

# **A New EU Member Country on the Road to the Euro Area: Monetary and Fiscal Policies for Slovenia**

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## **Abstract**

Slovenia will be the first of the ten new EU member states to enter the euro area in 2007. It was an explicit objective of Slovenian policy-makers to introduce the euro as early as possible. Slovenia is participating in the exchange rate mechanism ERM-II since June 2004. This paper analyses whether the choice of participating in the ERM-II soon after EU accession was the best strategy in terms of the macroeconomic performance. It is shown that a better overall economic performance could have been achieved under a crawling peg regime allowing a depreciation of the Slovenian tolar (SIT) before introducing the euro in 2007. The worst policy results are obtained when the exchange rate is totally fixed at an early stage of EMU integration. The labor market performance can be significantly improved by cutting income taxes and social security contribution rates.

## **Keywords**

Fiscal policy, monetary policy, macroeconometric model, Slovenia

## **1. Introduction**

May 1, 2004, Slovenia joined the European Union together with nine other countries, seven of which are Central and Eastern European. Although trade barriers were removed to a large extent already during the accession negotiations, participation in the EU is further fostering economic integration of the new member states with each others and with incumbent Union members. One important integration aspect concerns the monetary policy framework. From the first day of membership onwards, the new member countries have been participating in the European Economic and Monetary Union (EMU), albeit with a derogation. However, being EMU members does not imply introducing the euro immediately. In order to have the right to adopt the common currency, the new EU member states are required to fulfill the convergence criteria set out in the Maastricht Treaty. In May 2006, both the European Commission and the European Central Bank decided that Slovenia fulfilled all relevant criteria. Thus, from 1 January 2007, Slovenia will be the first of the new members to enter the euro area.

The choice of the exchange rate regime before adopting the euro was of particular importance. With effect from June 28, 2004, Slovenia entered the Exchange Rate Mechanism ERM-II of the European Monetary System (EMS), together with Estonia and Lithuania. The ERM-II links the currencies of non-euro area member states to the euro. For each participating currency, a central parity against the euro and a standard fluctuation band of  $\pm 15$  percent ( $\pm 2.25$  percent in case of the Danish krone) are defined. Introducing the euro as legal tender requires that the member state has participated in the ERM-II without interruption during the two years preceding the

examination of the situation without severe tensions. In addition, its currency must not have devalued (i.e. the bilateral central rate for its currency against any other member state's currency) on its own initiative during the same period. In addition to this exchange rate criterion, the general budget deficit and the debt level shall not exceed three percent and 60 percent, respectively, in relation to nominal GDP. Furthermore, the inflation rate must not exceed the average inflation rate of the three best-performing (in terms of price stability) member states by more than 1.5 percentage points. The long-term interest rate must not exceed that of the three best-performing member states (in terms of price stability) by more than 2 percentage points.

In the Euro System, monetary policy is conducted by the European System of Central Banks, in particular the European Central Bank (ECB), and is hence no longer available for internal stabilization purposes of the member countries. As a consequence, other economic policy instruments may become more important than hitherto. It is therefore of interest whether macroeconomic policy goals such as a high GDP growth rate, low inflation and unemployment as well as external equilibrium and a balanced budget can be achieved by means of fiscal and structural policies only. In this paper, we use SLOPOL6, a macroeconometric model of the Slovenian economy, to analyze whether the choice of participating in the ERM-II at an early stage after EU accession was the best strategy in terms of the macroeconomic performance. In Neck et al. (2004a, b), a similar approach was followed, addressing the questions of the best policy-mix on Slovenia's road to full monetary integration in the EMU by applying an earlier version of SLOPOL together with an optimum control algorithm. For the model version used for the present paper, the set of fiscal policy instruments was extended, and the model incorporates more recent data and more variables.

The paper is organized as follows. In the next section, the SLOPOL model is described. In section 3, the set of policy instruments is briefly introduced. The simulation design is addressed in section 4, and the simulation results are discussed in sections 5 and 6. Finally, in section 7 the main findings are summarized and conclusions are drawn. Details on the model are provided in the Appendix.

## 2. The Macroeconometric Model SLOPOL6

SLOPOL6 (SLOvenian economic POLicy model, version no. 6) is a medium-sized macroeconometric model of the small open economy of Slovenia. In its current version, it consists of 51 equations of which 20 are behavioral equations and 31 are identities. The former were estimated by ordinary least squares (OLS), using quarterly data for the period 1995:1 until 2005:4.<sup>1</sup>

The model combines Keynesian and neoclassical elements. The former determine the short and medium run solutions in the sense that the model is demand driven and persistent disequilibria in the goods and labor markets are possible. The supply side incorporates neoclassical features. Almost all behavioral equations are specified in error correction form, except for the equations determining the exchange rate, the interest rates, and changes in inventories. In this section, the behavioral equations are sketched very briefly. The model equations are presented in the Appendix. A more detailed description of an earlier version of the model can be found in Weyerstrass et al. (2001).

Consumption of private households is explained by disposable income and by the real long-term interest rate, the latter reflecting wealth effects. Investment is derived from profit maximization of firms. Real gross fixed capital formation is thus influenced by total final demand and by the user cost of capital (the real long-term interest rate plus the depreciation rate of the capital stock). Real exports of goods and services are a function of the real exchange rate and of foreign demand for Slovenian goods and services. As the aggregate euro area is by far Slovenia's largest trading partner<sup>2</sup>, the euro area approximates the rest of the world. Therefore, foreign demand is measured by euro area real GDP, and only the exchange rate between the Slovenian tolar and the euro is considered. Slovenian real imports of goods and services depend on final domestic demand and on the real exchange rate.

Money demand depends on real GDP and on the short-term interest rate. The long-term interest rate is linked to the short-term rate in a term structure equation. In addition, the long-term interest rate in Slovenia depends on its euro area counterpart, reflecting Slovenia's integration in the European capital market. The exchange rate equation rests on considerations of the uncovered interest parity and the purchasing power parity theories: the nominal exchange rate between the Slovenian tolar and the euro depends on the interest differential between Slovenia and the euro area and on the ratio of the price levels of both countries/regions.

Labor demand (actual employment) is influenced by real GDP and by unit labor cost, where the latter are defined as the ratio of the nominal gross wage and labor productivity. Labor productivity is defined as real GDP per employee. Labor supply depends on the real net wage and on real GDP. The latter influence is to approximate

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<sup>1</sup> Data for Slovenia were provided by the Slovenian Statistical Office, by the Institute of Macroeconomic Analyses and Development (IMAD), and by the Bank of Slovenia. Euro area data were taken from the EUROSTAT database, except for the short-term interest rate in the euro area, which was extracted from the database of the German Bundesbank.

<sup>2</sup> The euro area accounts for about 60 percent of Slovenian foreign trade.

the “discouraged worker effect”: in an economic downturn, increasing unemployment discourages people from actively seeking employment. On the other hand, in an upturn, improving labor market conditions encourage more people to enter the labor market. The wage rate is determined by the price level, the unemployment rate, labor productivity, and the tax wedge on labor income, the latter being defined as the sum of income taxes and employees’ social security contributions. Consumer prices depend on domestic and international factors. The former are made up by unit labor costs. Imported inflation is approximated by the nominal exchange rate of the Slovenian tolar vis-à-vis the euro. This specification shall account for the fact that a depreciation of the domestic currency raises import prices. The GDP deflator is linked to the consumer price index.

Potential output, which is determined by a Cobb-Douglas production function with constant returns to scale, depends on trend employment, the capital stock, and autonomous technical progress. Trend employment is defined as the labor force minus natural unemployment. The NAIRU (or inflation-stable unemployment rate) is modeled by first applying a band-pass filter to the actual unemployment rate in order to extract the trend. In the simulations, the NAIRU is then modeled as an AR(8)-process.

Government expenditures and revenues are linked to economic policy instruments and to the economic situation in Slovenia, which is approximated by GDP at current prices. Revenues from personal income taxes and from employees’ social security contributions are determined by multiplying the tax rate and the social security contribution rate, respectively, by the number of employees and by the average gross wage per employee. In a behavioral equation, corporate income taxes are explained by GDP. Interest payments on public debt depend on the debt level and the long-term interest rate. The difference between the remaining government revenues and expenditures is explained by nominal GDP. Government consumption and investment as well as transfers to private households are regarded as policy instruments. The budget deficit is given by the difference between total government expenditures and revenues.

In order to explore the implications of the exchange rate system, a regime of completely flexible exchange rates is compared to a crawling peg regime and to a regime of fixed exchange rates. The crawling peg is meant to mimic Slovenia’s membership in the ERM-II of the EMS until the end of 2006 and its integration into the euro area from 2007 on. In this scenario, the exchange rate is assumed to be 241 Slovenian tolar per euro in 2006 on average and 245 SIT/EUR from 2007 on. For the simulations with fixed exchange rates, the Slovenian tolar is fixed at 239.64 SIT/EUR over the entire simulation period. This value corresponds to the central parity of the Slovenian tolar in the ERM-II as well as the conversion rate at which the Slovenian tolar is converted into the euro upon Slovenia’s euro area accession.

In the flexible exchange rate scenario, the short-term rate of interest is available as an active monetary policy instrument for internal stabilization purposes. In this case, the short-term interest rate is determined by a Taylor-rule type equation, i.e. it depends on inflation and on the output gap. In the other regimes, the interest rate and hence monetary policy have to be adjusted to stabilize the exchange rate and can therefore not be considered as an active policy instrument.

### **3. Economic Policy Instruments**

In the simulations, five fiscal policy instruments are considered. The fiscal policy instruments are government consumption, public investment, transfer payments to households as well as the personal income tax rate and the social security contribution rate. The first three instruments allow distinguishing between consumptive and capital expenditures. They represent different channels through which economic policies influence the economy. Transfer payments increase disposable income of private households. This additional income is only partly used for purchases, and parts are saved. In contrast, government consumption immediately raises GDP by its full amount as it is part of GDP by definition. Finally, public investment not only increases actual GDP but also raises the capital stock, exerting a positive influence on the production possibility frontier and thus on the economy's future growth potential. Including the direct tax rate and the social security contribution rate as instruments allows the determination of the effects of reducing non-wage labor costs.

In addition to fiscal policy, in the flexible exchange rates scenario, monetary policy is available for internal stabilization purposes. In this case, the short-term interest rate is a policy instrument. On the other hand, in the simulations with a crawling peg regime and with fixed exchange rates, the Slovenian short-term interest rate is determined by the exchange rate and by the short-term interest rate in the euro area.

### **4. The Simulation Design**

The aim of this paper is twofold. Firstly, the macroeconomic implications of the exchange rate regime on Slovenia's road to become a member of the euro area shall be assessed. To this end, a regime of completely flexible exchange rates is compared to a crawling peg regime and to a regime of fixed exchange rates. As Slovenia's integration into the euro area as of the beginning of 2007 is a fact, the simulations with totally flexible exchange rates are counterfactual ones. They show the hypothetical macroeconomic performance that could have been achieved had Slovenia opted for introducing the euro at a later point in time.

Besides the choice of the exchange rate regime, the question is addressed whether the labor market performance can be improved by cutting the income tax rate and the social security contribution rate. To avoid increasing budget deficits, this tax cut is accompanied by a spending restraint.

In order to answer these two research questions, we run six simulations over the period 2006 to 2010. In three of the simulations (one for each exchange rate regime), the average personal income tax rate and the employees' social security contribution rate are held constant at their 2005 levels of 10 percent and 19 percent, respectively. In these scenarios, both government consumption and transfer payments to private households at current prices are increased by 8 percent p.a. over the simulation horizon. In all scenarios, public investment is raised by 9 percent p.a. As Slovenia still lags behind the EU-15 average in public infrastructure, the growth of public investment is not reduced to finance the tax cuts. Instead, the increase in public consumption and transfer payments is reduced for this purpose.

In the simulation experiments assessing the effects of cuts in direct taxes, the income tax rate is reduced from 10 to 8 percent, and the social security contribution rate is decreased from 19 to 17 percent over the simulation period. These tax cuts are accompanied by diminishing the growth rates of government consumption and transfer payments by 2.5 percentage points to 5.5 percent p.a. over the simulation horizon.

As for the exogenous variables, it is assumed that euro area real GDP grows by 2.25 percent p.a. over the simulation horizon. Euro area CPI inflation is assumed to be 2 percent p.a. in each year. Over the entire five-year period, Slovenian population is held constant at 1.99 million inhabitants. For the three months EURIBOR and the 10-year government bond yield in the euro area, a slight rise by 0.3 percentage points per year is assumed (in 2005 the average values amounted to 2.2 percent and 3.5 percent, respectively).

## **5. Simulations with Constant Tax Wedge**

This section presents the macroeconomic results obtained when the tax wedge on labor income is held constant over the simulation horizon. The set of fiscal policy instruments in these scenarios consists of government consumption expenditures, public investment and government transfer payments to private households, each in nominal terms, as well as the personal income tax rate and the social security contribution rate. With flexible exchange rates, the short-term interest rate is used for discretionary policies in addition. The numerical results are summarized in tables 1 to 3. For comparison, the actual development in 2005 is also shown.

In the *flexible exchange rates scenario* (table 1), real GDP grows at the rate of 3.4 percent p.a. on average, with a trough in 2008. In 2010, the unemployment rate reduced to nearly half of its 2005 value. On average, it amounts to 5.9 percent. Employment in 2010 exceeds the 2005 level by 47,600 employees. CPI inflation increases until 2008, but declines afterwards. On average, it reaches 4.3 percent. The government budget exhibits a small deficit in 2006. From 2007 onwards, the government runs a small surplus of 0.4 to 0.9 percent of nominal GDP. Over the simulation horizon, the debt-to-GDP ratio is considerably reduced: it declines from 25.5 percent in 2005 to just over 15 percent in 2010. Overall, while meeting the fiscal criteria of the Maastricht treaty, the high inflation in this scenario, in particular in 2007 and 2008, would prevent Slovenia from introducing the euro during the simulation period. Until 2010, the Slovenian currency depreciates by 10 percent in nominal terms, but the real exchange rate remains virtually constant, which is due to the significantly lower inflation in the euro area, the representative foreign country block.

Under a *crawling peg regime* (table 2), real GDP on average grows at the lower rate of 3.1 percent p.a., reaching a minimum of 2.3 percent in 2009. In 2007, the year in which the exchange rate is getting fixed, the GDP growth rate drops from 4.3 percent to 3.0 percent. As compared to the flexible exchange rates regime, from 2008 onwards the rate of inflation is considerably lower. Also from 2008 on, the unemployment reduction lags behind the previous scenario. Between 2005 and 2010, employment is expanded by 40,700 persons. Thus, about 7,000 people less are in paid employment than in the flexible exchange rates case. As in the previous scenario, the current account improves

over the simulation horizon, turning from a deficit into a small surplus in the final year. The government achieves marginal budget surpluses in 2007 and 2008 only, but in the remaining years the deficits are small and Maastricht compatible. The debt-to-GDP ratio is again reduced over time, but to a significantly smaller extent than in the previous scenario. On average, it is 2 percentage points higher than in the flexible exchange rates scenario, but the gap is widening considerably over time, reaching more than 5 percentage points in the final year. The nominal depreciation of the Slovenian currency by design is smaller than in the flexible exchange rates case. Depreciation occurs in the first year only, while from 2007 on the exchange rate is held constant. Due to the relatively high inflation in Slovenia, the Slovenian currency appreciates by 7 percent in real terms. Monetary policy is less expansionary than in the flexible exchange rate case in order to fulfill the exchange rate target.

With *fixed exchange rates* (table 3), the nominal exchange rate is held constant over the entire six-year period. Now real GDP on average grows at the still slightly lower rate of 3.0 percent p.a. The time profile of the inflation rate resembles that of the previous scenario very closely. The only significant negative deviation occurs in 2007, because in this scenario the exchange rate is held constant over the entire simulation period, while in the crawling peg case it is fixed from 2007 onwards, but at a higher value. The labor market performance is very similar to that of the crawling-peg scenario. In 2010, the number of employees exceeds the 2005 level by 40,500 persons, i.e. 200 employees less than in the previous scenario. Again, the current account improves over the simulation horizon, but less so than in the crawling-peg scenario. The real appreciation of the tolar vis-à-vis the euro by 8.6 percent until 2010 stimulates imports, while exports grow less as they become relatively more expensive on the world market. Taken in isolation, this would lead to a worsening of the current account. On the other hand, domestic GDP grows less than in the two previous simulations; hence the growth rate of imports is also lower. Overall, the current account exhibits a more favorable trajectory than in the flexible exchange rates case, but a worse performance than in the scenario with a crawling peg. The government budget exhibits a less favorable development than in the two previous cases. From the first year of the simulation horizon onwards, the government runs a deficit, which, except for 2007, is increasing over time. As a result, the debt-to-GDP ratio is reduced until 2008 only, but increases afterwards. However, in 2010 it is still 3 percentage points lower than in 2005. Monetary policy has to be considerably more restrictive than in the previous scenarios in order to keep the nominal exchange rate fixed. Thus, the faster disinflation comes at the expense of the loss of international competitiveness, thereby reducing GDP growth and worsening public finances.



## 6. Simulations with Tax Wedge Reduction

In this section, the macroeconomic performance resulting when the tax wedge on labor income is reduced is described. In particular, over the entire simulation horizon, both the direct tax rate and the social security contribution rate are cut by two percentage points compared to the simulation experiments described in the previous section. The increase of government consumption and transfer payments to private households is reduced compared to the simulations with a fixed tax wedge. The growth rate of public investment is not altered, as considerable infrastructure investment is still necessary in Slovenia. With flexible exchange rates, the short-term interest rate can be used for discretionary policies in addition. The numerical results are summarized in tables 4 to 6. Again, the macroeconomic outcome in 2005 is also shown.

With *flexible exchange rates* (table 4), real GDP on average grows at a rate of 3.4 percent p.a. over the period 2006 to 2010. From 2007 onwards, the rate of unemployment is lower than in the scenarios without a cut in the income tax rate and the social security contribution rate. In 2006, however, unemployment is higher. Obviously, in the first year of implementing the fiscal policy measures, the decrease in public expenditures and the resulting drop in final demand more than offset the positive effects generated by the supply-side policy measures. From the second year onwards, the reduction in non-wage labor costs exerts its positive effects. Employment on average is higher than in the previous scenarios. At the end of the five-year period, 50,700 people more than 2005 are in paid employment. This number exceeds the corresponding figure of the first scenario by about 3,200 persons, while real GDP growth is almost identical. The average rate of inflation is half a percentage point lower than in the case of a fixed tax wedge. The time profile of the current account is comparable. Public finances are less favorable. The budget deficit and public debt are higher on average. Over the five-year period, the government runs a budget deficit, but it declines from 2.3 to just 0.1 percent of GDP. The debt-to-GDP ratio first increases until 2007, but subsequently decreases to 23 percent in the final year. In nominal terms, the Slovenian tolar depreciates by about 8 percent until 2010, i.e. by two percentage points less than in the corresponding scenario without a reduction in the non-wage labor costs. In real terms, the Slovenian tolar again remains almost constant. Monetary policy is expansionary, as before.

With a *crawling peg regime* (table 5), real GDP on average grows at the rate of 3.0 percent p.a. over the period 2006 to 2010. The unemployment rate is slightly higher than in the flexible exchange rates case, and the deviation rises over time. The increase in employment amounts to 41,300 employees. Inflation rises until 2008, but declines again towards the end of the simulation period. Public finances exhibit a worse development as compared to the previous simulation exercises. The average budget deficit amounts to 2.1 percent of nominal GDP, compared to 1.3 percent in the flexible exchange rates case and just 0.6 percent in the corresponding simulation run without a reduction in non-wage labor costs and public spending. From 2006 to 2008, public finances improve, but in the last two years the budget deficit increases significantly. Nevertheless, over the entire five-year period, the budget deficit remains compatible with the Maastricht criteria and the Stability and Growth Pact. The ratio of the debt level to nominal GDP rises over time, reaching 28 percent in 2010. The current account improves again from a deficit of 2.6 percent of GDP in 2005 to a surplus of about the

same size in 2010. As in the respective scenario of the previous section, the exchange rate of the Slovenian tolar is fixed in such a way that from 2005 to 2007, it depreciates in nominal terms by around 2.25 percent. From 2007 onwards, it is held constant. In real terms, the Slovenian tolar appreciates by more than 5 percent until 2010. Money supply correspondingly rises less than in the flexible exchange rates case. This more restrictive monetary policy is due to interventions of Slovenia's central bank necessary to avoid greater nominal depreciation of the Slovenian tolar.

*Fixing the exchange rate* (table 6) results in a GDP growth rate of 2.9 percent p.a. on average. Over the five-year horizon, the growth rate declines from 4.4 percent in 2006 to just 2.2 percent in 2010. Over time, the unemployment rate declines by 5.5 percentage points. Net job creation amounts to 41,000 employees. Thus, 300 people less than in the previous scenario are in paid employment, but compared to the corresponding scenario without a cut in non-wage labor costs, employment is higher by 500 persons. Inflation is lower by pegging the Slovenian tolar to the currency of a low inflation region but increases until 2008. Public finances deteriorate markedly. With 2.9 percent in the final year, the deficit-to-GDP-ratio comes close to the deficit ceiling of the Maastricht treaty. Consequently, the debt ratio rises to 30 percent in 2010. In nominal terms, the exchange rate is held constant. In real terms, the Slovenian currency appreciates by 7 percent. The current account improves over the simulation period. As in the case of constant non-wage labor costs, the development of the current account lies between the scenarios with flexible exchange rates and with a crawling peg. Fixing the exchange rate results in lower GDP growth and thus smaller imports, but this is counteracted by the real appreciation of the domestic currency. With fixed exchange rates, the Slovenian central bank has to prevent depreciation by interventions in the foreign exchange market. The Slovenian central bank has to sell foreign and buy Slovenian currency, resulting in a relatively restrictive monetary policy. Such a policy might quickly exhaust Slovenia's foreign currency reserves. These results show that fixing the exchange rate would put strong pressure on national economic policies of Slovenia as well as the other new EU member states as long as economic integration in the sense of real convergence had not reached a mature stage.

## **7. Conclusions**

In this paper, simulations with SLOPOL, a medium-sized macroeconometric model of the Slovenian economy have shown that the labor market performance can be considerably improved by cutting the income tax rate and the social security contribution rate. Public finances deteriorate if the exchange rate is entirely fixed at an early stage of the monetary integration of Slovenia in the EMU. Overall, the crawling peg regime with a cut of the tax burden on wages together with a reduction in consumptive government expenditures gives the best macroeconomic results. The simulation experiments show that the exchange rate regime makes more difference when the tax wedge on labor income is not cut. Cutting tax rates and social security contribution rates and at the same time totally fixing the exchange rate at an early stage of integration to the EMU results in a significant worsening of public finances.

The simulation results highlight the importance of the sequence of European economic integration for a small open economy. Full monetary integration with the eventual

adoption of the common currency requires a high degree of real convergence. In the initial phase of economic integration, an independent monetary policy is of high importance. The common monetary policy with low nominal interest rates is inadequate if inflation is still considerably above the euro area average. In this case, low real interest rates may result in an overheating of the domestic economy. In addition, as a nominal depreciation is no longer possible, the domestic currency will appreciate in real terms, causing a loss in international competitiveness. The export performance of Spain, Portugal and Greece since the beginning of the monetary union may serve as a warning example here.

The effects of labor market reforms can be seen from a comparison between any of the scenarios with higher income tax rates and social security contribution rates and the respective one with a cut in these policy instruments. In each of these cases, nearly all relevant macroeconomic variables show better results in the scenarios with reduced non-wage labor costs. This is particularly true for employment, which can be effectively and favorably influenced by a lower tax wedge, without putting undue pressure upon the government budget. On average, net employment creation until 2010 is higher by about 1,400 employees when the tax wedge is reduced. These favorable supply-side effects can be attributed to the fact that a lower wedge between the wage as production costs and the wage paid to the workers leads to smaller wage claims by trade unions. Lower gross wages induce companies to increase their work force. In the simulations throughout this paper, the cut in direct taxes has been financed by a spending restraint. In the short run, i.e. in the first year after implementing these reforms, the drop in final demand outweighs the positive effects from reducing the tax burden, thus unemployment rises, but afterwards the positive effects from the supply-side measures prevail. These results show clearly that optimal policies require not only counter-cyclical demand-side reactions (either through automatic stabilizers or through discretionary policy) but also structural (supply-side) reforms, such as a shift of government expenditures from transfers to purchases and a reduction of the level of labor income taxation.

It has to be stressed that factors like structural imbalances between labor supply and demand, which may be very important determinants of unemployment, cannot be captured with an aggregated model like SLOPOL. In addition, further positive supply-side effects of replacing the domestic currency by the euro, in particular the reduction in transaction costs, have not been considered in this paper. Moreover, the Lucas critique, which represents a fundamental objection against the use of structural macroeconomic models without rational expectations, applies. Incorporating changes in the public's expectation with the recognition of a new policy regime into the model will certainly be a major improvement, although the short time series available for Slovenian data makes an attempt at executing it still more difficult than for countries with a longer history without structural breaks.

## Appendix A: Variables of the Econometric Model SLOPOL6

Table 7. List of variables

<i>Endogenous variables</i>	
<i>AGWN</i>	Average gross wage per employee, nominal, SIT / quarter
<i>AGWR</i>	Average gross wage per employee, real
<i>BUDGETREST</i>	Balance of other, non-allocated government revenues and expenditures
<i>CA</i>	Current account balance, real
<i>CAGDP</i>	Current account balance as percentage of real GDP
<i>CAPR</i>	Capital stock, real
<i>CPI</i>	Consumer price index
<i>CR</i>	Private household consumption, real
<i>DEBT</i>	Public debt level, nominal
<i>DEBTGDP</i>	Public debt level as percentage of nominal GDP
<i>DEFGDP</i>	Budget deficit as percentage of nominal GDP
<i>DEFICITN</i>	Budget deficit, nominal
<i>DEMAND</i>	Total final demand, real; GDPR + IMPR
<i>EMP</i>	Employment, 000 persons
<i>EXR</i>	Exports, real
<i>GDPDEF</i>	GDP deflator
<i>GDPN</i>	Gross domestic product, nominal
<i>GDPR</i>	Gross domestic product, real
<i>GINVR</i>	Public investment, real
<i>GNFIN</i>	Government consumption according to government financial statistics
<i>GR</i>	Government consumption, real
<i>GRGDPR</i>	Annual growth rate of real GDP
<i>GRYPOT</i>	Annual growth rate of potential GDP
<i>ILONGR</i>	Real long term interest rate
<i>IMPR</i>	Imports, real
<i>INCCORP</i>	Government revenues from corporate taxes, nominal
<i>INCOME</i>	Disposable income of private households, nominal
<i>INCOMER</i>	Disposable income of private households, real
<i>INCTAX</i>	Government revenues from total income taxes, nominal
<i>INFL</i>	CPI inflation rate
<i>INTEREST</i>	Payments on outstanding public debt
<i>INVENTR</i>	Inventory investment, real
<i>INVR</i>	Investment, real
<i>LFORCE</i>	Labor force, 000 persons
<i>LTIRLN</i>	Nominal long term interest rate
<i>M3N</i>	Money stock M3, nominal
<i>M3R</i>	Money stock M3, real
<i>NAIRU</i>	Inflation-stable rate of unemployment
<i>NETWAGEN</i>	Average net wage, nominal
<i>NETWAGER</i>	Average net wage, real

<i>PERSINCTAX</i>	Government revenues from personal income taxes, nominal
<i>PRINVR</i>	Private gross fixed capital formation, real
<i>PROD</i>	Labor productivity
<i>SITEUR</i>	Nominal exchange rate, SIT per euro
<i>SITEURR</i>	Real exchange rate between Slovenian tolar and euro
<i>SOCCOMP</i>	Employers' social security contributions, nominal
<i>SOCEMP</i>	Employees' social security contributions, nominal
<i>SOCTOTAL</i>	Total social security contributions, nominal
<i>STIRLN</i>	Nominal short term interest rate (policy instrument and determined in a Taylor-rule type equation in the case of flexible interest rates)
<i>TREND_EMP</i>	Trend employment (labor force minus "natural" unemployment)
<i>UCC</i>	User cost of capital
<i>ULC</i>	Unit labor costs
<i>UN</i>	Unemployment, 000 persons
<i>UR</i>	Unemployment rate, % of the labor force
<i>UTIL</i>	Capacity utilization rate
<i>WEDGE</i>	"Tax Wedge"; difference between average nominal gross and net wage per employee
<i>YPOT</i>	Potential GDP, real
<b><i>Exogenous variables, not controllable by Slovenian policy-makers</i></b>	
<i>DEBTADJ</i>	Possible adjustments to the stock of public debt
<i>DEPR</i>	Depreciation rate of the capital stock
<i>DUM021</i>	Dummy variable, 1 in the first quarter 2002, 0 otherwise
<i>DUM05</i>	Dummy variable, 1 in the year 2005, 0 otherwise
<i>DUM992</i>	Dummy variable, 1 in the second quarter 1999, 0 otherwise
<i>DUM993</i>	Dummy variable, 1 in the third quarter 1999, 0 otherwise
<i>EUR10Y</i>	Interest rate for 10 years government bonds in the euro area
<i>EUR3M</i>	Three-months interest rate in the euro area
<i>GDPEUR12</i>	Real GDP in the euro area
<i>HICPEUR12</i>	Harmonized index of consumer prices in the euro area
<i>TIME</i>	Linear time trend
<b><i>Policy variables</i></b>	
<i>GINVN</i>	Public investment, nominal
<i>GN</i>	Government consumption, nominal
<i>INCTAXRATE</i>	Average "tax" rate, including income tax and employees' social security contributions
<i>SOCEMPRATE</i>	Social security contribution rate for employees
<i>TRANSFERSN</i>	Transfers to private households, nominal

## Appendix B: Model Equations

### *Behavioral Equations*

R<sup>2</sup> is the adjusted coefficient of determination, DW is the Durbin Watson statistic; t-statistics are given in parentheses below coefficients.

#### *Potential output*

$$\log(YPOT) = -0.839136 + 0.648102 * \log(TREND\_EMP) + (1 - 0.648102) * \log(CAPR) + 0.004365 * TIME$$

$$\log(GDPR) = -0.839136 + 0.648102 * \log(EMP) + (1 - 0.648102) * \log(CAPR) + 0.004365 * TIME$$

(-2.548920) (3.625960) (3.625960) (3.339869)

$$R^2 = 0.986289 \quad DW = 0.801470$$

#### *NAIRU*

$$D(NAIRU) = -0.044581 - 0.283872 * D(NAIRU(-1)) + 0.387325 * D(NAIRU(-3)) + 0.281913 * D(NAIRU(-4))$$

(-1.124953) (-1.856249) (2.335843) (1.845909)

$$+ 0.496290 * D(NAIRU(-5)) - 0.276744 * D(NAIRU(-8))$$

(3.380917) (-1.814794)

$$R^2 = 0.395800 \quad DW = 2.376885$$

#### *Consumption of private households*

$$\log(CR/CR(-1)) = 0.413191 + 0.375626 * \log(INCOMER / INCOMER(-1)) - 0.293998 * \log(CR(-1))$$

(1.841513) (4.390582) (-3.586244)

$$+ 0.199217 * \log(INCOMER(-1)) - 0.002379 * ILONGR(-1) + 0.032129 * DUM992$$

(2.575871) (-2.415892) (4.291727)

$$- 0.041086 * DUM993$$

(-4.896282)

$$R^2 = 0.825881 \quad DW = 2.262197$$

#### *Gross fixed capital formation*

$$\log(PRINVR / PRINVR(-4)) = 0.547377 + 1.677160 * \log(DEMAND / DEMAND(-4)) - 0.582231 * \log(PRINVR(-4))$$

(0.572847) (5.306386) (-4.372626)

$$+ 0.385862 * \log(DEMAND(-4)) - 0.133517 * \log(UCC(-4))$$

(2.114335) (-2.100554)

$$R^2 = 0.781110 \quad DW = 0.960741$$

### ***Inventory investment***

$$INVENTR = 6.756782 + 0.613727 * INVENTR(-1) - 0.531997 * D(GDPR-INVENTR)$$

(4.902811) (4.301567) (-4.923027)

$$R^2 = 0.416334 \quad DW = 2.424885$$

### ***Exports of goods and services***

$$\log(EXR / EXR(-4)) = -0.028018 + 0.258837 * \log(EXR(-1) / EXR(-5))$$

(-2.582361) (2.937710)

$$+ 0.986657 * \log(GDPEUR12 / GDPEUR12(-4))$$

(3.044261)

$$+ 0.528579 * \log(SITEURREAL(-4) / SITEURREAL(-8))$$

(2.534204)

$$- 0.908508 * (\log(EXR(-4)) - 0.4716 * \log(GDPEUR12(-4)))$$

(-5.685921)

$$- 0.4328 * \log(SITEURREAL(-4)) - 0.01558 * TIME + 0.023221 * DUM05$$

(2.142191)

$$R^2 = 0.842509 \quad DW = 1.820122$$

### ***Imports of goods and services***

$$\log(IMPR / IMPR(-1)) = -1.743142 + 1.882760 * \log(DEMAND / DEMAND(-1)) - 0.447201 * \log(IMPR(-1))$$

(-4.490866) (28.51655) (-4.281792)

$$+ 0.631109 * \log(DEMAND(-1))$$

(4.363494)

$$R^2 = 0.967468 \quad DW = 2.029496$$

### ***Employment***

$$\log(EMP / EMP(-4)) = 2.000938 + 0.339420 * \log(EMP(-2) / EMP(-6)) + 0.271201 * \log(GDPR / GDPR(-4))$$

(1.592327) (2.785268) (2.200591)

$$- 0.652660 * \log(EMP(-4)) + 0.386212 * \log(GDPR(-4)) - 0.122940 * \log(ULC(-4))$$

(-3.686853) (5.041517) (-2.556979)

$$R^2 = 0.796073 \quad DW = 1.066295$$

### **Labor supply**

$$\begin{aligned}\log(LFORCE / LFORCE(-4)) &= 5.855133 + 0.608731 * \log(LFORCE(-1) / LFORCE(-5)) \\ &\quad (7.074960) (9.178539) \\ &+ 0.164755 * \log(NETWAGER / NETWAGER(-4)) \\ &\quad (6.561016) \\ &+ 0.123446 * \log(GDPR(-1) / GDPR(-5)) \\ &\quad (1.987059) \\ &- 0.965166 * \log(LFORCE(-4)) + 0.112916 * \log(NETWAGER(-4)) \\ &\quad (-7.360987) \quad (7.946351)\end{aligned}$$

R<sup>2</sup> = 0.916719

DW = 1.879502

### **Wage rate**

$$\begin{aligned}\log(AGWN / AGWN(-4)) &= -0.066109 + 0.432615 * \log(AGWN(-1) / AGWN(-5)) + 0.446809 * \log(CPI / CPI(-4)) \\ &\quad (-0.177182) (4.616714) \quad (3.392647) \\ &- 0.554777 * \log((AGWN(-4) / CPI(-4))) + 0.249325 * \log(PROD(-4)) \\ &\quad (-5.577310) \quad (2.522555) \\ &- 0.007189 * UR(-1) + 0.074054 * \log(WEDGE(-1) / WEDGE(-5)) \\ &\quad (-2.521480) \quad (1.878302)\end{aligned}$$

R<sup>2</sup> = 0.943467

DW = 1.615415

### **Consumer price index**

$$\begin{aligned}\log(CPI / CPI(-4)) &= -0.742915 + 0.332689 * \log(CPI(-1) / CPI(-5)) + 0.156294 * \log(ULC / ULC(-4)) \\ &\quad (-2.388137) (3.705106) \quad (2.988634) \\ &+ 0.308681 * \log(SITEUR / SITEUR(-4)) - 0.342909 * \log(CPI(-4)) \\ &\quad (5.461068) \quad (-4.365554) \\ &+ 0.344927 * \log(ULC(-4)) + 0.374697 * \log(UTIL(-4)) \\ &\quad (4.145779) \quad (5.364040)\end{aligned}$$

R<sup>2</sup> = 0.961850

DW = 1.707717

### **GDP deflator**

$$\begin{aligned}\log(GDPDEF / GDPDEF(-4)) &= 0.120166 + 0.516409 * \log(GDPDEF(-1) / GDPDEF(-5)) \\ &\quad (2.563534) (5.377703) \\ &+ 0.734706 * \log(CPI / CPI(-4)) - 0.361865 * \log(GDPDEF(-4) / CPI(-4)) \\ &\quad (5.851895) \quad (-2.836337)\end{aligned}$$

R<sup>2</sup> = 0.844573

DW = 1.606334



### **Real money demand**

$$\log(M3R / M3R(-4)) = -2.214662 + 0.538002 * \log(M3R(-1) / M3R(-5)) - 0.031762 * (STIRLN / STIRLN(-4))$$

(-2.546158) (4.537744) (-1.408705)

$$- 0.405264 * \log(M3R(-4)) + 0.820429 * \log(GDPR(-4))$$

(-3.516973) (3.132024)

R<sup>2</sup> = 0.721868

DW = 1.969595

### **Long term interest rate**

$$(LTIRLN - LTIRLN(-4)) = 1.006125 * (STIRLN - STIRLN(-4)) + 0.419646 * (EUR10Y - EUR10Y(-4))$$

(26.49522) (2.035559)

$$- 0.539421 * LTIRLN(-4) + 0.597430 * STIRLN(-4)$$

(-3.248753) (3.227697)

R<sup>2</sup> = 0.963106

DW = 0.538018

### **Short term interest rate**

$$(STIRLN - STIRLN(-4)) = 1.292312 * INFL + 0.418398 * (GRGDPR - GRYPOT)$$

(10.55622) (2.220118)

$$- 0.905898 * (STIRLN(-4) - EUR3M(-4))$$

(-11.96319)

R<sup>2</sup> = 0.797275

DW = 0.684259

### **Exchange rate**

$$(SITEUR / 100) = 0.212657 - 0.001893 * (LTIRLN - EUR10Y) + 1.672422 * (CPI / HICPEUR12)$$

(5.460691) (-2.027690) (61.08336)

R<sup>2</sup> = 0.996093

DW = 0.895409

### **Social security contributions by companies**

$$\log(SOCCOMP / SOCCOMP(-4)) = -0.527861 + 0.538986 * \log(SOCEMP / SOCEMP(-4))$$

(-6.497854) (6.649808)

$$- 0.547033 * \log(SOCCOMP(-4)) + 0.620918 * \log(SOCEMP(-4))$$

(-10.49479) (13.81405)

$$+ 0.245643 * DUM05$$

(14.53665)

R<sup>2</sup> = 0.941112

DW = 1.823315

### **Corporate taxes**

$$\log(INCCORP / INCCORP(-4)) = -7.144794 + 0.169314 * \log(INCCORP(-1) / INCCORP(-5))$$

(-6.187364) (2.102092)

$$- 0.747633 * \log(INCCORP(-4)) + 1.331591 * \log(GDPN(-4))$$

(-8.024657) (6.701796)

$$- 0.654201 * DUM992$$

(-6.812059)

$$R^2 = 0.808315 \quad DW = 1.744074$$

### **Balance of other government revenues and expenditures**

$$\log(BUDGETREST / BUDGETREST(-4)) = -0.501472 + 1.031814 * \log(DEBT / DEBT(-4))$$

(-0.940508) (2.476841)

$$- 0.934227 * \log(BUDGETREST(-4)) + 0.783257 * \log(DEBT(-4))$$

(-7.272604) (5.762485)

$$- 0.413477 * DUM021$$

(-4.426783)

$$R^2 = 0.715886 \quad DW = 2.032736$$

### **Interest payments on government debt**

$$(INTEREST - INTEREST(-1)) = -7.689128 - 1.049878 * (INTEREST(-1)) + 0.018931 * (DEBT(-1))$$

(-1.948023) (-6.077313) (5.341489)

$$+ 0.292619 * LTIRLN(-1)$$

(2.178987)

$$R^2 = 0.507888 \quad DW = 1.949515$$

### **Government consumption according to financial account**

$$\log(GNFIN / GNFIN(-4)) = 0.053910 + 1.145092 * \log(GN / GN(-4)) - 0.612290 * \log(GNFIN(-4))$$

(0.423991) (5.166543) (-3.868434)

$$+ 0.583018 * \log(GN(-4))$$

(3.649542)

$$R^2 = 0.713945 \quad DW = 1.470469$$

### **Short term interest rate in model version with fixed exchange rates**

$$(STIRLN - STIRLN(-4)) = 1.319104 + 0.998259 * (EUR3M - EUR3M(-4)) + 0.523320 * (SITEUR - SITEUR(-4))$$

(1.360326) (2.901757) (7.518843)

$$- 0.587592 * (STIRLN(-4) - EUR3M(-4))$$

(-7.106245)

$$R^2 = 0.748326 \quad DW = 0.960985$$

### ***Identities***

<i>GR</i>	$= GN / GDPDEF * 100$
<i>AGWR</i>	$= AGWN / CPI * 100$
<i>CAN</i>	$= EXR * GDPDEF / 100 - IMPR * GDPDEF / 100$
<i>CAGDP</i>	$= CAN / GDPN * 100$
<i>ILONGR</i>	$= LTIRLN - INFL$
<i>GRGDPR</i>	$= GDPR / GDPR(-4) * 100 - 100$
<i>GRYPOT</i>	$= (YPOT / YPOT(-4) - 1) * 100$
<i>PROD</i>	$= GDPR / EMP * 100$
<i>ULC</i>	$= AGWN / PROD$
<i>UN</i>	$= LFORCE - EMP$
<i>UR</i>	$= UN / LFORCE * 100$
<i>DEMAND</i>	$= INVR + INVENTR + CR + GR + EXR$
<i>M3N</i>	$= M3R * CPI / 100$
<i>SITEURREAL</i>	$= SITEUR * HICPEUR12 / CPI$
<i>INCOME</i>	$= GDPN + TRANSFERSN - INCTAX - SOCTOTAL$
<i>INCOMER</i>	$= INCOME / CPI * 100$
<i>INFL</i>	$= (CPI / CPI(-4) - 1) * 100$
<i>UCC</i>	$= ILONGR + 2.7$
<i>PERSINCTAX</i>	$= INCTAXRATE * (AGWN * EMP / 1000) / 100$
<i>SOCEMP</i>	$= SOCEMPRATE * (AGWN * EMP / 1000) / 100$
<i>WEDGE</i>	$= AGWN * (INCTAXRATE / 100 + SOCEMPRATE / 100)$
<i>NETWAGEN</i>	$= AGWN - WEDGE$
<i>NETWAGER</i>	$= NETWAGEN / CPI * 100$
<i>SOCTOTAL</i>	$= SOCCOMP + SOCEMP$
<i>INCTAX</i>	$= PERSINCTAX + INCCORP$
<i>CAPR</i>	$= (1 - DEPR / 100) * CAPR(-1) + INVR$
<i>GDPR</i>	$= CR + GR + INVR + INVENTR + EXR - IMPR$
<i>GDPN</i>	$= GDPR * GDPDEF / 100$
<i>TREND_EMP</i>	$= LFORCE * (1 - NAIRU / 100)$
<i>UTIL</i>	$= GDPR / YPOT * 100$
<i>DEFICITN</i>	$= GNFIN + GINVN + TRANSFERSN + INTEREST - SOCTOTAL - INCTAX - BUDGETREST$
<i>DEFGDP</i>	$= DEFICITN / GDPN * 100$
<i>DEBT</i>	$= DEBT(-1) + DEFICITN + DEBTADJ$
<i>DEBTGDP</i>	$= DEBT / (GDPN + GDPN(-1) + GDPN(-2) + GDPN(-3)) * 100$
<i>GINVR</i>	$= GINVN / GDPDEF * 100$
<i>INVR</i>	$= PRINVR + GINVR$

**Table 1. Fixed tax wedge; flexible exchange rate**

	2005	2006	2007	2008	2009	2010	Ø 2006/ 2010
GDP growth rate	3.9	4.4	3.5	2.9	3.4	3.1	3.4
CPI inflation	2.5	3.4	4.7	5.3	3.9	4.1	4.3
Unemployment rate	10.2	7.2	5.8	7.4	4.4	4.6	5.9
Employment (1,000 persons)	813.1	826.0	834.9	839.2	847.8	860.7	47.6*
Budget balance (% of GDP)	0.4	-0.5	0.4	0.9	0.8	0.6	0.4
Debt level (% of GDP)	25.5	24.4	22.0	19.2	17.0	15.3	19.6
Current account (% of GDP)	-0.3	-2.6	-2.0	-0.9	-1.2	0.0	-1.4
Exchange rate (SIT/euro)	239.6	242.0	247.3	254.8	259.2	264.3	253.5

2005: actual figures

\* Employment in 2010 minus employment in 2005

Source: own calculations

**Table 2. Fixed tax wedge; crawling peg**

	2005	2006	2007	2008	2009	2010	Ø 2006/ 2010
GDP growth rate	3.9	4.3	3.0	3.0	2.3	2.5	3.1
CPI inflation	2.5	3.3	4.7	4.6	3.4	3.8	3.9
Unemployment rate	10.2	7.2	5.8	7.7	4.7	4.9	6.0
Employment (1,000 persons)	813.1	825.9	833.6	836.8	844.1	853.8	40.7*
Budget balance (% of GDP)	0.4	-0.6	0.1	0.2	-0.8	-1.8	-0.6
Debt level (% of GDP)	25.5	24.6	22.5	20.4	20.1	20.8	21.7
Current account (% of GDP)	-0.3	-2.5	-1.3	-0.8	-0.4	1.3	-0.7
Exchange rate (SIT/euro)	239.6	241.3	245.0	245.0	245.0	245.0	244.3

2005: actual figures

\* Employment in 2010 minus employment in 2005

Source: own calculations

**Table 3. Fixed tax wedge, fixed exchange rate**

	2005	2006	2007	2008	2009	2010	Ø 2006/ 2010
GDP growth rate	3.9	4.3	3.1	2.7	2.5	2.5	3.0
CPI inflation	2.5	3.2	4.2	4.6	3.5	3.8	3.9
Unemployment rate	10.2	7.2	5.8	7.6	4.7	5.0	6.1
Employment (1,000 persons)	813.1	825.9	833.8	836.9	843.6	853.6	40.5*
Budget balance (% of GDP)	0.4	-0.6	-0.1	-0.4	-1.3	-2.2	-0.9
Debt level (% of GDP)	25.5	24.6	22.9	21.4	21.5	22.5	22.6
Current account (% of GDP)	-0.3	-2.5	-1.8	-1.4	-0.8	0.9	-1.1
Exchange rate (SIT/euro)	239.6	239.6	239.6	239.6	239.6	239.6	239.6

2005: actual figures

\* Employment in 2010 minus employment in 2005

Source: own calculations

**Table 4. Tax wedge reduction; flexible exchange rate**

	2005	2006	2007	2008	2009	2010	Ø 2006/ 2010
GDP growth rate	3.9	4.4	3.7	3.0	3.3	2.9	3.4
CPI inflation	2.5	2.9	3.2	4.6	4.3	4.2	3.8
Unemployment rate	10.2	8.2	5.7	7.3	4.8	4.0	6.0
Employment (1,000 persons)	813.1	826.1	838.1	847.0	852.7	863.9	50.7*
Budget balance (% of GDP)	0.4	-2.3	-1.9	-1.3	-0.8	-0.1	-1.3
Debt level (% of GDP)	25.5	26.3	26.4	25.7	24.5	22.9	25.2
Current account (% of GDP)	-0.3	-2.8	-2.5	-1.2	-1.3	0.3	-1.5
Exchange rate (SIT/euro)	239.6	241.1	243.4	249.1	254.2	259.2	249.4

2005: actual figures

\* Employment in 2010 minus employment in 2005

Source: own calculations

**Table 5. Tax wedge reduction; crawling peg**

	2005	2006	2007	2008	2009	2010	Ø 2006/ 2010
GDP growth rate	3.9	4.4	3.1	3.0	2.2	2.2	3.0
CPI inflation	2.5	2.9	3.5	4.1	3.7	3.7	3.6
Unemployment rate	10.2	8.2	5.7	7.7	5.4	4.5	6.3
Employment (1,000 persons)	813.1	826.0	836.2	842.8	846.4	854.5	41.3*
Budget balance (% of GDP)	0.4	-2.3	-2.1	-1.7	-2.2	-2.4	-2.1
Debt level (% of GDP)	25.5	26.4	26.7	26.5	27.0	28.0	26.9
Current account (% of GDP)	-0.3	-2.6	-1.0	0.5	1.0	2.6	0.1
Exchange rate (SIT/euro)	239.6	241.3	245.0	245.0	245.0	245.0	244.3

2005: actual figures

\* Employment in 2010 minus employment in 2005

Source: own calculations

**Table 6. Tax wedge reduction; fixed exchange rate**

	2005	2006	2007	2008	2009	2010	Ø 2006/ 2010
GDP growth rate	3.9	4.4	3.1	2.6	2.4	2.2	2.9
CPI inflation	2.5	2.8	3.0	4.1	3.8	3.7	3.5
Unemployment rate	10.2	8.2	5.8	7.6	5.4	4.7	6.3
Employment (1,000 persons)	813.1	826.0	836.5	842.8	845.8	854.1	41.0
Budget balance (% of GDP)	0.4	-2.4	-2.3	-2.3	-2.6	-2.9	-2.5
Debt level (% of GDP)	25.5	26.4	27.2	27.5	28.4	29.7	27.8
Current account (% of GDP)	-0.3	-2.6	-1.5	-0.2	0.6	2.2	-0.3
Exchange rate (SIT/euro)	239.6	239.6	239.6	239.6	239.6	239.6	239.6

2005: actual figures

\* Employment in 2010 minus employment in 2005

Source: own calculations

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