Articles

CENTRAL AND EAST EUROPEAN COUNTRIES AFTER ENTERING THE EUROPEAN UNION

Tomáš CAHLÍK*

Abstract:

This essay is concerned with the long term period, i.e. what will happen after accession to the EU. For those long term analyses, it is practical to identify different phases after accession to the EU – the period before the anticipated participation in the ERM II, the period of participation in the ERM II and the period of membership in the eurozone. These periods bring different costs, benefits and risks and they allow for different possibilities of economic policy, especially monetary policy (exchange rate policy included).

The five following issues are dealt with in this essay: the speed of joining the eurozone after accession to the EU, the danger of speculative attacks on local currencies while participating in the ERM II, instability of public finances and its impact, possible real price shocks with their economic consequences and economic growth for convergence with the EU average.

Keywords: European Union, economic growth, price shocks, fiscal policy, monetary policy

JEL Classification: E310, E630, O400

1. Introduction

Twelve out of the fifteen Member Countries of the European Union (EU) are nowadays members of the eurozone. The remaining three countries (i.e. Denmark, Great Britain and Sweden) are – for various reasons – outside the eurozone. Out of these three above mentioned countries, Denmark participates in the Exchange Rate Mechanism II. We have to bear in mind that two years' participation in this mecha-

nism is the essential condition for joining the eurozone. Central banks of all the EU Member Countries are in the European System of Central Banks (ESCB). The division of labor between the European Central Bank (ECB) and the central banks of specific countries differs according to the membership in the eurozone.

Central and East European countries (CEECs)[1] – after accession to the European Union – will have the status of "Member States with a derogation". In other words, they will not have the option of staying outside the eurozone, but they will be supposed to join the eurozone without unnecessary delays.

Of course, it is possible to analyze the costs and benefits of joining the eurozone, but we have to realize that the relevant question is not the fact of joining it any longer. However, what is needed is the optimal strategy of joining, optimal in the sense of minimal costs and maximal benefits, not only for the new joining countries but for the previous Members as well.

The question of the optimal speed of joining is closely tied with this optimal strategy. The shortest time for entering the eurozone is actually given by the condition of the two-year membership in the ERM II, therefore the eurozone cannot be joined within the first two years after accession to the EU. The shortest period does not need to be the optimal one neither from the point of view of the joining country nor from the point of view of the eurozone. At the same time, because of political reasons we cannot expect that joining the eurozone could take more than – let us say – five years after accession to the EU. This arithmetic can be used in another direction, too. If the political mainstream is of the opinion that it will be impossible for the CEECs to join the eurozone faster than within a ten-year period, then it would be a mistake to hurry with the accession to the EU.

Anyway, crucial questions of economic policy in the CEECs now concentrate on the topics connected with the accession to the EU, on the problems of probably (and hopefully) medium-term period, i.e. until the end of 2002.

This essay is concerned with the long term period, i.e. what will happen after accession to the EU. For those long term analyses, it is practical to identify different phases after accession to the EU – the period before the anticipated participation in the ERM II, the period of participation in the ERM II and the period of membership in the eurozone. These periods bring different costs, benefits and risks and they allow for different possibilities of economic policy, especially monetary policy (exchange rate policy included).

We have to realize that the possibilities for an autonomous monetary policy will be restricted after participation in the ERM II and eliminated after entering the eurozone. The common monetary policy will be the task of the ESCB, the division of labor between the ECB and the central banks of specific countries in the implementation of the common monetary policy is well elaborated already. The five following issues will be dealt with in this essay:

– the speed of joining the eurozone after accession to the EU;
– the danger of speculative attacks on local currencies while participating in the ERM II;
– instability of public finances and its impact;
– possible real price shocks and their economic consequences;
– economic growth for convergence with the EU average.

I would like to point out that the judgements in this essay, if any, are from the point of view of the acceding countries.

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1) Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia.

2. The Speed of Joining the Eurozone after Accession to the European Union

The process of joining the eurozone will surely be different from that of establishing the eurozone. The foundation of the eurozone is based on the assumption that there are three phases of the new currency introduction. At the beginning of phase A, the list of participating countries was created and the time schedule of further evolution was announced. During phase A (year 1998) the ECB and the ESCB were established, the law frame and the national control structures crystallized, the schedule of the changeover to the euro for financial and banking institutions was announced and the process of issuing coins and banknotes began. At the beginning of phase B (January 1, 1999), local currencies of participating countries were unrevocably fixed to the euro, the euro became a selfstanding currency, the ESCB took over the responsibility for the monetary policy from the central banks of the participating countries and the new payment system TARGET for interbank payments began to function. During phase B, money, capital and exchange markets adjust to the euro. Banking and financial institutions are in transition to adopting the euro and the public and private nonbanking sectors prepare for the changeover to the euro. The new public debts are denominated in the euro. At the beginning of phase C (January 1, 2002) new coins and banknotes are in circulation. By July 1, 2002 the euro will have been used in all the sectors and local coins and banknotes will be withdrawn from circulation.

The process of joining the eurozone by new countries from then on will be much simpler, because a couple of activities that needed to be phased while creating the eurozone will not have to be applied any longer and the experience obtained by the Member States while establishing the eurozone will be used while solving the task of joining.

After accession to the EU, the central banks of joining countries will become automatically members of the ESCB. One can imagine the process of joining the eurozone in two phases. In phase A, let us say a two-year phase, the participation of the joining country in the ERM II and the beginning of phase B (when the local currency is unrevocably fixed to the euro) are announced. During phase A, all sectors prepare for the changeover to the euro, which would be compulsory at the beginning of phase B. The beginning of phase B must be aligned with the beginning of the accounting year in each joining country. This allows countries to close the books in national currencies and to begin the bookkeeping in phase B in the euro already. Local banknotes and currencies will be withdrawn from circulation as soon as possible[2] in phase B.

We have a lot of information about the impact of the single currency – the euro – on the specific economic subjects. Many direct and indirect costs necessary for the changeover to the euro do not depend on the speed of the changeover. But on the other hand some of them surely do.

The long changeover period can bring about some opportunity costs. The growth theory identifies as indicators of economic growth determinants, among others the state of the financial system, the stability of institutions and the size of the market. After accession to the EU, those indicators ought to be at a level not much lower then in the EU. But hesitating to join the eurozone means waiting for a better financial system and for a change in institutions. That is the reason why those indicators

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2) Denmark, being in the ERM II, assumes that a one year period is necessary for the changeover to the euro after a positive referendum for joining the eurozone.

will be at a lower level before joining the eurozone and so the economic growth will be lower, too. These opportunity costs are sure to depend on the speed of the changeover.

The quick speed of the changeover can result in foregoing possibilities of the monetary policy (including exchange rate policy) too soon, the possibilities that could help among others with the sometimes discussed problems of convergence of the real price level and with the solution to the financial system problems (impacting both on macro and micro level). Let us mention two examples, where the longer changeover to the euro can diminish the costs:

Real price level in the CEECs is lower than in the EU. After entering the EU and the eurozone, real price shocks based on the strength of convergence of the real price level (including the real price of the production factors) may be triggered off and display themselves either through the nominal exchange rate evaluation or the increase in the CEECs nominal price level.[3] The former possibility is valid only after accession to the EU, not after joining the eurozone (bearing in mind that the change of the nominal exchange rate will not be possible any longer). Both possibilities can have different impacts on the size, composition and division of GDP in CEECs. The ECB can have different preferences from the central banks in the CEECs, therefore the loss of autonomous monetary policy after joining the eurozone can bring some costs from the point of view of the CEECs. Postponing the changeover to the euro with the hope that in the meantime the possibility of real price shocks vanishes can diminish the costs.

Having an unhealthy financial system, the central bank can often function as the lender of the last resort. After joining the eurozone, the central banks of the CEECs will be unable to fulfill this function autonomously. The preferences of the ECB can again differ from the preferences of the central banks of CEECs, therefore the solution of the ECB may not be optimal from the point of view of CEECs. Postponing the changeover to the euro with the hope that in the meantime the state of the financial system ameliorates can diminish the costs.

Considering the problem of the optimal speed of convergence in this way leads us to a theoretically trivial exercise of finding the speed of convergence with minimal total costs. In Figure 1, two out of many possibilities depicting the shape of the total costs curve are presented. Taking the first one, it is optimal to join the eurozone as soon as possible, taking the second one, it is optimal to delay the changeover to the euro. The costs are difficult to enumerate, which restricts the space for

Figure 1
Different Optimal Periods of the Changeover to the Euro Based on Different Shapes of the Total Costs Curves

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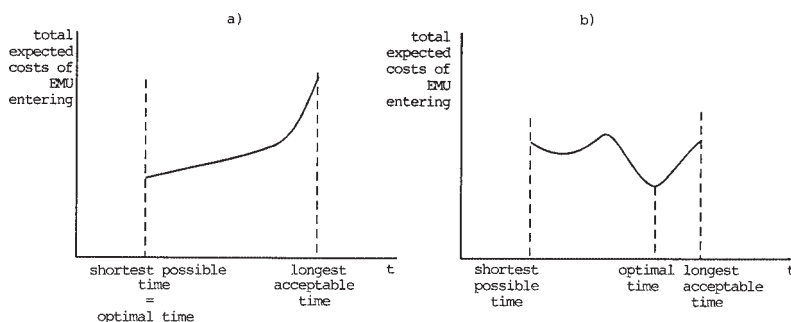
3) These shocks will be discussed in an autonomous part of this essay.

economic arguments and augments the possibility of political arguments about the speed of the changeover.

It cannot be excluded that the alternative with the shortest period will be considered the most advantageous. Therefore the governments and the central banks of the CEECs should even now, in the pre-accession period to the EU, inform all the economic subjects (of course in their national languages) about the impact of the changeover to the euro. To postpone this activity can cause a lot of confusion after the accession to the EU.

3. The Danger of Speculative Attacks on Local Currencies while Participating in the Exchange Rate Mechanism II

While participating in the ERM II, the risk of speculative attacks on local currencies will exist (a common feature in a fixed exchange rate regime). Having free flows of capital, the exchange rate is determined by the uncovered interest parity condition

$$i^{CZK} = \frac{E_{t+1}^e - E_t}{E_t} + i^{EUR} + \delta,$$

having on the left hand side the expected return on assets denominated in local currency and on the right hand side the expected return on assets denominated in euro (given as the summation of the expected change of the exchange rate, the euro interest rate and the risk of the specific CEEC) (see Figure 2).

Figure 2
Determination of the Exchange Rate
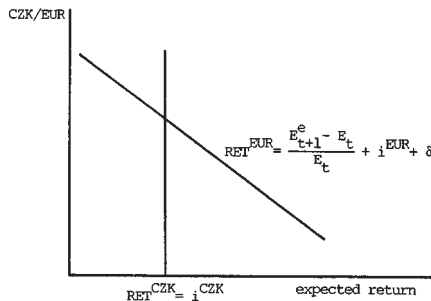
The exchange rate will tend to changes if some determinants of the exchange rate in the uncovered interest parity condition change. While participating in the ERM II, the central bank has to intervene if the exchange rate moves out of the 15 % fluctuation range in either direction.

After accession to the EU, which is the essential condition for participating in the ERM II, the risk of CEECs – **on the condition of a good shape of public finances and the financial system** – will be similar to the risk of the EU and will not be supposed to change considerably. The nominal convergence will be probably at such a level that the nominal interest rates will correspond to the euro interest rate. The critical point could be the deficit of the current account in the case of problems with its financing. Such a deficit could result in the expectations of the local currency depreciation, in the shift of the expected return on assets denominated in euro to

the right and consequently in the pressures to depreciate the local currency. Some data indicating this possibility can be found in Table 1.

Table 1
Data Indicating the Possibility of Current Account Deficits in the CEECs (in %)

Country	Trade balance (exports/imports)	Current account balance (in % GDP)
Bulgaria	72.5	-5.3
Czech Rep.	89.3	-2.0
Estonia	68.3	-6.2
Hungary	89.3	-4.3
Latvia	58.4	-10.6
Lithuania	62.1	-11.2
Poland	59.6	-7.5
Romania	81.8	3.8
Slovakia	90.2	-5.9
Slovenia	85.8	-2.9

Source: Enlargement Strategy Paper, 8. 12. 2000.

The governments and central banks in the CEECs have some tools for the neutralization of this critical point. They can restrict the evolution of the domestic economy with the aim of diminishing imports. They can support direct investments, which augments – among other impacts – the possibilities for financing the deficit.

If the **condition of a good shape of public finances and the financial system** were not fulfilled, the risks of countries could change and consequently the domestic interest rate could rise. The curve of the expected returns on the assets denominated in euro would shift to the right as well as the curve of the expected returns on assets in local currencies. If the second effect is stronger, this will result in the pressures for local appreciation, impacting through the worsening of the current account on the expectations of the exchange rate depreciation and leading to pressures for depreciation. So as a result the bad shape of public finances and the financial sector could cause rather erratic changes in the exchange rate.

Central banks can of course intervene on the exchange market. If the determinants of the exchange rate have been above or below the given range of fluctuation for a longer time and if there have been interventions on account of the foreign exchange reserves, those interventions will probably lead to problems with foreign exchange reserves and abandoning the ERM II.

The central bank in any small open economy cannot guarantee that the exchange rate will be kept in the given ranges for two years (the required period for being in the ERM II). On condition that the only argument against entering the ERM II was the danger of speculative attacks, the optimal policy would be to enter the ERM II as soon as possible. The exercise is to compare the costs and benefits of the two following alternatives, whether to enter the ERM II or not. Being in the ERM II, the countries can win the membership in the eurozone. Being forced to leave the ERM II will definitely cause the loss of credibility to a certain extend but in the world that has got used to big monetary crises in the last decade this cost can be negligible.

4. Instability of Public Finances and Its Impacts

The stability of public finances is demanded by two of the Maastricht criteria. The deficit of public finances must be lower than 3 % of GDP and the public debt must be below 60 % of GDP. It is not necessary to fulfil the Maastricht criteria for accession to the EU, but they must be fulfilled before joining the eurozone. Being once in the eurozone, the Pact of Stability and Growth demands that the Member Countries of the eurozone continue to keep the Maastricht criterion for the public deficit. Some data indicating the state of public finances in the CEECs are in Table 2.

Table 2
Data Indicating the State of Public Finances (in % GDP)

Country	General government spending balance
Bulgaria	0.2
Czech Rep.	-1.6
Estonia	-4.6
Hungary	-3.7
Latvia	3.9
Lithuania	n.a.
Poland	-2.7
Romania	n.a.
Slovakia	-0.6
Slovenia	-0.6

Source: Enlargement Strategy Paper, December 8, 2000.

The data in Table 2 do not look so bad, nevertheless the projections for the next years show that the deficit in many CEECs might be higher than the required 3 %.[4] In this situation, if the CEECs want to enter the eurozone they must take steps to diminish the deficit. It can mean further expected costs in conjunction with entering the eurozone.[5]

Let us mention only one of these costs. After entering the EU, the possibility for the use of structural funds augments. According to the rules for the use of structural funds, some joint financing, mostly from the state budget, is necessary.[6] If the state did not have the resources for joint financing, this would lead to the opportunity costs.

It can also happen – if optimistic scenarios for the growth of GDP in the CEECs by 2005 become true – that the public deficit will not be the problem for entering the eurozone. The relevant question is then the evolution of the CEECs after 2005. Even 5 % growth of GDP by 2005 does not necessarily need to be continued after 2005,

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4) E.g.: The Czech government has two scenarios for the development of Czech economy in the medium time horizon until 2005. According to the pesimistic scenario, public deficits in 2003 – 2005 will be about 5.7 %GDP, according to the optimistic one public deficits will be 2.5 % GDP. The scenarios differ by the expected rate of growth of the economy, the optimistic one assumes the rate of growth of GDP about 5 % in 2003 – 2005. According to the author's opinion, the realistic figure for the public deficit is about 4 % GDP, so the Maastricht criterion will not be fullfiled.

5) In this way we can enrich the discussion about the optimal speed of joining the Eurozone.

6) E.g. according to the rough estimate of the Ministry of Finance of the Czech Republic, for the joint financing of projects that could be jointly financed from structural funds, about four times bigger expenditures on this joint financing will be necessary than at present.

or in other words using the terminology of the CEECs, it does not need to be a robust growth. In the medium-term period, we can observe the growth of GDP in the cyclical expansion even with the downward trend of GDP (see Figure 3).

Figure 3
Robust Growth of GDP by Growth of GDP Observed during Cyclical Expansion with a Downward Trend of GDP
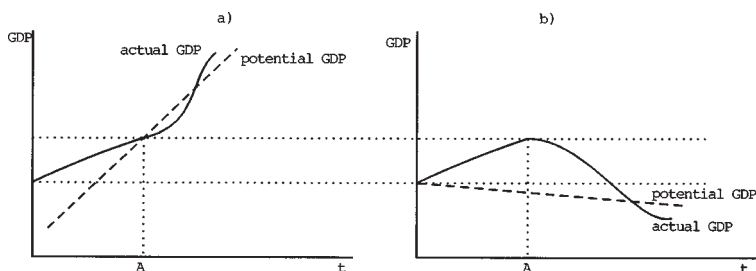
In both Figures 3a and 3b, the same growth of GDP is observed until point *A*. In the first case, the potential GDP rises, we can speak about a robust growth and expect that the growth will continue even after the point *A*. In the second case, the potential GDP diminishes and economic growth will probably stop after the point *A*. Empirically, the length of economic cycles differs and the individual phases can even last a couple of years. For long term predictions, the evolution of the potential GDP is relevant, but its measurements and predictions are much more difficult than the measurements and short or medium term predictions of GDP.

Let us imagine that the CEECs will join the eurozone before point *A* in Figure 3b. In this case, they would not meet the obligation stated in the Pact of Stability and Growth and this would impose further costs. In the CEECs, the public deficit will probably be the most important factor against joining the eurozone faster.

5. Possible Real Price Shocks and their Economic Consequences

The possibility of real price shocks after entering the EU depends on following facts:

a) the real price levels differ considerably in the CEECs from those in the EU;[7]

b) after entering the EU, a jump in the quality of connections in the markets and of information about the real prices of goods and production factors will occur. It can cause real price increases in the CEECs;[8]

Analyzing the existing real price differences, four further stylized facts are usually given:

c) the real price differences stem from the real price differences in non-tradables;

d) the price increase in non-tradables depends on the real wages growth;

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7) E.g. according to the Czech National Bank, the real price level in the Czech Republic is 43 % of the EU average.

8) This argument could be used for the period after the EU accession as well as for the period after joining the eurozone. So two shocks could be predicted. The strength of shocks differs according to the number of together accessing countries. A bigger number of accessing countries could cause the real price shocks even in the former members.

e) the growth of real wages depends on the productivity growth;

f) the relation of the domestic and foreign real price levels is intermediated by the exchange rate.

Two other ideas connected with the preceding facts can be elaborated:

g) there exists a feedback from the price increase of non-tradables to the growth of real wages;

h) the growth of real wages can be connected with changes in the division of the real product.

Let us make some comments at this points. In the EU countries, big differences in the price levels still prevail and will prevail even in the long run.[9] This implies the existence of long term differences in the prices of non-tradables and in real wages. The EU countries are in the situation of price stability, there are no big differences in the rise of nominal wages. In the eurozone – or in the countries having exchange rate fixed to the euro – it is impossible to reach the convergence of real wages through the change of the nominal exchange rate. In principle, there does not exist any mechanism that could make real wages and prices of non-tradables converge quickly. Starting with different levels of real wages and prices of non-tradables, there exists high persistence of this state. Real wages can converge either if the productivity growth in the countries with lower real price levels leads to relative increases in real wages or if the division of the created real product changes advantageously in favor of real wages.

Let us explain and illustrate the argument by the development of real wages in Ireland, the Celtic tiger (see Table 3), and we will immediately realize that the alternative mentioned in the first part of the previous sentence does not function in the suggested way.

Table 3
Development of Wages in Ireland Compared with Its Major Trading Partners (1985 = 100)

Year	Average Hourly Earnings		Unit Wage Costs	
	Ireland	Major Partners	Ireland	Major Partners
1985	100	100	100	100
1986	107	105	103	103
1987	112	110	97	105
1988	117	116	91	105
1989	122	123	86	109
1990	127	131	88	112
1991	134	140	90	117
1992	141	147	87	119
1993	149	153	87	121
1994	151	159	82	118
1995	155	164	74	119
1996	159	170	72	120
1997	164	175	67	120
1998	173	181	62	122
1999	182	186	60	122
2000	192	194	57	123

Source: Central Bank of Ireland, Bulletin Autumn 2000.

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9) According to the Czech National Bank, the difference is 30 % in either direction from the EU average.

The increase of productivity has been much higher in Ireland than in its major trading partners (surely Members of the EU), but the rise in wages has been lower. So the rise in real wages has not increased one to one with productivity, the rise in productivity has increased real profits and/or real taxes and/or real costs of imports much more than real wages. Anyway, this can be an example of how the higher rise in productivity in the country with a lower price level does not necessarily cause convergence of real wages.

The explanation for this lies in the feedback from the prices of non-tradables to the level of real wages. This feedback is theoretically explained by the effective wage theory – it is effective for the employers to pay real wages a little bit higher than the employees could get elsewhere, including in the sector of non-tradables. Having once lower prices of non-tradables and thus lower wages paid in the non-tradables sector, the real wages in the tradables sector are pushed to a lower level than in the countries with higher non-tradables prices. This feedback explains why the real wages in the same multinational company differ in various countries.

Let us explain the problems connected with a different division of the real product, a division that would be more advantageous for real wages. The real product is devided among the real wages, real taxes, real profits and the real costs of imports. The jump in real wages ceteris paribus (without an increase of the real product) diminishes real profits and/or real taxes and/or real costs of imports (see Figure 4).

Figure 4
Division of the Real Product and the Increase in Real Wages
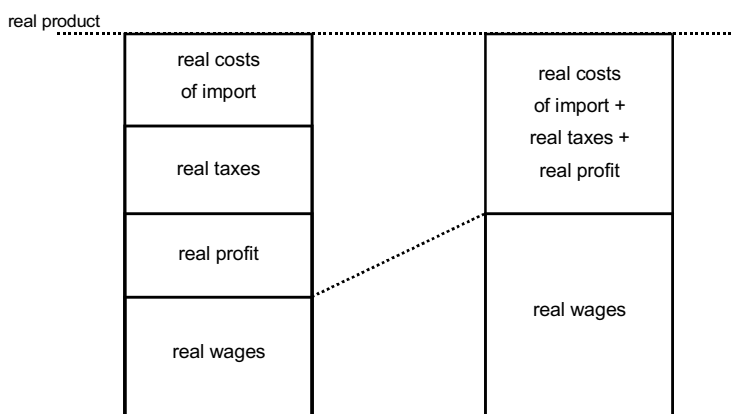
The decrease in real profits is problematical because of its impact on investments. After all, it is the higher level of real profits that brings foreign investments with all their long-term positive impacts to a country. The decrease in real taxes is problematic because of its lowering of the resources that are common for public services with high and low productivity. The optimal combination – an increase in resources for public services with high productivity while decreasing taxes and making the other public services more effective is hard to reach fast. The diminishing of the real costs of imports means (in the situation of price stability) the nominal appreciation of local currencies and would be in principle the only solution that could bring results for convergence of real wages in the short or medium term.

Let us go back to the CEECs. The sectors in the CEE economies do not evolve uniformly. In some sectors, the productivity is almost the same as the productivity

in the EU countries, in other sectors it is much lower. The appreciation of local currencies would have different impacts on the export possibilities and the health of firms in those two sector types. The firms in the first sector type would have a good chance to survive but a lot of firms from the second sector type would probably have to leave the market.

After entering the ERM II, the opportunity of such appreciation will be restricted, after entering the eurozone, it will be eliminated for good. The result is that the last opportunity for faster convergence of real wages vanishes. Does this make a case for postponing the participation in the ERM II or for joining the eurozone? Let us first look at the behavior of some exchange rates after the introduction of the euro in 1999.

In the period when the euro was losing its value against USD, all the European currencies except for pound sterling kept their parities to the euro. This period was an exceptional opportunity for CEECs trying to appreciate local European currencies against the euro and so to try to converge the real wages. However, this did not happen and we have to ask why.

The difference of real wages is more an ethical question than an economic one. It would become an economic question if the political representation of a certain country identified the convergence of real wages as a priority. After the collapse of communism, this is unlikely to happen. From the point of view of central banks in the CEECs, there is no point in trying to appreciate the local currencies. Even if the central banks in the CEECs wanted to intervene in the exchange markets, it is doubtful whether they could succeed. Under this circumstances, the best policy is to stabilize the exchange rate against the euro and this is exactly what is happening.

To summarize the discussion on price shocks, there is nothing to worry about. The differences in the price level of tradables are negligible and there are no mechanisms that could make the price level of non-tradables and of real wages converge.

But, the different level of real wages impacts on economic growth. Employees, having lower real wages than in the EU, can move to the EU countries. This could lead to the divergence of richer and poorer countries in the long run. The estimates of migration among the EU countries, even after accession of new Members – do not indicate mass migration. The problem is, however, that the people with the highest human capital will migrate.

6. Economic Growth for Convergence to the European Union Average

Taking the poorer countries of the EU into account, we can see both the examples of convergence (Ireland, Spain and Portugal) and one example of divergence – the Greek GDP per person does not converge with the EU average. We can simulate alternative scenarios of reform strategies for the CEECs, leading to different rates of growth. Statistical analyses of various indicators of the determinants of economic growth have been used here. Then it is only a matter of a simple exercise to count how long it will take for the GDPs of the CEECs to converge with the EU.

These statistical analyses are interesting but some commentaries based on the growth theories are necessary to be made and the fact that the actual evolution can differ from the model one is only fair to mention here.

The income per head in a country (or region) evolves to its steady state that depends on a couple of determinants. The growth is faster with a higher distance from the steady state. The growth can be increased by the amelioration of the state of those determinants, because we augment the distance to the steady state in this

way.[10] Being once at the steady state level, we can expect growth to be given by the rate of the world technological progress.

In the CEECs, the determinants of the steady state are ameliorated now and this evolution forms the basis for predictions of the rise in the rate of economic growth. There are a lot of reasons for the amelioration of the determinants. E.g., let us mention foreign direct investments that impacts positively on all the determinants, streaming to the EU means amelioration of many institutions and changes in the educational system impact on the human capital.

The relevant question here is if the determinants can be brought to such a level that the steady state will be at least at the EU average level. Only in this case will the growth in the CEECs really lead to a rough equity of GDPs in both the CEECs and the EU countries. Two possible evolutions of the steady state in a CEEC are in Figure 5. In the left part, the determinants of the steady state in a CEEC are brought to such a level that the steady state in the CEEC increases as far as the steady state in the EU, in this case the actual income per head will converge as far as the EU level. In the right part, the steady state in a CEEC will not increase as far as the steady state in the EU, there will be a steady gap between steady states in the CEEC an in the EU. In this case, the actual income per head in the CEEC will not converge as far as the EU level.

Figure 5
Two Possible Evolutions of the Steady State in a CEEC
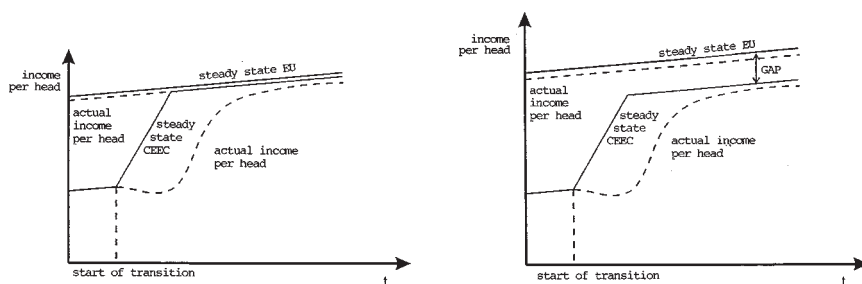
Let us make some comments concerning the evolution of the determinants of steady states in the CEECs taking into account that for the same steady state a worse position in some of the determinants can be compensated by a better position in the others. Accession to the EU gives good conditions for the evolution of institutions to be at least at the average EU level. Accounting for large hysteresis in institutions, there is an ample space here for the cultivation of institutions by political and social organizations. Longstanding problems can lie in the slow change of the ethics of entrepreneurs and employees from the rent seeking behavior to the socially effective behavior.

Some smaller CEECs can gain a comparative advantage in one of the indicators of human capital – as to the knowledge of English – because of the population of big countries is not usually so motivated to learn foreign languages. To make full use of this opportunity, there is an ample space here again for political and social organizations.

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10) All explaining variables used in statistical analyses are indicators of some of these determinants. This makes the tie between the growth theory and the statistical analysis of growth.

Taking indicators of "raw" physical capital into account, there is no reason to assume differences between the CEECs and the average of the EU countries. Problems lie in the level of technology, that is embodied in the installed physical capital (we could say in the industrial structure) and that is sure to impact on the human capital, too. The causality here is not so simple, there exists a feedback from the human capital to the level of technology used in a country.

Industrial structures in the CEECs are connected with lower than the EU average level of technologies. Without active policies the amelioration of the industrial structure and the rise in the technology level cannot be expected. Active policies can be restrained to the rise in the potential of the country to absorb better technologies – through influencing the state of human capital by the amelioration of education, research and development. Moreover, industrial policies helping the evolution of technologically sophisticated branches could be used, too. The use of industrial policies in the CEECs is problematic. It assumes the existence of cultivated ties among education, research, development and markets. The possibility of identification of perspective branches and the possibility for the evolution of these branches in the country depends on those ties.

If the country ameliorates the potential for absorption of technologies, the optimizing behavior of economic subjects will lead to better industrial structure and to the rise in the level of technology autonomously. One tool for fast amelioration of the absorptive potential is to prepare good climate for foreign direct investments. Foreign direct investments have as their positive externalities the amelioration of human capital (through the creation of good working habits) and institutions (the adoption of corporate cultures).

7. Conclusions

In conclusions I would like to summarize the preceding ideas, going backwards from the last of the issues that were dealt with to the first one. After accession to the EU the incomes per person in the CEECs will probably converge to the EU average. But this convergence is likely to stop before equity will be reached, for two reasons. Firstly: taking into account the hysteresis in industrial structures, the level of technologies and thus the level of the steady state will be permanently lower than the EU average. Secondly: bearing in mind the persistence of real wages, the permanently lower level of real wages in the CEECs will lead to permanent losses of human capital in favor of richer countries of the EU. The result is again a permanently lower level of the steady state.

Speaking about economic growth, we are implicitly concerning long time horizon. There are not many strategies disposable for influencing the long run growth. Logical strategy is to try to influence the determinants of the steady state and to let the economy grow autonomously. In the same time, we cannot forget the problems of the short and medium time horizons. We do not understand precisely transmission mechanisms connecting various time horizons but we can imagine that short and medium time problems negatively impact on economic growth in the long run. This gives us a good reason to discuss price shocks, instability of public finances and the danger of monetary crises.

The real price difference does not stem so much from the differences in the real prices of tradables. Problem lies in the low real prices of non-tradables and of labor in the CEECs. But in principle, there does not exist any mechanism that could make real wages and the prices of non-tradables converge quickly. So there are no real price shocks to be afraid of. What is to be afraid of is the loss of human capital cau-

sed by relatively low real wage and the impact of that loss on the steady state of income per head.

Deficit in public finances can cause delays in joining the eurozone, is the indicator of a bad state of institutions in the country and can have negative impact on the financial system of the country. All those items have negative impact on economic growth in the long run. Even taking into account sophisticated arguments of governments explaining the necessity of their outlays, my opinion is that **the best policy for the CEECs even in the pre-accession period would be to diminish the deficits by diminishing outlays.**

The danger of monetary crises under fixed exchange rate regime is unavoidable. No central bank in a small open economy can guarantee that the exchange rate will be kept in given ranges. The probability of a crisis is, ceteris paribus, higher in a longer time interval. That could be another reason for the takeover of the euro as soon as possible.

Concerning the speed of joining the eurozone, no precise economic analysis of costs and benefits can be done. In my opinion, in a couple of countries (Hungary, the Czech Republic, Slovenia, etc.) there are no economic reasons for a delay. Problem lies in the political sphere. Necessary condition for joining the eurozone is to be in the EU. If referendum is needed, relevant question is if the voters support accession to the EU sufficiently. **So the second key policy in the pre-accession period is to persuade the voters about the advantages that the accession to the EU and the joining of eurozone have.**

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