latter, only one country – Poland - was forced to choose the fastest path in an (failed) attempt to meet all the projection assumptions (Table 8).

9. Conclusions

For all the countries analyzed in this paper, choosing the faster EMU accession scenario would bring substantial benefits. These effects are the bigger, the worse are the country's initial conditions, that is: the higher the interest rate, the greater the debt ratio, and the larger the primary deficit. The pace of GDP growth shows no substantial effect on gains offered by the faster accession. On the other hand, a country does not have to be in a bad situation in order to benefit from faster EMU accession scenario: even the Czech Republic and Latvia (both with moderate debt, low level of interest rates and small deficits) do benefit from <u>not</u> moving the EMU accession date five years into the future.

Is it, however, the case of all countries? It was mentioned before, that Lithuania and Estonia are to be discussed – this is the moment to do so. The two Baltic republics are in quite similar - and very good - positions. Estonia enjoys interest rates very close to the projection target value (4.7 in 2002 vs. 4.0 in the projection) and its public debt is virtually non-existing (~3% of the GDP). Lithuania does have moderate (~20% of the GDP) level of public debt, but other indicators produce an excellent picture. Interest rate equals to 4.2% (almost as low as the 4.0% target assumed in our simulation) and the budget records primary surpluses. Since for both countries the high growth assumption would be a realistic one, the GDP growth rate would exceed the interest rate in every year covered by the projection. So, as far as this analysis is concerned, the debt to GDP ratio would fall even if the interest payments were not paid (and were increasing the debt nominal value).

This means that the current macroeconomic indicators are so good, that even serious lag in the EMU accession could not produce any substantial costs, according to the projection. Therefore, the results for Lithuania and Estonia are not presented, as the projections do not give any differentials between their two accession scenarios. One may only conclude that there <u>are</u> some new EU member countries, for which there are no obvious fiscal benefits of making an early

EMU entry. The reason is simple – in fact both Estonia and Lithuania are already in the Euro zone, having the Euro-denominated currency boards. This means that those countries do not really have to care, if they formally join the monetary union sooner or later. Of course, this is said according to the terms of this projection.

Appendix 1. Detailed results of the slow growth scenarios

Table 16. Poland, slow growth, late accession scenario

Poland	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	-0.5%	0.5%	1.5%	2.5%	3.5%	4.5%	4.5%	4.0%	3.9%
Domestic Debt	32.3%	34.0%	35.6%	37.1%	38.5%	39.7%	40.6%	41.4%	42.2%
Foreign Debt	21.1%	22.5%	22.7%	21.6%	19.3%	15.6%	11.5%	7.8%	4.0%
Total Debt	53.4%	56.5%	58.3%	58.8%	57.7%	55.2%	**52.2%**	**49.2%**	**46.2%**
Interest Rate	8.0%	7.4%	6.9%	6.3%	5.7%	5.1%	4.6%	4.0%	4.0%
Exchange Rate Index	1.14	1.18	1.21	1.24	1.26	1.27	1.28	1.28	1.28

Source: own calculations based on IMF data.

Table 17. Czech Republic, slow growth, late accession scenario

Czech Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	-0.5%	-0.2%	0.2%	0.6%	0.9%	1.3%	1.7%	0.7%	0.7%
Domestic Debt	18.3%	18.8%	19.2%	19.6%	19.5%	18.6%	17.3%	17.0%	16.6%
Foreign Debt	1.1%	1.1%	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Debt	19.4%	20.0%	20.2%	20.5%	19.5%	18.6%	**17.3%**	17.0%	16.6%
Interest Rate	4.2%	4.1%	4.1%	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01

Source: own calculations based on IMF data.

Table 18. Slovak Republic, slow growth, late accession scenario

Slovak Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	0.4%	1.0%	1.6%	2.1%	2.7%	3.2%	3.7%	1.4%	1.4%
Domestic Debt	29.2%	30.6%	31.9%	33.2%	34.3%	35.3%	36.2%	35.8%	35.1%
Foreign Debt	11.5%	11.4%	10.6%	9.2%	6.9%	4.0%	0.4%	0.0%	0.0%
Total Debt	40.7%	42.0%	42.6%	42.3%	41.2%	39.2%	**36.5%**	35.8%	35.1%
Interest Rate	7.5%	7.0%	6.5%	6.0%	5.5%	5.0%	4.5%	4.0%	4.0%
Exchange Rate Index	1.12	1.15	1.18	1.20	1.22	1.23	1.23	1.23	1.23

Source: own calculations based on IMF data.

Table 19. Hungary, slow growth, late accession scenario

Hungary	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	1.7%	2.3%	2.8%	3.3%	3.8%	4.4%	4.5%	2.1%	2.0%
Domestic Debt	44.0%	46.2%	48.3%	50.3%	52.1%	53.6%	53.1%	52.1%	51.1%
Foreign Debt	15.3%	14.3%	12.5%	10.0%	6.7%	2.6%	0.0%	0.0%	0.0%
Total Debt	59.2%	60.5%	60.9%	60.3%	58.7%	56.2%	**53.1%**	52.1%	51.1%
Interest Rate	7.7%	7.2%	6.7%	6.1%	5.6%	5.1%	4.5%	4.0%	4.0%
Exchange Rate Index	1.13	1.16	1.19	1.22	1.24	1.25	1.25	1.25	1.25

Source: own calculations based on IMF data.

Table 20. Slovenia, slow growth, late accession scenario

Slovenia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	0.9%	1.3%	1.7%	2.2%	2.6%	3.0%	3.3%	1.0%	1.0%
Domestic Debt	16.5%	17.4%	18.2%	18.9%	19.6%	20.2%	20.7%	21.1%	21.5%
Foreign Debt	15.1%	15.1%	14.5%	13.2%	11.3%	8.8%	5.7%	4.8%	3.9%
Total Debt	31.7%	32.5%	32.6%	32.1%	30.9%	29.0%	**26.4%**	25.9%	25.4%
Interest Rate	7.8%	7.3%	6.7%	6.2%	5.6%	5.1%	4.5%	4.0%	4.0%
Exchange Rate Index	1.15	1.19	1.22	1.24	1.26	1.28	1.28	1.28	1.28

Source: own calculations based on IMF data.

Table 21. Latvia, slow growth, late accession scenario

Latvia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	-0.1%	0.1%	0.4%	0.6%	0.9%	1.2%	1.4%	0.6%	0.6%
Domestic Debt	6.4%	6.6%	6.8%	6.9%	7.1%	7.3%	7.4%	7.6%	7.7%
Foreign Debt	10.1%	10.4%	10.4%	10.1%	9.5%	8.6%	7.3%	6.9%	6.5%
Total Debt	16.5%	17.0%	17.2%	17.0%	16.6%	15.8%	**14.8%**	14.5%	14.2%
Interest Rate	5.2%	5.1%	4.9%	4.7%	4.5%	4.4%	4.2%	4.0%	4.0%
Exchange Rate Index	1.04	1.05	1.06	1.07	1.07	1.08	1.08	1.08	1.08

Source: own calculations based on IMF data.

Table 22. Poland, slow growth, early accession scenario

Poland	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	-0.5%	0.5%	1.5%	2.5%	3.5%	4.0%	3.1%	1.8%	1.7%
Domestic Debt	32.0%	33.1%	33.8%	34.4%	35.1%	35.8%	36.5%	37.2%	37.9%
Foreign Debt	20.8%	21.3%	20.2%	18.0%	14.9%	11.2%	8.3%	6.7%	5.1%
Total Debt	52.8%	**54.4%**	**53.9%**	**52.5%**	**50.0%**	**47.0%**	**44.8%**	43.9%	43.0%
Interest Rate	7.1%	5.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.13	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15

Source: own calculations based on IMF data.

Table 23. Czech Republic, slow growth, early accession scenario

Czech Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	0.1%	1.1%	1.1%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%
Domestic Debt	17.7%	18.0%	17.3%	16.9%	16.6%	16.3%	16.0%	15.7%	15.3%
Foreign Debt	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Debt	18.7%	**18.0%**	**17.3%**	16.9%	16.6%	16.3%	16.0%	15.7%	15.3%
Interest Rate	4.1%	4.1%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01

Source: own calculations based on IMF data.

Table 24. Slovak Republic, slow growth, early accession scenario

Slovak Republic	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	0.9%	1.9%	2.9%	1.6%	1.4%	1.4%	1.4%	1.3%	1.3%
Domestic Debt	28.9%	29.9%	30.5%	31.1%	31.7%	32.3%	32.9%	33.6%	33.0%
Foreign Debt	10.9%	9.5%	6.9%	5.4%	4.1%	2.8%	1.4%	0.1%	0.0%
Total Debt	39.8%	**39.4%**	**37.3%**	**36.5%**	35.8%	35.1%	34.4%	33.7%	33.0%
Interest Rate	6.7%	5.3%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.11	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12

Source: own calculations based on IMF data.

Table 25. Hungary, slow growth, early accession scenario

Hungary	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	2.2%	3.2%	4.2%	2.0%	2.1%	2.0%	2.0%	2.0%	1.9%
Domestic Debt	43.6%	45.1%	46.0%	46.9%	47.8%	48.7%	49.7%	49.0%	48.1%
Foreign Debt	14.5%	12.0%	8.0%	6.2%	4.2%	2.3%	0.3%	0.0%	0.0%
Total Debt	58.1%	**57.1%**	**54.0%**	**53.1%**	52.0%	51.0%	50.0%	49.0%	48.1%
Interest Rate	6.8%	5.4%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.12	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13

Source: own calculations based on IMF data.

Table 26. Slovenia, slow growth, early accession scenario

Slovenia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	1.5%	2.5%	3.5%	0.7%	1.0%	1.0%	1.0%	1.0%	1.0%
Domestic Debt	16.4%	16.9%	17.3%	17.6%	18.0%	18.3%	18.7%	19.0%	19.4%
Foreign Debt	14.3%	12.5%	9.3%	8.8%	7.9%	7.0%	6.2%	5.3%	4.5%
Total Debt	30.7%	**29.4%**	**26.5%**	**26.4%**	25.8%	25.3%	24.8%	24.4%	23.9%
Interest Rate	6.9%	5.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.14	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16

Source: own calculations based on IMF data.

Table 27. Latvia, slow growth, early accession scenario

Latvia	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP growth	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Deficit (-) or surplus	0.5%	1.4%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%
Domestic Debt	6.2%	6.4%	6.5%	6.6%	6.8%	6.9%	7.0%	7.2%	7.3%
Foreign Debt	9.5%	8.4%	8.0%	7.6%	7.2%	6.8%	6.4%	6.0%	5.6%
Total Debt	15.8%	**14.8%**	14.5%	14.2%	14.0%	13.7%	13.4%	13.1%	12.9%
Interest Rate	4.9%	4.5%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Exchange Rate Index	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04

Source: own calculations based on IMF data.

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