Czech Republic and the Euro Adoption

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1. Introduction: optimal currency area theory arguments

The optimum currency areas theory (OCA), that originated from a discussion around the feasibility of either fixed or flexible exchange rate mechanisms, points out that countries or regions, which are likely to be exposed to symmetric shocks or do possess mechanisms for the absorption of possible asymmetric shocks may be optimal to adopt a common currency. There are a number of criteria that have been used to judge countries' suitability to form a currency union (see Mundell, 1961, McKinnon, 1963, and Kenen, 1969). The endogenous OCA theory, going even further, predicts that with increased trade relations, there is an increased synchronization of business cycles within the currency union.[4] Since most of the trade relations among advanced countries are of the intra-industry type of trade, and as Fidrmuc (2004) notes, it is not trade relations as such that induce synchronization of business cycles in a currency union, the endogenous OCA theory formulated by Frankel and Rose (1998) underlines, according to Fidrmuc (2004), that these trade relations that cause synchronization of business cycles in a currency union are mainly intra-industry trade relations among advanced countries forming a currency union.

The Maastricht criteria seem to reflect the considerations of the macroeconomic policies. They stress that common monetary policy requires similar inflation rates and interest rates and that national fiscal policies should have sufficient scope to cope with national business cycles and asymmetrical shocks. But unfortunately, Maastricht criteria are not sufficiently based on international monetary theory and they do not fully reflect the requirements of optimal currency area theory. The OCA criteria require high degree of trade integration, business cycle synchronization, labour mobility and something like fiscal federalism that exists in the U.S.A. The use of fiscal policy for stabilisation purposes is conditioned by the distance of the budged deficit from the "Maastricht" reference value of 3% of GDP. In the Czech Republic, this can not be meaningfully achieved before 2008, and the long-run sustainability is in doubt. And the labour market rigidities pose even more serious problem from the OCA perspective. Czech labour markets reflect high long-run and structural unemployment, low regional mobility of labour, high costs of employment-contract termination, low motivation for lower-wage employees to look for a new employment, etc.

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[4] For a pivotal work see Frankel and Rose (1998) and for an application on European Union see for example Fidrmuc (2004).

2. Endogenous optimum currency areas theory: some critical remarks

There are, however, a few problems with the reasoning of the endogenous OCA theory. Firstly, it focuses primarily on bilateral trade, thus oversees the aspects of modern-days division of labour, i.e. internationally sliced-up value chains (Krugman, 1995, Krugman, Obstfeld, 2003). Secondly, it puts too much emphasis on the fact, that due to the existence of the so called "trade effect" (see bellow) and the consecutive increase in business-cycle synchronization, even a poor *ex ante* candidate for joining a monetary union can become *ex post* a good candidate for participating in a monetary union. The famous Roses's trade effect (Rose, 2000) states that a common currency increases trade among participating countries threefold. Nevertheless, there has been studies (Frankel, 2005, Baldwin, 2005) that point out that the full impact of the trade effect on bilateral trade in a monetary union might take as much as 30 years and the magnitude of the trade effect on bilateral trade in a monetary union might be weaker than commonly expected – only about 5 to 10 percent increase in bilateral trade. These studies conclude that all estimations of the trade effect are unclear, they are very long-term oriented, and they do not bring much light into the question of "how" the trade effect really works. It therefore might be the case that the trade effect not only affects different countries differently, but also works differently for different classes of goods. Due to all these arguments, countries like Czech Republic that have poor business cycle synchronization with the rest of the eurozone, cannot very much count on a dramatic increase in business-cycle synchronization in a short- to medium-run after joining the EMU. There is also little space for a dramatic increase in trade of Czech Republic with the rest of the eurozone after joining the EMU since the intensity of its trade with the eurozone is currently very high even without the existence of a common currency. It is therefore questionable what additional trade effect can joining the EMU have for the Czech Republic, when its share of trade with the EU25 (imports plus exports) is currently already about 105% of the nominal GDP of Czech Republic? For ilustration, this share amounts to 61% in Austria, 58% in Ireland, 42% for Portugal, and 17,5% for Greece (CNB, 2007).

3. Maastricht convergence criteria: the case of Czech Republic

The readiness of a country to adopt Euro is usually considered „from outside", i.e. from the perspective of current Eurozone countries, as the ability of an applicant country to fulfil the Maastricht criteria. Let us therefore review of how the Czech Republic fulfils these criteria. The price stability criterion was being fulfilled quite successfully in recent years as the rate of inflation was moving around 3%, which has been the Czech inflation target in recent years. With the price shocks stemming from the recent tax reform and high oil and food prices, however, inflation in

Czech Republic jumped to as high as 7.5 % in January 2008, endangering the fulfilment of the price-level criterion in 2008. Nevertheless, with inflation expectations successfully anchored the Czech National Bank hopes for a soon return of inflation to lower levels that would be in alignment with the new 2% inflation target from 2010 onwards. Also, since the inflation criterion is constructed according to the inflation rates in the three European Union countries with the lowest inflation, it is difficult to say in advance if Czech Republic will be fulfilling the inflation criterion at the time of adopting Euro – which has not yet been agreed upon by the Government of the Czech Republic. However, the most important is that the Czech Republic has been successfully following inflation targeting since 1998, monetary policy is prudent enough, Czech national bank is independent from the government and that inflation expectations are firmly anchored at low levels. Because of low inflation also the long-term interest rates criterion was being fulfilled in 2007.

However, Czech Republic may have problems with the fulfilment of budget deficit criterion. Although public debt has reached „only" 30% of GDP, the government budget deficit was expected to be around 3.4 % of GDP in 2007. Even though the predictions for the year 2008 point to budged deficit of about 2.9% of GDP, such a low deficit is believed not to be sustainable in the coming years without thorough reforms on the expenditure side of the public finance.

Yet, we would argue further on in our paper that our concerns should not be only with the Maastricht criteria. Let us apply the considerations „from inside" – from the interests of an applicant country. Is it in interest of the Czech Republic to adopt Euro sooner or rather later?

4. Arguments for sooner or later adoption of Euro in the Czech Republic

The arguments for sooner adoption of Euro can be, according to the authors, stated as follows[5]:

- The Czech Economy is very open and has about 80% of its foreign trade with Eurozone, including intensive intra-industry trade. This means that by adopting Euro, the Czech companies and citizens can save costs.
- Trade- and ownership-links with the Eurozone countries are extensive and are growing.
- Czech Republic has achieved such convergence of inflation and interest rates that allows Czech Republic to abandon independent national monetary policy.

However, there are also numerous and relevant arguments for later rather than sooner adoption of Euro, which can be put as follows[6]:

- The degree of real convergence as well as price-level convergence of Czech economy to Eurozone is still low.
- Business cycle synchronization is not sufficient to eliminate the dangers of eventual asymmetrical exogenous shocks to the Czech economy.
- The uncertainty about long run sustainability of low government budget deficit means that government may not have sufficient „fiscal cushion" to cope with asymmetrical shocks. This means that without national monetary policy and without national exchange rate the economy would have to adjust to such shocks only by painful processes of wage and price deflation.
- Czech labour markets are rigid in terms of high structural unemployment and low regional mobility. The reasons are labour legislation containing high protection of employees and generous social benefits for the unemployed. (see table 1)
- Structure of the Czech economy is different from that in most Eurozone countries in that the Czech economy still has a large share of manufacturing industry and smaller share of services than the Eurozone countries. Different economic structure also increases the probability and the danger of asymmetrical shocks.
- Last but not least, slow economic growth in Eurozone countries in recent years compared with the growth of those EU countries which did not adopt Euro raises questions weather the creation of European Monetary Union was not premature and weather EMU is indeed an optimal currency area. Euro currency is relatively strong, but the Eurozone economy has been sluggish in the recent years.

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[5] For a data source on these arguments see CNB (2007).
[6] For a data source on these arguments see CNB (2007).

Table 1: Long-term unemployment rate (%)

	1998	1999	2000	2001	2002	2003	2004	2005	2006
CZ	2.0	3.2	4.2	4.2	3.7	3.8	4.2	4.2	3.9
AT	1.3	1.2	1.0	0.9	1.1	1.1	1.3	1.3	1.3
DE	4.5	4.1	3.7	3.7	3.9	4.5	5.4	5.0	4.7
PT	2.2	1.8	1.7	1.5	1.7	2.2	2.9	3.7	3.8
HU	4.2	3.3	3.1	2.6	2.5	2.4	2.7	3.2	3.4
PL	4.7	5.8	7.4	9.2	10.9	11.0	10.3	10.2	7.3
SI	3.3	3.3	4.1	3.7	3.5	3.5	3.2	3.1	2.9
SK	6.5	7.8	10.3	11.3	12.2	11.4	11.8	11.7	10.2

Note: Share of persons unemployed for 12 months or more under ILO methodology in the labour force.

Source: Eurostat, Czech National Bank

5. The process of real convergence

Czech GDP per capita was about 72% of EU-12 countries in 2006. Because of a rapid economic growth being on average 6.6% in 2007, the real convergence of our economy to that of Eurozone (in terms of labour productivity) is believed to continue. This process requires the rate of inflation to be higher than that in the Eurozone, especially in the industries where productivity of labour cannot grow, namely the services. This argument probably has not been, however, seriously taken into consideration when the Maastricht inflation criterion was constructed. The inflation criterion requires the accessing countries to have too low an inflation that does not enable them to converge in real terms to the level of labour productivity of the developed Eurozone countries. This was also one of the reasons why Czech National Bank initiated debates about reasonability of the inflation criterion. But there has been little responses and will on the part of the Eurozone representatives to reconsider this criterion. (see table 2)

Table 2: GDP per capita at PPS (EU12=100)

	1998	1999	2000	2001	2002	2003	2004	2005	2006
CZ	61.7	60.9	60.2	62.1	62.7	65.8	68.8	69.5	72.1
AT	116.1	116.1	117.1	112.2	113.3	115.2	110.1	115.8	117.1
DE	107.1	107.0	104.2	103.0	102.4	104.4	104.4	103.1	102.8
PT	67.0	69.6	69.6	68.2	68.5	66.8	67.8	66.0	67.7
HU	46.1	46.9	49.3	51.9	54.7	56.8	57.6	56.4	59.4
PL	41.8	42.5	42.5	42.0	42.3	43.9	45.8	45.9	48.1
SK	45.7	44.5	44.1	46.3	48.3	49.3	51.0	53.0	57.0
SI	67.1	66.7	68.1	63.2	70.6	72.3	75.1	76.4	73.8

Source: Eurostat, Czech National Bank

6. Price-level convergence

The price-level convergence is also an important factor for our decision of *when* we should adopt Euro in the Czech Republic. Czech price level is only about 57%, and the level of nominal wages about one third, of the average level in the Eurozone countries. As Czech Republic has a floating exchange rate, the price-level convergence is partly going on via nominal appreciation of Czech koruna. However, should we adopt Euro before we substantially converge to the price level of the Eurozone, we would logically have higher rate of inflation afterwards, as the inflation differential will then be the only channel through which the price-level could converge. (see table 3)

**Table 3: Average price level of GDP (EU12=100)**

	1998	1999	2000	2001	2002	2003	2004	2005	2006
CZ	43.4	42.9	45.1	47.5	53.2	50.6	53.7	55.3	57.8
AT	102.5	102.6	101.8	104.6	102.4	100.5	100.1	100.6	100.0
DE	110.3	100.1	109.3	109.0	107.7	104.2	103.1	103.1	102.5
PT	77.5	77.9	79.2	80.5	81.0	80.3	81.5	81.2	81.4
HU	44.0	44.7	46.9	49.2	54.1	54.8	58.9	59.1	63.5
PL	47.6	48.1	51.6	57.9	54.3	47.8	47.0	54.5	55.6
SK	40.3	38.2	42.1	41.4	42.6	45.8	49.3	51.3	53.7
SI	70.2	70.4	69.7	70.5	71.4	71.7	70.4	70.7	70.6

Source: Eurostat, Czech National Bank

7. Business cycle synchronization with the eurozone

One of the factors that should be taken into consideration is the question whether business cycles of the currency union are synchronized sufficiently. If not, there is a danger that member countries could be adversely affected by asymmetrical shocks. Analyses of the Czech National Bank (CNB, 2007) indicate that we have probably not achieved sufficient level of business cycle synchronization. Even though the demand-shock similarity with the Eurozone increased since 1990s, the supply-shock similarity decreased. (see graph 1)

**Graph 1: Real Gross Domestic Product – Year-on-Year Changes (%)**
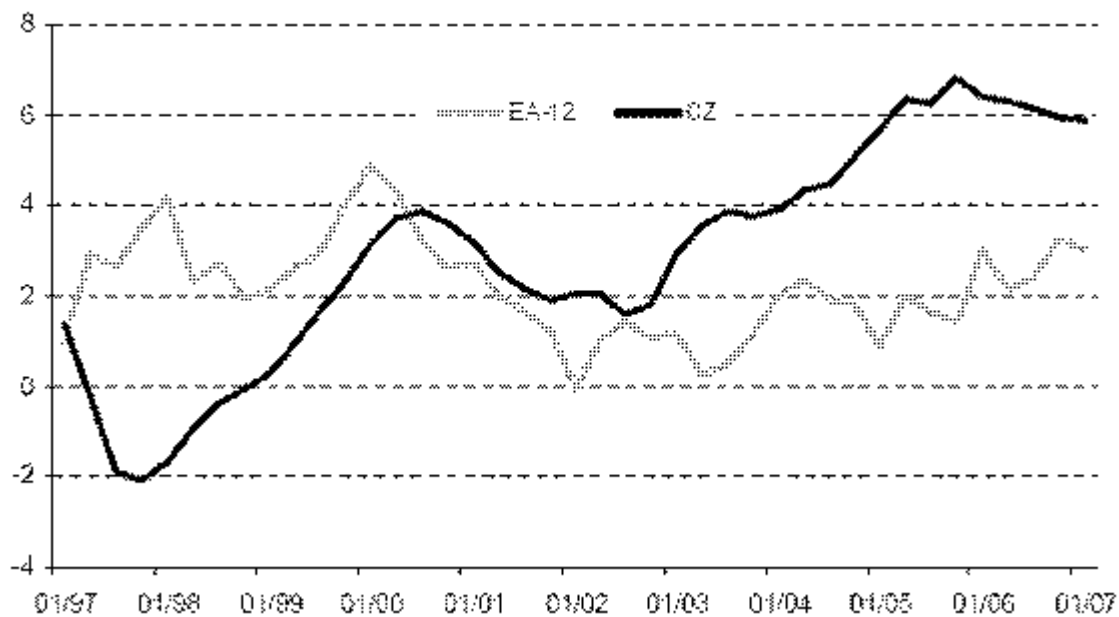
8. Nominal versus real criteria for assessing a country's suitability for joining a monetary union

The above mentioned Maastricht criteria are a means to assessing only the level on nominal convergence in e.g. price levels, interest rates or fiscal policy. These criteria are, according to the authors, only a necessary condition for joining the EMU, not a sufficient condition. In order to decrease the threat of risks stemming from the existence of potential asymmetric demand shocks, a country should fulfil also a number of real convergence criteria. These include business-cycle synchronization, which was already mentioned to be very poor in the Czech Republic with respect to the current eurozone countries. Real convergence criteria should also include convergence in the productivity of labour, convergence in real income per capita and convergence in the economic structure of the respective countries. According to the analysis of the Czech National Bank, Czech Republic is not showing very strong signs of a deep real convergence with the existing eurozone countries (CNB, 2007).

Graph 2: Similarity in economic structure with respect to Eurozone (Landesmann Index)
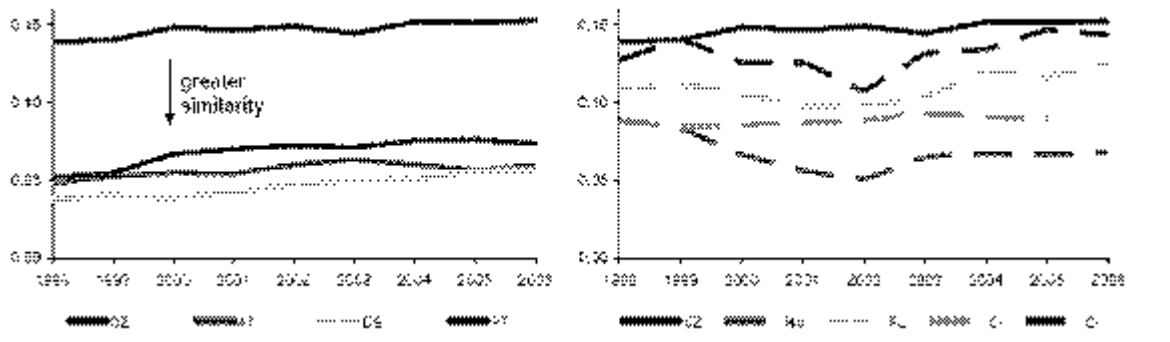
9. The „when" question of euro adoption in Czech Republic revisited

The date of adoption of Euro was already postponed several times in Czech Republic. At first we hoped to adopt Euro as early as in 2007. Then, our government together with the CNB agreed that we abandoned the year 2009 and considered the year 2010 as the earliest possible date, provided that all the relevant criteria were fulfilled. Recently, the year 2010 was called off since not all of the Maastricht criteria have been fulfilled. It is expected that the Government will agree on the year 2012 as the earliest possible year of adopting the euro currency in the Czech Republic. The "when" question is now, however, being constrained by several factors:

- Economic convergence and economic structure does not play well for early Euro adoption.
- The long-run in-sustainability of lower government budget deficit as well as rigid labour markets do not allow optimum currency area adjustment mechanisms to work efficiently.
- Continuation of nominal exchange rate appreciation of Czech koruna makes it difficult to stabilise our exchange rate sufficiently while in ERM II and points to potential macroeconomic imbalances while being in ERM II.

Graph 6: CZK/EUR nominal exchange rate appreciation

Source: Czech National Bank

10. Conclusions

To sum up the most important considerations for our entry to ERM II and the adoption of Euro:

- Optimal timing of our entry to ERM II depends on when the rapid nominal exchange rate appreciation will slow down. Insufficient degree of business cycle and economic structure synchronization with the Eurozone, as well as the poor working of some OCA mechanisms in the Czech economy (especially labour market and fiscal policy) signalize that there still is a need and a significant space for our economic convergence with the Eurozone.
- Instead of relying on Maastricht criteria only, we should also have "national" criteria for Euro adoption, which would reflect the advantages for a candidate country to be a member of EMU. The discussion on the criteria of real convergence, as mentioned above, should be a guiding principle in this respect.

After adopting Euro, we will loose important economic adjustment tools (namely interest rates and exchange rate). If we are to avoid the costs of eventual external asymmetric shocks and their impacts on the business cycle in the Czech economy, we should at least have fulfilled the criteria of the optimum currency areas theory, especially labour market flexibility and labour mobility.

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