

## **CONVERGENCE OF A TRANSITION ECONOMY TO EMU – A CASE STUDY OF SLOVENIA**

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### **Abstract**

*The paper analyses the process of growth and convergence of the Slovenian economy before and after EMU accession. This small and relatively open economy has long been considered the model economy regarding its' successful transition management and the accession into the European monetary union. But after the bailout of several peripheral EMU economies, it is the sixth economy that has entered crises and recession. Strict nominal Maastricht criteria have slowed down economic growth and convergence in the process of EMU accession. Euro introduction has worsened Slovenia's competitive position leading to increased level of debt that brought Slovenia from model EMU economy to one of the peripheral indebted EMU economies that endangers the sustainability of the euro zone itself.*

**Key words:** *Slovenia, EMU, convergence*

*JEL Classification: F15, F43, E42*

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## **1. Introduction**

We use the example of Slovenia in order to perceive the growth and convergence process of a less developed country on its path to the monetary union.

Slovenia was long been considered the model economy regarding the entrance into the European monetary union. But after the bailout of Greece, Portugal, Ireland, Spain and Cyprus it was the sixth economy whose debt position has worsened. The adverse economic shock has also hit this small export-oriented economy, and after some recovery in 2010, the recession is back leading to recession, worsened competitive position of the economy and increased debt putting a high pressure on the Slovenian financial system.

The development model of the Slovenian economy before the accession in EU was characterized with promotion of the investment consumption transformed into export. The well managed flexible exchange rate had a great supporting role for the competitiveness of the Slovenian economy. Investments in fixed capital as well as in R&D were provided mainly through domestic sources in the first period of transition, due to the underdevelopment of the capital market and the slow and gradual capital account liberalization. In the second period of transition, FDI were a primary source of investment elevating the process of transformation of the Slovenian economy, but the stock of FDI is much smaller than in other post communist countries. The investment and competitiveness policies led to positive growth rates in the whole process of transition as well as in the period after accession in the European Union until the crises when it became obvious that EMU is being split on two groups of economies - net creditor, i.e. the more advanced core EMU economies, and net debtor i.e. the peripheral converging economies which poses high pressure on the existence of the euro zone. Since the unified monetary policy requires similar structure and level of development of

the member states, an important question is how has the euro introduction affected growth and convergence process of the less developed EMU economies.

## **2. The development model of the Slovenian economy in the transition period**

At the beginning of the process of transition, the development model of the Slovenian economy was based on the investment demand transformed into exports. The export demand, as a crucial factor of economic development in the first decade of transition, was a result of a set of macroeconomic policies aiming at gradual stabilization and transformation towards market economy. At this period, flexible exchange rate policy played important role in preserving the competitiveness of the Slovenian industry. Most of the investments came from domestic sources due to the underdevelopment of the capital market as well as the slow liberalization of capital account. This concerns the fixed capital investment (75% of which were from domestic sources), as well as for R&D investments (90% of which were from domestic sources)<sup>2</sup>. Foreign capital flows in any form was negligible until the nineties, so that the development model of the Slovenian economy was based on its' own resources and the undertaken domestic initiatives.

OECD stated the following reasons for the lower level of FDI in the Slovenian economy<sup>3</sup>:

- Small domestic market;

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<sup>2</sup> Domadenik, P. and Prasnikar, J. (2004): "Enterprise Restructuring in the First Decade of Independence", in Mrak. M. et.al, *Slovenia-From Yugoslavia to the European Union*, The World Bank, Washington, pp.254-255

<sup>3</sup> OECD, Directorate for Financial, Fiscal and Enterprise Affairs" (January 2002): "Foreign Direct Investment in Slovenia, Trends and Prospects": <http://www.oecd.org/dataoecd/28/14/1831975.pdf>, 11.02.2012

- FDI restrictions from the Slovenian National Bank due to the appreciations pressures of the foreign capital inflows on the Slovenian tolar while having a positive balance of payments;
- The process of privatisation in the form of internal voucher privatisation that was performed relatively slowly than in the other economies from Central Europe that prevented making strategic partner relationship with the foreign investors;
- The political instability and the administrative barriers to foreign capital inflows;
- The low flexibility of the labour market and the workers' friendly legislature;
- The slow privatization of the public sector capacities.

During the second period of transition, FDI mainly in the form of mergers and acquisitions had a role in the process of transformation of the Slovenian economy. Nowadays, 70% of the economy is being privatised, but the transformation process is not over, especially in the banking and the energy sectors.

The biggest investors in the Slovenian economy are EU economies (83,3%), of which Austria (49,1%), Switzerland and France. The most attractive sectors for FDI have been financial intermediation (44,4%) and wholesale trade without motor vehicles (7,5%), as well as pharmacy with 2,5%<sup>4</sup>. Total flows of FDI in the service sector reached 73,3% in 2009, however there is evident growth of FDI flows in industry, as well. Since 2008, FDI in real estate were also present.

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<sup>4</sup> EUROSTAT, [http://epp.eurostat.ec.europa.eu/portal/page/portal/balance\\_of\\_payments/data/database](http://epp.eurostat.ec.europa.eu/portal/page/portal/balance_of_payments/data/database)

**Table 1: EViews results of OLS regression analyses of the impact of FDI on GDP in Slovenia for the period 1992-2008**

Dependent Variable: GDP\_\_CURRENT\_US\$

Method: Least Squares

Date: 03/27/11 Time: 23:00

Sample: 1992 2008

Included observations: 17

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| C                  | 1.78E+10    | 2.64E+09              | 6.735307    | 0.0000   |
| FOREIGN_DIRECT_I   | 15.44418    | 3.303977              | 4.674422    | 0.0003   |
| R-squared          | 0.592947    | Mean dependent var    |             | 2.64E+10 |
| Adjusted R-squared | 0.565810    | S.D. dependent var    |             | 1.19E+10 |
| S.E. of regression | 7.87E+09    | Akaike info criterion |             | 48.51993 |
| Sum squared resid  | 9.28E+20    | Schwarz criterion     |             | 48.61796 |
| Log likelihood     | -410.4194   | F-statistic           |             | 21.85022 |
| Durbin-Watson stat | 1.227966    | Prob(F-statistic)     |             | 0.000299 |

Source: Own calculations based on World Bank data, available at: <http://data.worldbank.org/>

Examining the impact of the FDI on GDP states that the 1 dollar increase in the FDI has led to 15 dollars increase in GDP for the period 1992-2008.

**Table 2: EViews results of OLS regression analyses of the impact of FDI on the service sector in Slovenia for the period 1992-2008**

Dependent Variable: SERVICES\_\_ETC\_\_  
Method: Least Squares  
Date: 03/27/11 Time: 23:03  
Sample: 1992 2008  
Included observations: 17

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.  |
|--------------------|-------------|-----------------------|-------------|--------|
| C                  | 9.08E+09    | 1.54E+09              | 5.885837    | 0.0000 |
| FOREIGN_DIRECT_I   | 9.087474    | 1.927981              | 4.713468    | 0.0003 |
| R-squared          | 0.596956    | Mean dependent var    | 1.41E+10    |        |
| Adjusted R-squared | 0.570086    | S.D. dependent var    | 7.00E+09    |        |
| S.E. of regression | 4.59E+09    | Akaike info criterion | 47.44263    |        |
| Sum squared resid  | 3.16E+20    | Schwarz criterion     | 47.54065    |        |
| Log likelihood     | -401.2623   | F-statistic           | 22.21678    |        |
| Durbin-Watson stat | 1.244781    | Prob(F-statistic)     | 0.000277    |        |

Source: Own calculations based on World Bank data, available at: <http://data.worldbank.org/>

Since most of the investments flew into the financial sector, we analysed the relationship between FDI and services, in order to obtain the impact that FDI had on the restructuring of the economy. The relationship is positive and significant. The relationship between FDI and industry is also positive, even though the impact of foreign capital on the productive sector of the economy is insignificant.

**Table 2: EViews results of OLS regression analyses of the impact of FDI on the industry sector in Slovenia for the period 1992-2008**

Dependent Variable: FOREIGN\_DIRECT\_I  
Method: Least Squares  
Date: 03/27/11 Time: 23:07  
Sample: 1992 2008  
Included observations: 17

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| C                  | -5.28E+08   | 2.51E+08              | -2.101609   | 0.0529   |
| INDUSTRY__VALUE_   | 0.133381    | 0.028667              | 4.652726    | 0.0003   |
| R-squared          | 0.590699    | Mean dependent var    |             | 5.54E+08 |
| Adjusted R-squared | 0.563412    | S.D. dependent var    |             | 5.95E+08 |
| S.E. of regression | 3.93E+08    | Akaike info criterion |             | 42.52833 |
| Sum squared resid  | 2.32E+18    | Schwarz criterion     |             | 42.62635 |
| Log likelihood     | -359.4908   | F-statistic           |             | 21.64786 |
| Durbin-Watson stat | 1.965269    | Prob(F-statistic)     |             | 0.000313 |

Source: Own calculations based on World Bank data, available at: <http://data.worldbank.org/>

According to the FDI data of Slovenia for the period 1992-2009, the accession of Slovenia into EMU in 2004 as well the accession in EMU in 2007 had a significant influence on the foreign capital growth that contributed to changes in the productive structure of the economy towards increase of share of the service sector in the gross domestic product.

### 3. The process of convergence in the Slovenian economy

#### *Nominal convergence*

Slovenia had successfully managed the challenge of nominal convergence imposed by the Maastricht criteria that are mandatory for EMU accession. The *convergence of the interest rates*, that is most important for conveying the unified monetary policy in EMU, was accomplished by the coordination of the monetary policy of the Bank of Slovenia, with the fiscal policy and in the entire period after its independence from former Yugoslavia until EMU accession. While the correlation of the long-term government interest rates between Slovenia and EMU in the period 1999-2003 (a period before EU accession) has been 0,53, for the period after adoption of the ERM mechanism in 2004 until 2010 the correlation has increased to 0,86 that was a sign for increased readiness for adoption of the unified monetary policy.

In order to accomplish the criteria for *inflation convergence*, the following measures have been used: antiindexation, decrease in the inflation expectations, decrease in taxes and regulated prices that have been a cause for the supply shocks and the strict budget control<sup>5</sup>. However, after the introduction of the euro in the Slovenian economy, the correlation of the Slovenian inflation with the EMU inflation has decreased and Slovenian economy exhibited increased inflation rate.

The biggest share of the *public debt* accumulated before the period of independence until 1996 was a result of the process of reconstruction of the big banks and enterprises, whereas in the second period of transition, the government was indebted in order to build or modernize the infrastructure. The structure of public debt has been more favorable than in the first period of the transition due to the issue of favorable securities with lower interest rates. Until the crises, Slovenia has been a

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<sup>5</sup> Mramor, D. (2010), "Fiscal policy adjustment and coordination of macroeconomic policies", in Bole, V. and Mac Kellar, L. (ed.), *From Tolar to Euro*, Center of Excellence in Finance, Ljubljana, pp.85-99

country that has relatively low public debt. However, the public debt, as a result of the deteriorated budget balance reached 38% from GDP in 2010.

The *convergence of the budget deficit* was a result of reduction of expenses in a combination of the decrease in the inflation rate and interest rates, desindexation and reduction of debt financing, so that the budget deficit in 2003 was 2.7% of GDP. Accessing EU has been followed by three types of pressures on the budget balance<sup>6</sup>: at first the methodology was changed; then new budget pressures have been made due to outflow of sources to the EU common budget. The third pressure was the increase in the regulated prices that resulted in a distortion of the relative prices.

In the period from EU and ERM2 accession, the budget deficit decreased to 1,5% of GDP as a result of the reform of the pension system, decrease in the wage costs and increased tax revenues as a result of the tax reform. The crises led to increase in the budget deficit to -6% of GDP.

Until the entrance in the ERM2 mechanism, the managed floating *exchange rate policy* was created in coordination with the fiscal policy that stimulated the structural reforms. Several reforms have also been implemented in the field of foreign exchange market including the reform on the foreign asset market that enabled free access of the banks, enterprises and households on the exchange rate market. This policy has been successful for providing macroeconomic stability and simultaneous movement towards market economy by preserving the external competitiveness of the domestic production.

Slovenia entered the ERM2 mechanism immediately after EU accession in 2004 at an exchange rate of 239,64 tolar for euro. The ERM2 mechanism provided great stability for the exchange rate with only marginal fluctuations around the central parity. These policy has been elevated by the Central Bank's monetary policy by its' policy for keeping the tolar's interest rates close to euro's interest rates. The decision for quick introduction of the euro was due to the permanent circulation of euro bills through

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<sup>6</sup> Ibid.

Europe that made the transition period more difficult to perform. Another reason was the danger from exchange rate attack due to the transition from a flexible exchange rate to the ERMS2 mechanism.

Slovenia has long been considered a model country regarding EMU accession due to the skillful and quick accomplishment of the nominal Maastricht criteria. In sum, the undertaken measures for quick accomplishment of the Maastricht criteria were the following:<sup>7</sup>

- Increased role of the fiscal authorities for demand management;
- Wage control as a support to competitiveness;
- Implementation of structural reforms for development of competitive domestic market;
- Credit growth control in order to manage possible financial risks.

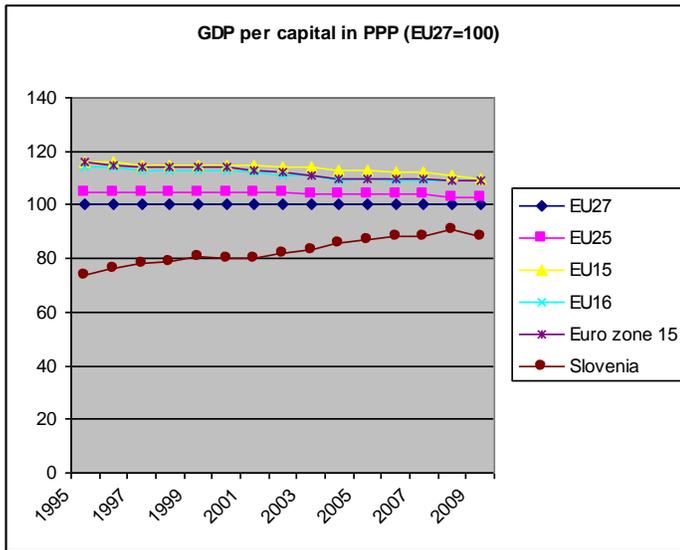
### ***Real convergence***

Until the European crises, Slovenian GDP has steadily converged towards GDP of EU27. GDP per capita is about 50% compared to the biggest trade partner Germany.

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<sup>7</sup> Rant, Anrej (2010),C "Program fro the introduction of the euro", in Bole, V. and Mac Keller, Landis, (ed.),*From Tolar to Euro*, Center of Excellence in Finance, Ljubljana, pp.101-111

**Chart 1: GDP per capita in PPP (EU27=100)**



Data source: EUROSTAT, available at:

<http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>

De Grauwe and Schanbl<sup>8</sup> have pointed to the fact that that the nominal convergence has real economic costs and that there is a conflicting relationship between these two type of convergence mainly due to the emergence of the Balassa-Samuelson effect in a converging economy. Since there is no indication that the nominal criteria for EMU accession will be changed or relaxed, the process of real convergence in such institutional arrangement is relevant for the future enlargements with the transition economies.

In order to test the thesis of the conflict between nominal and real convergence for the Slovenian economy, we analyzed the growth i.e. the speed of convergence in various periods of the development of the Slovenian economy, by using the Barro and Sala-i-

<sup>8</sup> De Grauwe, P. and Schnabl, G. (2004): "Nominal versus real convergence with respect to EMU accession", European University Institute Working Papers, RSCAS No 2004/20, available at: [http://www.eui.eu/RSCAS/WP-Texts/04\\_20.pdf](http://www.eui.eu/RSCAS/WP-Texts/04_20.pdf)

Martin approach. There are two types of convergence in the theory. At first, the conditional or  $\beta$  convergence that is based on the hypothesis that the less developed economies tend to grow faster than the developed ones disregarding the characteristics of the economies was calculated. A regression analysis that estimates the growth of per capita product of a certain period of time on the initial level of per capita product was performed. The other type of convergence i.e. is the  $\sigma$  convergence is measured by the standard deviation, but sometimes, it is measured using the coefficient of variation, a method that was used in this research. If the standard deviation or the coefficient of variation between the less developed economy and the benchmark economy or group of economies decrease, there is a process of convergence of the economy towards the more developed one, or a group of more developed economies.

In order to measure the speed of convergence in periods of different relations with the EMU (pre -EU accession, EU and ERM2 accession and then EMU membership) and we have divided the analyzed period of convergence of the Slovenian economy regarding the phase of it's integration within the European Union. These phases of integration also differ regarding the applied monetary and fiscal policy measures. The first period (1992-2003) is a period starting with Slovenian independence, until the entrance in the ERM2 mechanism. The period from 2004-2006 is the period under the ERM2 mechanism, whereas the last period from 2007-2010 is the period after introduction of the euro. The convergence during the entire analyzed period (1992-2010) has also been measured. This approach would help us answer the question weather the imposition of the nominal criteria to be fulfilled have hampered growth prospects and what have been the effects of adopting the euro as a currency of Slovenia on it's growth and convergence process.

#### *Period 1992-2010*

$$\log(Y_{2010/1992}) = 1,01465 - 0,66649 \log Y_{1992} \quad R^2 = 0,99$$

*Period 1992-2003*

$$\log(Y_{2003/1992}) = 0,73179 - 0,47551 \log Y_{1992} \quad R^2 = 0,99$$

*Period 2004-2006*

$$\log(Y_{2006/2004}) = 0,32934 - 0,21392 \log Y_{2004} \quad R^2 = 0,99$$

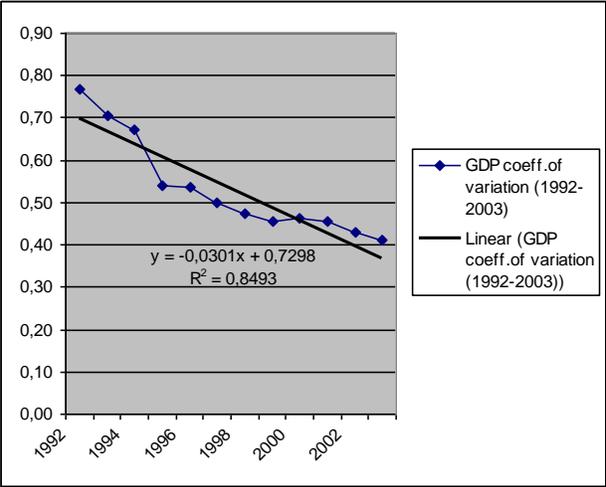
*Period 2007-2010*

$$\log(Y_{2010/2007}) = -0,139230 + 0,8440 \log Y_{2007} \quad R^2 = 0,99$$

According to the estimated results, the speed of convergence in the whole period has been robust of about 66%. The speed of convergence was the highest until adoption of the ERM2 mechanism, whereas the last period after the entrance in the European Union was followed by divergence of the growth rates from the core European countries.

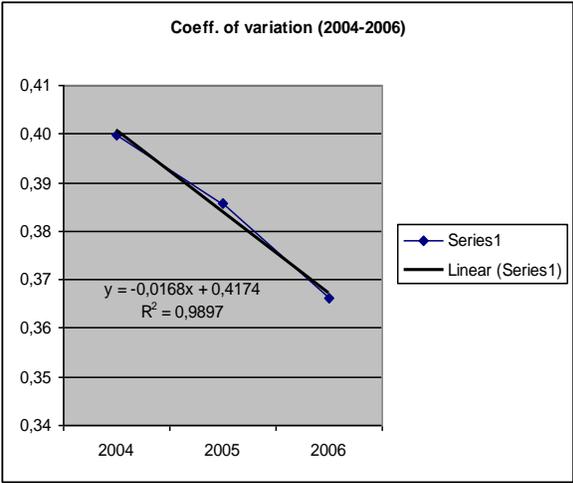
Compatibly, the unconditional convergence measured by the coefficient of variation confirms stronger trend of fall in the dispersion of GDP between Slovenia and EMU for the first period of analyses whereas, slower in the second period and growth after the beginning of the crises that points to the adverse economic shocks with the core EMU countries (Charts 2,3 and 4).

**Chart 2: GDP Coefficient of variation between Slovenia and EMU for the period 1992-2003**



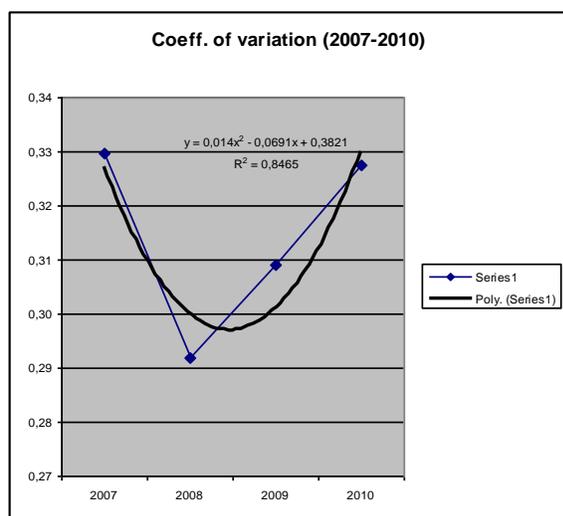
Source: Own calculations based on Word Bank data, available at: <http://data.worldbank.org/>

**Chart 3: GDP Coefficient of variation between Slovenia and EMU for the period 2004-2006**



Source: Own calculations based on Word Bank data, available at: <http://data.worldbank.org/>

**Chart 4: GDP Coefficient of variation between Slovenia and EMU for the period 2007-2010**



Source: Own calculations based on World Bank data, available at: <http://data.worldbank.org/>

#### **4. Economic performances after introduction of the euro currency**

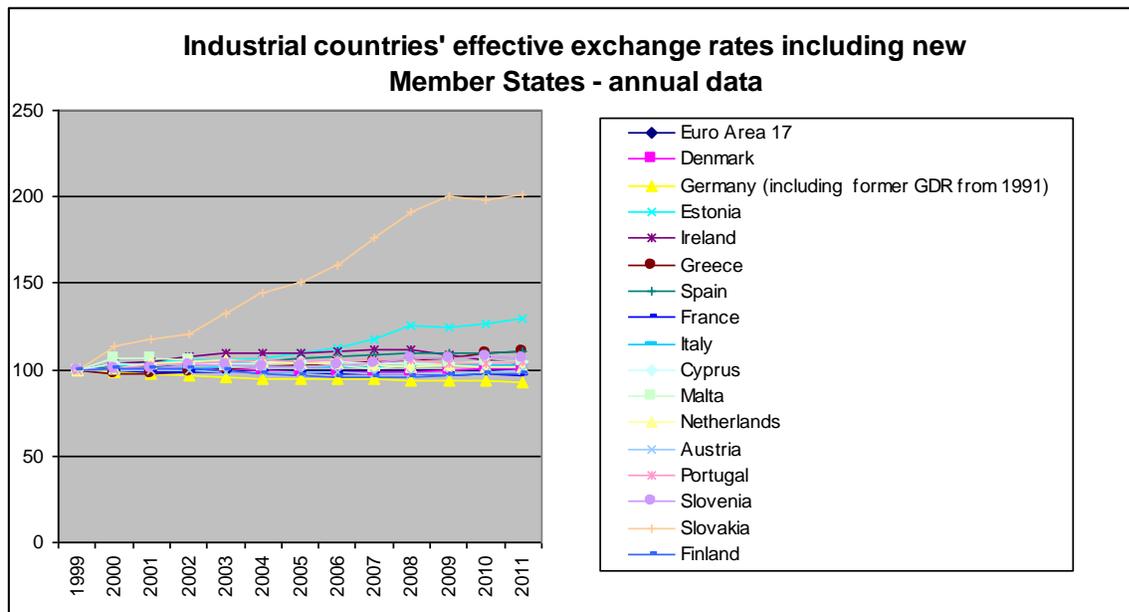
After euro introduction, the growth of the Slovenian economy was mainly result of increase in investments (FDI), the investments in the transport infrastructure the balanced budget as well as export. However, despite the export growth, import growth has greatly increased that led to deterioration of the current account and increased foreign debt. The relatively high inflation rates in Slovenia could not be explained only with the increase of food and energy prices. The inflation expectations had a major role in increase of the inflation, as well the labor market inflexibility that prevented amortization of the price inflation preventing the anti inflation measures of the monetary policy. It is evident, that after introduction of the euro, the competitiveness of the Slovenian economy has deteriorated.

The divergence of the Slovenian economic growth from the core European countries poses the question of the impact of the introduction of the euro on the basic

source of growth, i.e. the export competitiveness of the Slovenian economy. Cost competitiveness has widely deteriorated recently. The bilateral real exchange rate that is part of the EURO currency has been analyzed and it shows continuous appreciation after 1999, as in the other EMU economies that face crises.

The real exchange rate appreciation that can be explained with the existence of the Balassa-Samuelson (Tina Žumer, 2002) effect led to worsened external position and increase in the current account deficit of -3763 million dollars (-6,68% from GDP) in 2008 and consolidated government debt of 39% of GDP in 2011, high unemployment, recession and need of international bailout. Austerity measures have been imposed in 2012 as in the other indebted economies.

**Chart 5: EMU countries effective exchange rates, annual data (1999-2011)**



Data source: <http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>

## 5. Conclusion

The process of convergence of the Slovenian economy toward EU and EMU in the first period of transition was robust and led by the well coordinated macroeconomic policies towards preserving external competitiveness of the economy. The growth process in this period has been fuelled by investment from domestic sources. After capital account was liberalized, FDI had an important role in restructuring of the economy in the second period of transition.

The speed of convergence has been higher in the period before entrance in the ERM2 mechanism and euro adoption. This can be explained by the conflict relationship between nominal and real convergence. Real exchange rate that is part of the bilateral exchange rates that compose the euro currency has appreciated and inflation has steadily increased. The result was worsened external balance and increased debt. Herewith, from a model country of EMU accession, Slovenia is nowadays ranked among peripheral euro countries whose position and growth prospect in EMU is being questioned. Profound structural measures should be undertaken within the EMU in order to help the converging economies within EMU restore their competitiveness and growth and herewith ensure the sustainability of the monetary union itself.

Slovenia's example could also serve as a case study for future EMU enlargements. The current economic crises questions the endogeneity of the OCA theory as presented by Frankel and Rose<sup>9</sup> that the less developed economies within the monetary union would catch-up the developed economies as a result of the process of integration. The opposite is even more relevant if there is a strong Balassa-Samuelson effect in the EMU accession economy that would either hamper the achievement of the

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<sup>9</sup> Frankel, J. A. and Rose, A. K. (Jul., 1998): "The Endogeneity of the Optimum Currency Area Criteria", *The Economic Journal*, Vol. 108, No. 449, pp. 1009-1025

Maastricht criteria, that even now after the crises are not subject of a revision, or it would undermine growth prospects of the economy.

Therefore, for perspective EMU economies, a in-depth analyses for the existence of the Balassa-Samuelson effect and their preparedness for EMU according to OCA criteria should be done, so that the new incomers do not range into the group of less developed, uncompetitive and peripheral economies with strong negative effects on the monetary union and herewith the sustainability of the entire EU project.

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