FINANCIAL INTEGRATION AND FINANCIAL CRISIS: CROATIA APPROACHING THE EMU

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Abstract

The breakdown of command economies has significantly increased growth potentials all over Europe and opened up prospects for economic development. Encouraged by that, the EU embarked on the process of deeper economic integration. Its main aspects – economic liberalization and monetary integration – coincided with the worldwide globalization of trade and capital flows. As a laggard country in the process of economic integration, Croatia is in a particularly difficult position – besides soaring trade deficit, it is highly indebted and strongly dependant upon foreign capital. Appreciating theoretical inferences and empirical evidence on monetary integration, while taking reference to the realized level of international financial integration and external vulnerability, the aim of the paper is to find out if Croatia fulfils the criteria for successful monetary integration.

Key words: optimum currency area, financial integration, external balance, EMU, Central and Eastern Europe.

Introduction

Advanced stage of economic integration in Europe has raised public interest in the conditions for successful monetary integration, not only among the prospective members of the economic and monetary union (EMU), but also worldwide. Yet, unlike numerous regional trade agreements and apart from the EMU, there are currently only four mone-

tary or currency unions in the world[1]. Unlike trade agreements, which directly impact economic agents through competition effect and structural adjustments, monetary integration implies immediate effects on national governments with specific cost-benefit considerations arising sometimes from unfavourable economic and political implications of giving up monetary sovereignty (Cooper, 2007). However, from purely economic point of view, net-effects of monetary integration can be summarised as micro- and macroeconomic gains on one hand, and costs associated with reducing the scope of macroeconomic management and policy making, on the other.

The immediate result of a common currency is reduction in transaction costs. In a transparent system, prices become a more credible indicator of international competitiveness, while growing trade flows among member countries directly affect their output structure and specialization pattern. Besides positive microeconomic consequences of raising efficiency on competitiveness, economic restructuring can, however, bring about narrower specialization with possibly negative long-term effects. Reduction in production structure diversification might increase negative effects of asymmetric shocks on the local economy. However, in the short run, common currency eliminates currency risk, while strictly centralized exchange rate and monetary policy become more efficient in reducing exchange rate volatility and keeping interest rates low. Deeper integration of financial markets, induced by common currency, adds to creating more predictable business conditions. Capital market integration contributes to efficient allocation of resources and dynamic economic growth through increasing opportunities for investment as well as output and employment growth. One of the main benefits of monetary integration is the supranational character of the central bank, which guarantees its credibility and independence in pursuing macroeconomic stability, and not less importantly, in building a strong international position of a new (common) currency.

On the other hand, negative effects of monetary integration appear predominantly on the macroeconomic level, as national governments loose control over monetary and exchange rate policy and have to deal with costs of related sectoral and institutional adjustments. Yet, the greatest risk is associated with the individual economy's response to external asymmetric shocks. In that respect, it is not only the issue of the realized level of economic convergence among the member countries, but also of the common policy's "reaction' to it. Restrictive monetary policy, motivated, for instance, by the desire to build credibility of the new currency, might end up in rising unemployment and stagnant economic growth in the countries hit by recession. In that respect, recent financial crisis and the far-reaching plummeting economic growth worldwide show severe consequences of financial globalization and pose a serious question as to the expected effects of further economic (and monetary) integration, both globally and regionally[2]. The fact that financial crisis originated from well regulated markets and spread swiftly across the most developed countries of the world contributes further to that dilemma (Fukayama, 2008).

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[1] Economic and Monetary Community of Central Africa (CEMAC), West African Economic and Monetary Union (WAEMU), CPF-franc zone of the Pacific countries and the East Caribbean dollar zone of the East Caribbean states; meanwhile, there are 184 regional trade agreements (WTO, 2009).

[2] The IMF warns that potential loss of financial crisis might climb to USD 1 trillion, while the ILO speaks of more than 50 mn jobs lost as a result of the global economic crisis.

Based on theoretical inferences and empirical evidence on monetary integration, in particular those relating to factor markets, as well as on Croatia's strategic goal of joining the EU, the aim of the paper is to determine whether Croatia fulfils the criteria for successful monetary integration. While doing so, reference will be made to the realized level of international financial integration and external vulnerability. The first section of the paper deals with real and nominal criteria for successful monetary integration, based on the theory of optimum currency area and the EU-experience, respectively. Besides other requirements for creation of a viable monetary union, special emphasis is put on the integration of factor markets and the formal criteria for joining the EMU. The second section investigates soundness of macroeconomic and external positions and includes the Maastricht criteria as well as indicators of economy's international liquidity (external debt, international reserves) and solvency (current account balance, exchange rate). The research aims at identifying potential sources of vulnerability to external shocks. The third section deals with the analysis of the main features of international financial integration of transition countries and reveals its main determinants as possible channels for the spill-over effects of external crisis. The final section concludes.

1 Conditions for successful monetary integration

1.1 Theory of optimum currency area

According to the theory of optimum currency area (OCA), the main difficulty in running a monetary integration are differences in the level of development among countries which constitute a new monetary system. Assuming development gaps within the monetary union and regarding the economic policy trade-off between inflation and unemployment, the common monetary policy would not bring about the same effects across member countries of the union. Other things being equal, the more developed countries would need tight monetary policy aimed at reducing the negative impact of growing economy on price stability, while at the same time, the less developed countries could suffer from economic stagnation and decreasing employment resulting from monetary restriction. In order to reduce the development gap, less developed countries would need loose monetary policy supportive of economic growth. Regarding the long-term economic policy priority of economic growth over macroeconomic stability, it can be asserted that economic growth within monetary union depends upon readiness of more developed member countries to accept a certain degree of price instability (Mundell, 1961; McKinnon, 1963).

Theory of OCA introduces three main criteria for successful monetary integration – mobility of production factors and integration of factor markets, trade integration and anti-cyclical fiscal policy. Labour and capital mobility and openness of factor markets make possible automatic adjustment of factor prices to current market conditions with ultimately positive effects on internal and external balance. Under demand shock, mobile capital is expected to flow into the deficit country to restore domestic demand and external balance without the need for exchange rate intervention. The same effect can be realized through wage flexibility and labour migration from high- to low-unemployment country in case of a supply shock hitting one country by diminishing its economic activities (Temprano-Arroyo, 2003). In order to achieve efficient adjustment and avoid changes of the

exchange rate, institutional conditions have to be created to make factor markets flexible and increase production factor mobility.

Despite some resistant obstacles to full labour mobility (e.g. cultural differences, different social models), labour market flexibility can be achieved through reduction in labour protection and wage regulation. That way, flexible labour market, by means of flexible wages, could efficiently eliminate structural imbalances and counteract asymmetric effects of external shocks across monetary union. As far as capital is concerned, financial market openness would imply elimination of existing barriers for cross-border capital flows, which reduce efficiency of financial intermediation and effectiveness of common monetary policy. In that respect, market-related obstacles (e.g. differences in transaction procedures) and policy-related ones (different financial market regulation) should be eliminated and financial market regulation strengthened in order to protect monetary union from financial crisis (Hochreiter et al., 2002).

Trade integration is a real sector indicator of a country's preparedness for monetary integration[3]. Broadly speaking, more open economies are better prepared for joining the monetary union due to several reasons. One of them is that open economies rely less on exchange rate adjustments, as changes in the nominal exchange rate do not influence their real competitiveness significantly. Therefore, open economies are more ready to renounce influence over the exchange rate in favour of the supranational bodies of the monetary union. Further, countries which realize a high level of trade integration prior to joining the monetary union can benefit more from microeconomic gains and favourable business environment once they integrate with other countries (Alesina and Barro, 2002). Finally, advantages of trade integration are even greater if countries realize stronger complementarities of production and trade structure arising from similarities in income level and from cross-country consumer preferences (intra-industry specialization), (Fidrmuc, 2004; Temprano-Arroyo, 2003).

The basic idea underlying fiscal policy in a monetary union draws upon the principle of solidarity among member countries and fiscal transfers between them (Feldstein, 2009; Rockoff, 2000). In case of external asymmetric shock, a fall in output in one country should be compensated through reducing tax burden and increasing inflow of fiscal revenues into that particular country, financed from other members of the monetary union. As such system of fiscal federalism is not yet realized within any monetary integration in the world, the question is what kind of policy mix and fiscal policy coordination among member countries could be effective. Among different arguments, it should be emphasized that whatever fiscal rules there would be, fiscal policy should be flexible enough to follow the phase of business cycle and compensate for monetary expansion in time of economic slowdown or monetary restrictiveness in the subsequent phase of the business cycle. Fiscal policy which lacks adaptability to current state of the economy turns to be ineffective in the longer run (Hochreiter et al., 2002).

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[3] For empirical verification see: Arnold and Verhoef, 2004; Boreiko, 2003; Rose and Engel, 2002; Corsetti and Penseti, 2002.

1.2 Nominal criteria for monetary integration – the case of the EMU

Monetary integration in the EU[4] calls for fulfilment of the nominal criteria prior to joining the EMU and of the provisions of the Stability and Growth Pact (SGP) which is primarily aimed at achieving macroeconomic stability upon monetary integration. Despite criticism that these criteria lack theoretical foundation and an economic adjustment mechanism (De Grauwe, 1996; Feldstein, 2005), they should be seen as a stimulus to monetary integration, which is in the case of the EU, not a spontaneous, but a politically driven process.

According to the Maastricht criteria of macroeconomic convergence:

- inflation rate should not exceed that of the three best performing member countries of the EU by more than 1,5 percentage points;
- consolidated general government deficit should not exceed 3% of the GDP and the government debt-to-GDP ratio should not go beyond 60%, both at the end of the previous fiscal year;
- countries should participate in the Exchange Rate Mechanism II (ERM II) under the European Monetary System (EMS) without devaluations of the domestic currencies for two consecutive years prior to joining the EMU;
- nominal long-term interest rate (government bonds) should not be higher than that of the three best performing member countries (based on the inflation criterion) by more than 2 percentage points.

These criteria are primarily aimed at achieving price stability and the control of the fiscal sector (balanced government finance). This is strongly emphasised in the SGP, which obliges the EMU-members to achieve a medium-to-long-term fiscal balance and avoid negative impact of different national fiscal policies on the price stability. More specifically, it means prevention of excessive budget deficits of the euro-zone members and creation of conditions for easier coordination of centralized monetary policy and (decentralized) national fiscal policies.

In its beginnings in the late '90s, the SGP envisaged fiscal monitoring and sanctions against member states which did not fulfil the criteria. If fiscal conditions of an individual country did not comply with the rules, this led to a series of measures ranging from recommendations for strengthening of stabilization programme to penalties in form of non-interest bearing deposits or fines (0.2% of the national GDP plus one tenth of the amount by which the actual budget deficit went beyond 3% of the GDP). The measures undertaken depended upon the size of fiscal imbalance, its time persistency and the degree of economic slowdown (Arestis et al., 2001). However, according to recent improvements of the SGP made in 2005, more emphasis is put on debt sustainability in medium-to-long run. This reform has basically loosened the provisions of the Pact in a way that it now allows exemptions from a 3%-deficit ceiling in case of negative growth (not a fall in output of at least 2% any more); it also extends a period over which excessive deficit should be eliminated to five years without incurring any sanctions. It further foresees differential treatment of member countries as to the long term debt sustainability and broad-

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[4] It has been realized through three stages – full liberalization of capital flows, institution building (EMI-European Monetary Institute, ECB-European Central Bank) and, finally introduction of the euro in 2002.

ens the exceptions in fiscal spending which will not be calculated into the deficit (structural reforms aimed at increasing productivity and employment, European integration programmes and foreign aid), (Eichengreen, 2005).

Although some analyses show that the EMU, and indirectly the nominal criteria of the Maastricht agreement and the SGP, have been successful in achieving macroeconomic stability, convergence of macroeconomic indicators and harmonization of growth dynamics across the EU (Issing, 2005; Grubel, 2005; Gouveia and Correia, 2008), some authors claim that price stability is achieved at the cost of economic slowdown (De Castro and Soukiazis, 2003).

Much criticism has been directed towards the theoretical and economic policy framework of the criteria for monetary integration, in particular the SGP. The general one refers to the underlying monetarist approach according to which inflation is seen as a pure monetary phenomenon and price stability as primary economic policy objective. Although being a part of every stabilization programme, price stability could be seen as a second range priority in terms of the optimum policy mix as compared to sustainable economic growth or increasing employment. If the problem is viewed in this way, fiscal policy could, alternatively, gain a more active role in promoting economic growth through creation of new production capacities, while at the same time contributing to price stability through its influence on aggregate demand (Arestis et al., 2001; De Castro and Soukiazis, 2003). Further criticism of the Pact refers to the unbalanced policy mix based on centralized monetary and decentralized fiscal policy (Feldstein, 2005; Chari and Kehoe, 2004; Cooper and Kempf, 2000), which is, at present, however, inevitable. Another, more formal line of criticism stresses the presence of the free-rider problem in the EMU, i.e. the situation in which national governments are unwilling to "internalize' negative effects of their excessive fiscal spending to the disadvantage of other members of the euro-zone[5].

2 Croatian readiness for the emu and the country's external position

2.1 Croatian convergence to the EMU – the Maastricht criteria

Croatia realized remarkable price stability throughout the '90s; the trend was not threatened even in 1998 when consumer and industrial producers' prices increased by 5,7% and 10,7%, respectively. However, despite that, Croatia met the first Maastricht criterion only in the period 2002-2004, while afterwards inflation rate showed more marked fluctuations and went further beyond the reference value and the EU-average (Table 1). In that respect, Croatia does not differ much from the general trend of the countries of Central and Eastern Europe included in this analysis[6], which in 2008 realized inflation in the range of 4-12%, i.e. above the EMU-reference value. Prospects for these countries for the year 2009 are, nevertheless, much better, as prices are expected to settle down at an average growth rate of app. 5% (EBRD, 2008).

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[5] Due to excessive fiscal deficits of "the two big' (France and Germany) which the European Commission cannot influence due to lack of political power necessary to effectively enforce the SGP-rules, the ECB carries out restrictive monetary policy with negative impact on economic growth as one of the most important conditions for the sustainability of monetary union.

[6] Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia.

Table 1 Croatian fulfilment of the Maastricht criteria, 1997-2008

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
annual average inflation rate[a] (%)												
EU (27)	1.7	1.3	1.2	1.9	2.2	2.1	2.0	2.0	2.2	2.2	2.3	3.7
Euro-area	1.6	1.1	1.1	2.1	2.3	2.2	2.1	2.1	2.2	2.2	2.1	3.3
Croatia	–	5.7	4.0	4.6	3.8	1.7	1.8	2.1	3.3	3.2	2.9	6.0
reference value	2.73	2.20	2.03	2.67	3.03	2.17	2.70	2.17	2.53	2.93	2.80	4.07
consolidated general government balance (% GDP)												
EU (27)	-2.6	-1.9	-1.0	0.6	-1.4	-2.5	-3.1	-2.9	-2.4	-1.4	-0.9	–
Euro-area	-2.7	-2.2	-1.3	0.1	-1.8	-2.5	-3.1	-2.9	-2.5	-1.3	-0.6	–
Croatia	–	–	–	–	–	-4.1	-4.5	-4.3	-4.0	-2.4	-1.6	–
reference value	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
consolidated general government gross debt (% GDP)												
EU (27)	68.5	66.5	65.9	61.9	61.0	60.3	61.8	62.2	62.7	61.3	58.7	–
Euro-area	73.1	72.8	71.5	68.7	68.4	68.2	69.3	69.7	70.3	68.6	66.3	–
Croatia	–	–	–	–	–	40.0	40.8	43.2	43.8	41.0	38.1	–
reference value	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
exchange rate (HRK/EUR)												
average nominal	6.960	7.138	7.580	7.635	7.469	7.407	7.563	7.495	7.400	7.323	7.338	7.225
fluctuation margin (%)	±1.50	±3.23	±2.50	±1.55	±4.24	±1.85	±1.80	±2.60	±2.55	±1.34	±0.92	±1.70
reference margin (%)	±15.0	±15.0	±15.0	±15.0	±15.0	±15.0	±15.0	±15.0	±15.0	±15.0	±15.0	±15.0
long-term government bond yields (annual average)												
EU (27)	–	–	–	–	–	–	–	–	–	4.08	4.57	4.54
Euro-area	5.99	4.71	4.66	5.44	5.00	4.91	4.14	4.12	3.42	3.84	4.32	4.30
Croatia	–	–	–	–	–	–	6.03	6.15	5.03	4.05	3.88	–
reference value	7.88	6.64	6.69	7.32	6.92	6.89	6.23	6.28	5.40	6.04	6.40	6.27

[a] *Harmonized index of consumer prices for the EU and index of consumer prices for Croatia.*
Source: EUROSTAT, 2009; DZS, 2009; CNB, 2009; Ministry of finance, 2008.

In January 2009 industrial prices in Croatia registered an increase of 1,75%, mostly due to the growth of consumer and capital goods prices. Unlike previous years when energy prices strongly influenced general price level, in 2008 it was not the case, as crude oil prices fell by app. two thirds compared to their highest levels of just a few years ago. Anyhow, there are some resistant sources of price growth which can be explained in light of convergence of Croatian price structure to that of the advanced EU-countries. This means increasing prices of services among which utilities[7] (housing, water and electricity), health and education services, and since 2008, food and non-alcoholic beverages re-

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[7] Prices of some utilities (water supply, waste water management, rail and maritime transport) are administered by government and are not market-determined.

alize the strongest contribution to consumer prices growth. The prospects for price stability in Croatia and the price convergence to the EMU-level can be regarded as fairly good. Concerning the development level (measured by GDP), Croatia realizes a relatively high price level in comparison to other transition countries, which is, however, lower than the EU-average. Owing to this and the growing price structure similarity with that of the EU, significant changes in the general price level are not expected during Croatia's accession to the EU (Nestić, 2004). Nevertheless, this does not exhaust the expected impact of the services sector on the increase in the general price level, as some "price adjustments' are still expected in education, culture, recreation and housing[8].

Public finance in Croatia recently registered marked improvements and, after substantial and continuous decline throughout the observed period, consolidated general government deficit reached the Maastricht level in 2006 and 2007 (Table 1). This is the outcome of a balanced increase in revenues and expenditures in the last two years for which there are available data – in 2007 revenues increased by 12.8% (2006: 8.9%), while expenditures increased by 10.3% (2006: 7.2%). Following these developments, general government revenues increased from 44.6% (2005) to 46.1% (2007) of GDP, while respective expenditures remained unchanged at the level of 43% of GDP. Croatia experienced a similar positive trend regarding public debt as well. Both general government consolidated gross debt and public debt fell over the years 2006 and 2007 (Table 1). Consolidated general government gross debt dropped below 40% of GDP, so that it met the Maastricht criteria. Croatian tight fiscal policy can be seen in the central government's falling share in the structure of gross debt (2003: 85.5%; 2007: 82.1%), while the share of budgetary funds and local government increased by almost 3.5 p.p. by 2007. At the same time, public debt, which also followed a downward trend, reached 48% of GDP in 2007 (2003: 51.1%). It is worth noticing that the entire Croatian public sector was becoming increasingly oriented towards local financial market[9], which enabled the reduction in foreign component of public debt by app. 15 p.p. – from 45.1% (2003) to 30.2% (2007).

Regarding the expected effects of Croatian accession to the EU[10], as well as the close tightness of Croatian monetary and foreign exchange policy in preserving price stability, strong "euroization' of domestic economy and structurally caused external deficit, so that the medium-term objective of Croatian government was to further reduce negative public balance below -3% of GDP (-0.5% by 2010). This should be achieved through structural and fiscal adjustments in public finance (management) followed by further decrease in general government expenditures and public debt. However, due to current economic stagnation this will not be an easy target.

Similar to the majority of the new EU-members, Croatia still does not fulfil the formal condition on the exchange rate for the accession to the EMU. It does not participate

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[8] According to the latest estimations, Croatian accession to the EU could cause an additional price increase of 1.4%, mostly due to price adjustments in the services sector and the effects of tax harmonization (EIZ, 2007).

[9] Elimination of currency risk and development of domestic financial market are expected as the main benefits.

[10] Estimated net-effects on Croatian budget are negative and amount to 1.1% of GDP (Cuculić et al., 2004; EIZ, 2007).

in the ERM II[11] which determines the main framework of convergence – exchange rate fluctuations within standard (±15%) or narrow (±2.25%) margins without pressure on exchange rate stability and with regular central bank interventions. Despite that, Croatia achieved a remarkable stability of its currency against EUR throughout the '90s and afterwards; it had a managed floating exchange rate with central bank interventions aimed at preserving long-term exchange rate and price stability. Over the period 1997-2005 Croatian currency depreciated by 6.3%, while currencies of other transition countries depreciated by app. 2% (Slovakia, Bulgaria), 10% (Poland), 17% (Hungary), 30% (Slovenia) and 350% (Romania); the exception is the Czech Republic which increased the value of its currency *vis-à-vis* the euro (17%).

Fluctuation margins of Croatian currency towards the euro remained fairly narrow over the observed period – it never even remotely came close to the standard fluctuation margin of ±15% and in most of the years it even met the stricter criterion (±2.25%). The biggest fluctuation margin was realised in 2001 (±4.24%), while towards end of the analysed period it significantly narrowed down to only ±0.92% (2007) and ±1,7% (2008), (Table 1). Such developments resulted from the Croatian central bank interventions on foreign exchange market aimed at preserving exchange rate stability. Usually it purchased the excessive amounts of EUR thus resisting a too strong depreciation of the EU-currency.[12]

Throughout the analysed period interest rates on long-term government bonds in Croatia and the new member countries of the EU converged and fulfilled the fourth Maastricht criterion (with exception of Hungary and Poland). As can be seen in Table 1, Croatian long-term government bond yields did not exceed the reference value and even showed tendency of further decrease towards the end of the analysed period. In 2007 lending rate in Croatia reached app. 9%, similar to other transition countries and the euro-zone, which is a favourable outcome of a downward trend of Croatian interest rates started in mid-'90s. Although Croatia still realizes slightly higher difference between lending and deposit rates than the euro-area and the countries of Central and Eastern Europe, its interest rate spread approaches that of these countries (Figure 1). Such favourable developments can be seen as a result of successful structural and institutional reforms in the financial sector as a precondition for financial market integration with the EU and sustainable long-term convergence of interest rates.

In respect to short-term interest rates, Croatia is more similar to the euro-area than other transition countries on average. Positive adjustments of Croatian short-term interest rates, which begun in mid-'90s, when they amounted to 14%, continued thereafter and in some years fell even below those of the euro-area. These changes can be observed in Figure 2 which depicts fluctuations of money market interest rate differentials of Croatia and other transition countries *vis-à-vis* the euro-area.

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[11] The following counties currently participate in the ERM II: Denmark, Estonia, Latvia and Lithuania, while the non-participants are Bulgaria, the Czech Republic, Hungary, Poland, Romania, Sweden and the United Kingdom. Countries which accepted the euro and are outside the euro-zone are: Monaco, San Marino and Vatican (special adoption agreements) as well as Andorra, Kosovo and Montenegro (unilateral adoption). Denmark and the United Kingdom have the "opt-out clause' which allows them to stay out of the euro-zone with no time limit. The new members of the EU which adopted the euro are Slovenia (2007), Cyprus and Malta (2008) and Slovakia (2009).

[12] In the period 2000-2007 Croatian central bank carried out 89 EUR-auctions and realized net-purchase of app. EUR 2,72 bn; only in 2007 it purchased EUR 1,17 bn (HNB).

*Figure 1 Interest rate spreads for Croatia, other transition countries and the euro-area
(p. p.)*
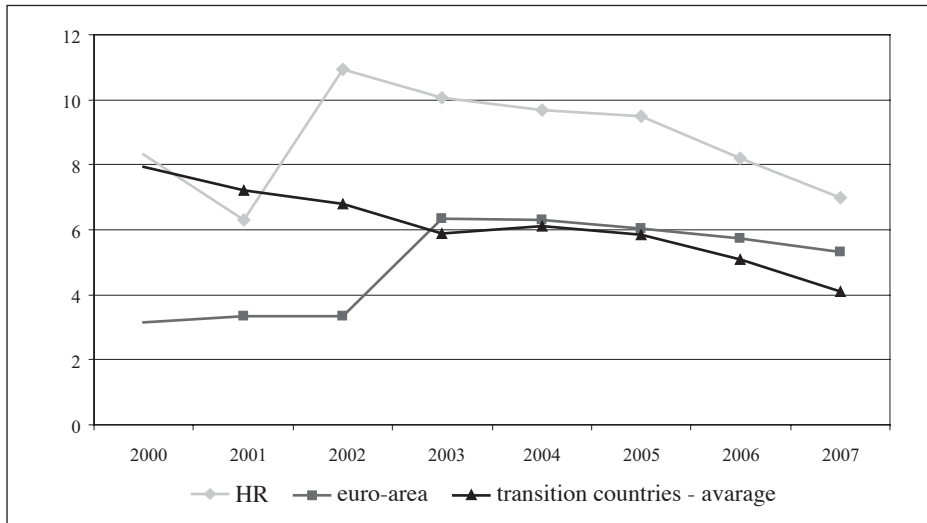
Source: IMF (2007, 2008).

*Figure 2 Money market interest rate differentials for Croatia and other transition
countries' average vis-à-vis the euro-area (p. p.)*
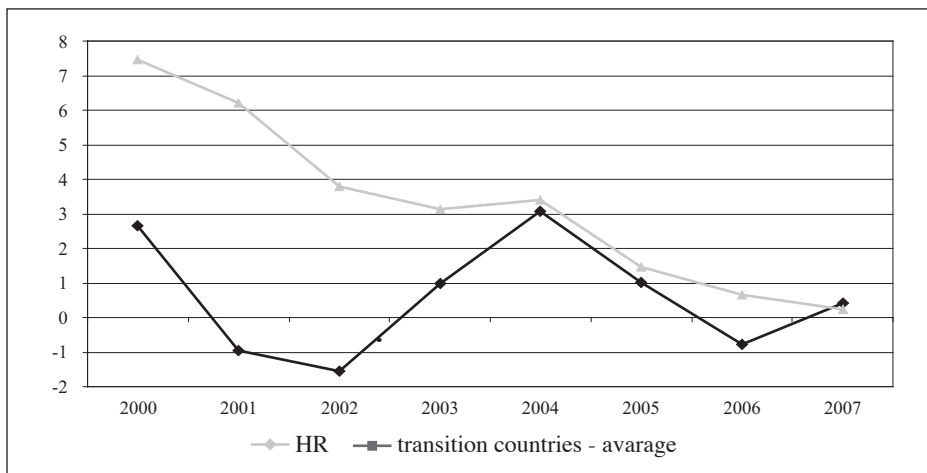
Source: IMF (2007, 2008).

An important condition for full and sustainable financial market integration with the
EU is liberalization of financial transactions. Currently, besides domestic currency con-

vertibility for all transactions of the current account, Croatia allows long-term capital transactions which include incoming FDI, profit repatriation, unlimited inflow of deposits and borrowing from international markets (for business and government) and, since 2008, unrestricted property acquisition for foreigners. The limitations are still present in respect of purchasing domestic short-term debt securities and capital outflows, mostly referring to natural persons.

2.2 Analysis of Croatian external balance

Large current account deficit is considered to be the main challenge for external balance. Unless used for financing productive purposes in anticipation of future economic growth, it can lead to over-accumulation of foreign liabilities, thus threatening the overall external position of a country. In consequence, difficulties in servicing external debt and/or achieving exchange rate stability with eventually currency crisis and depletion of international reserves can occur (Baharumshah et al., 2003; Kaminsky et al., 1998). Reversals in international capital flows, weak economic fundamentals or just changes in economic agents' expectations can act as triggers to external crisis (Frankel et al., 2008; Ghosh et al., 2009). Although many empirical studies confirm current account deficit of -5% of GDP as the level beyond which it becomes unsustainable, all of them, nevertheless, use this criterion just as an indication of the problem, since its elimination depends on the general state of an economy, both internally and externally.[13] The studies have shown that elimination of external deficit requires a recovery period of 3-5 years, consenquencing in economic slowdown and exchange rate adjustment (Freund, 2005; Edwards, 2001; Cavallo and Frankel, 2008).

The process of economic integration and financial crisis followed by economic slowdown pose questions on the state of external balance, since its dynamics and structure will determine its sustainability over the coming years. Analysis of dynamics and structure of Croatian cross-border in- and outflows of income and capital, also with reference to other transition countries, reveals the state of Croatia's external equilibrium and its medium-term stability.[14]

Since the beginning of the '90s Croatia continuously faces a steadily growing trade deficit which in 2007 reached USD 13 bn (exports: USD 12,6 bn, imports: USD 25,6 bn) keeping the export-import ratio below 50%. This is a result of a more dynamic growth of imports at an average rate of 18.5%, compared to the annual exports growth of 15.6% (2000-2007); thus, negative trade balance cumulated to the amount which exceeded the value of annual exports and reached one quarter of GDP in 2007. Consequently, current account balance deteriorated and reached almost -10% of GDP, while both exports and

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[13] Kaminsky et al. (1998) state conditions of external, financial, real and fiscal sector as well as institutional and structural factors as relevant in explaining economic crises. Therefore, these and many other authors use various indicators of external balance rather as a rule of thumb or guidance, benchmarking them against other indicators, instead of using them as absolute indications of future developments (e.g.: Frankel et al., 2008; Freund, 2005; Bussière and Mulder, 1999; Milesi-Ferretti, 1996; Lane and Milesi-Ferretti, 2007a, Daseking, 2009).

[14] The methodology used incorporates indicators of solvency (current account, exchange rate) and liquidity (external debt, international reserves) as applied in: Bussière and Mulder, 1999 (on conceptual issues: Milesi-Ferretti and Razin, 1996).

imports of goods and services did not change their relative positions and measured in terms of GDP remain at 40% and 50%, respectively[15] (Table 2).

Table 2 Indicators of Croatian external position, 2000-2008

|	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP-growth (%)	3.0	3.8	5.4	5.0	4.2	4.2	4.7	5.5	2.4
current account balance (% GDP)	-2.5	-3.2	-7.5	-6.3	-4.4	-5.5	-6.9	-7.6	-9.4
exports of goods and services (% GDP)	40.7	42.3	39.6	43.8	43.5	42.8	43.5	42.8	41.9
imports of goods and services (% GDP)	45.1	47.4	49.1	50.6	49.4	48.9	50.2	50.2	50.1
gross external debt (EUR mn)	12,264	13,609	15,143	19,884	22,933	25,748	29,274	32,929	39,125
gross external debt (% GDP)	53.0	53.3	53.9	66.3	70.0	72.1	74.9	76.9	82.6
gross external debt (% exports of goods and services)	130.2	125.9	136.1	151.3	161.0	168.6	172.3	179.8	197.3
share of short-term debt in total debt (%)	8.0	4.4	3.8	8.1	11.5	13.2	14.7	13.3	13.7
debt repaid (% exports of goods and services)	26.2	28.2	29.8	21.3	22.5	25.0	35.8	33.3	28.3
gross international reserves (EUR mn)	3,783	5,334	5,651	6,554	6,436	7,438	8,725	9,307	9,121
gross international reserves (months of imports of goods and services)	4.3	5.3	4.9	5.2	4.8	5.1	5.3	5.2	4.6

Source: CNB, 2009

However, deterioration of the current account balance is not specific only for Croatia as the majority of the analysed countries experienced the same challenge. Except for the Czech Republic and Hungary, all other countries increased their current account deficit in the period 2003-2007 which coincides with their accession to the European Union. The most drastic increase can be observed in Bulgaria, but also Romania, Slovakia and Slovenia (Figure 3). Anyhow, the new EU-members realized more dynamic annual exports growth – ranging from 20% (Slovenia) to 27% (Bulgaria) – in the period 2003-2007, compared to 1998-2003. Meanwhile, Croatian exports grew annually at an average rate of 18.9% and 6.6%, respectively and these figures do not change much even after taking into account income from services exports (mostly tourism). These data cause all the more concern considering low level of Croatian trade openness (106.6% of GDP), while other

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[15] Increasing current account deficit generally followed GDP-growth and slowed down in the period 2003-2005. However, more divergent tendencies have appeared in 2008 which will end, according to the IMF-estimates, in current account deficit of -6.1% of GDP and a fall in GDP of -5.2% (IMF, 2009).

countries' trade volume-to-GDP ratio ranges between 134% (the Czech Republic) and 175.5% (Slovakia) with the only exceptions of Poland (85.3%) and Romania (76.8%).

Regarding developments in real effective exchange rate, taken as a proxy of future developments in exports, Croatia achieved the lowest position among the analyzed countries. In the period 2000-2007 all the countries experienced an increase in real effective exchange rate of app. 35% on average, while Croatian currency depreciated by only 12.9%.[16]

Figure 3 Current account balance of Croatia and other transition countries[17] (% GDP)
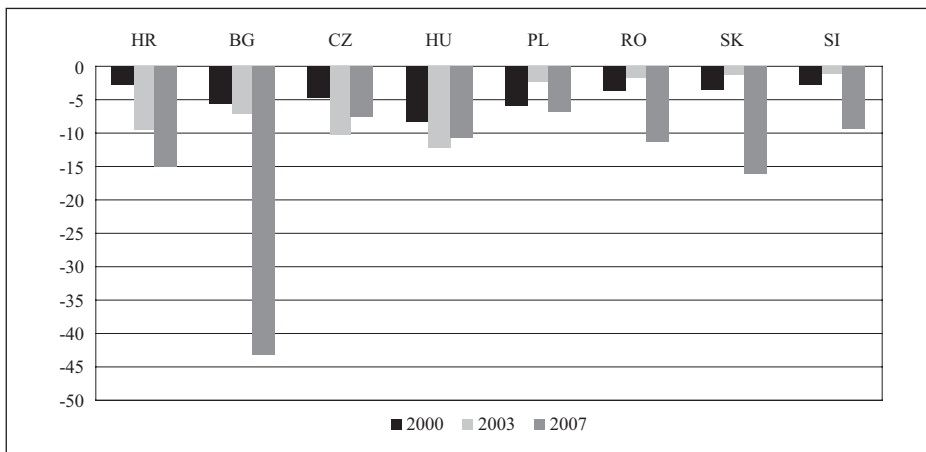
Note: BG = Bulgaria; CZ = Czech Republic; HR = Croatia; HU = Hungary; RO = Romania; SK = Slovakia; SI = Slovenia
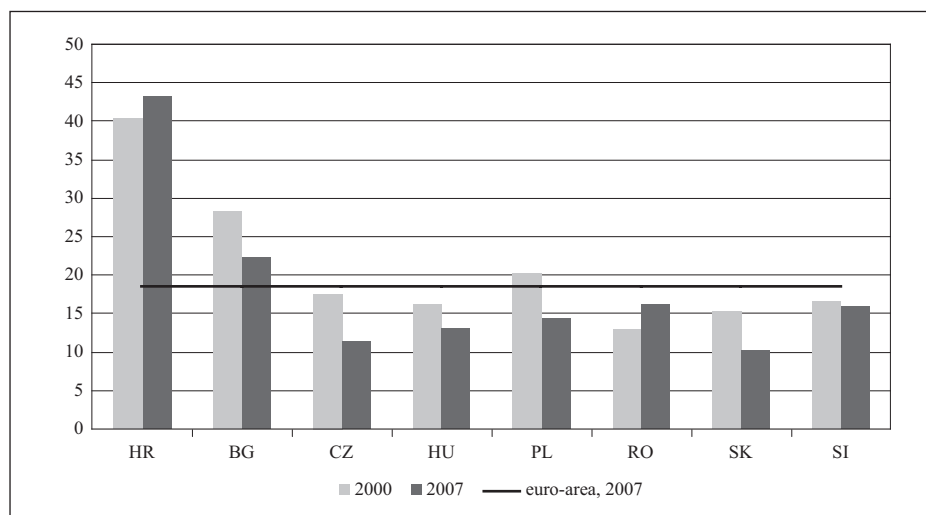
Source: IMF (2007, 2008)

As far as services are concerned, export of services plays an important role in balancing Croatian current account. This is shown in Figure 4 which measures services income in terms of gross current account revenues. Croatia relies heavily on services income in eliminating trade deficit as this type of revenue approaches almost one half of total current account inflows in 2007. Additionally, Croatia is among the few countries to have realized the increasing share of services in total current account inflows, pointing at weak growth in commodity exports. As a result of constantly negative trade balance, income from services covers a decreasing part of trade deficit – in 2000 services income exceeded negative trade balance by app. 30%, while in 2007 it covered only 97% of actual trade deficit. Until 2003 export of services grew by app. 17% *á* year, while recently (2003-2007) it grew by 10% annually.

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[16] In the same period currencies of other countries depreciated by: 58.1% (Slovakia), 42.5% (Hungary), 40,5% (Romania), 36.8% (the Czech Republic), 33.9% (Bulgaria), 14.1% (Poland) and 27.1% (euro for Slovenia), (IMF, 2008).

[17] In order to obtain comparable data across countries, real effective exchange rate is used in calculating current account balance in Figure 3. Hence, there is the difference in Croatian data appearing in Table 2 and Figure 3.

Figure 4 Income from export of services for Croatia and other transition countries
(% gross current account revenues)

Note: BG = Bulgaria; CZ = Czech Republic; HR = Croatia; HU = Hungary; PL = Poland; RO = Romania; SK = Slovakia; SI = Slovenia
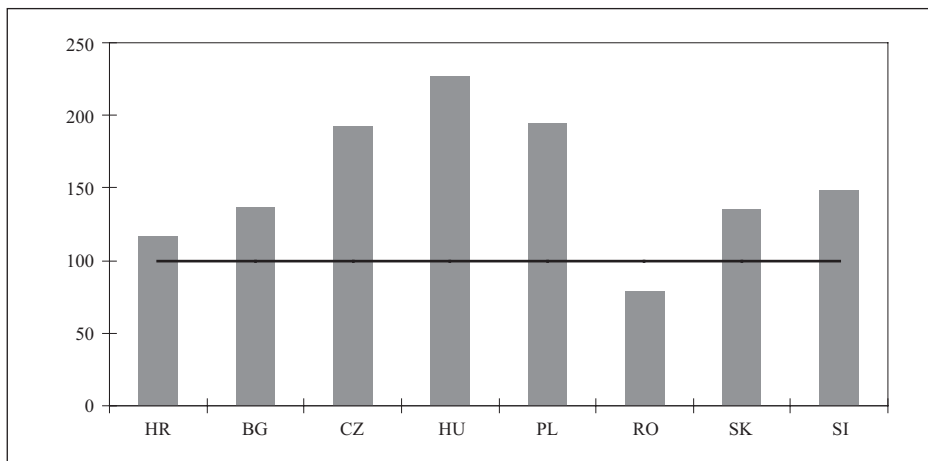
Source: IMF (2007, 2008)

Due to steadily increasing trade deficit, Croatian net-investment position (cumulative value of financial investment and FDI) over the period 2000-2007 exceeds cumulative value of the negative current account balance by 17%, while other transition countries realise much better ratio between investment inflow and income outflow in the same period. Better investment position of these countries[18] and more balanced growth of exports and imports enables them to realize cumulative net-investment which considerably exceeds current account deficit (Figure 5).

As far as indicators of liquidity are concerned, Croatia performs slightly better compared to current account developments. Following unfavourable developments in trade, Croatia experienced strong increase in foreign debt reaching almost EUR 40 bn in December 2008 (app. EUR 9.000 *per capita*); it increased by 15% annually and more than tripled since 2000. As a result, gross external debt rose to more than 80% of GDP, a medium-range outcome when compared to other countries. In the period 2006-2008 Croatia realized a fairly modest increase in foreign indebtedness of 7.7 p.p. (measured in terms of GDP), quite unlike Hungary, Slovenia and Bulgaria whose external debt rose by app. 25 p.p. In 2009 the strongest increase in external debt position is expected in Hungary, Slovakia and Poland. However, Croatia realizes the least favourable position when external debt is measured in terms of exports (Table 3). This indicates problems in Croatian

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[18] As of first quarter of 2009 Croatia, however, realized a fairly large FDI-stock of EUR 36,7 bn which equals to 75% of GDP or EUR 7.900 *per capita*. Together with portfolio-investment, these indicators increase to app. 80% of GDP and EUR 8.400 *per capita*.

real sector and weak export performance making it difficult to generate new income to service debt.[19]

Figure 5 Cumulative net-investment (portfolio and FDI) of Croatia and other
transition countries (% cumulative current account balance), 2000-2007

Note: BG = Bulgaria; CZ = Czech Republic; HR = Croatia; HU = Hungary; PL = Poland;
RO = Romania; SK = Slovakia; SI = Slovenia
Source: IMF (2007, 2008)

Regarding debt service, Croatia currently faces the greatest burden in debt repayment, since almost EUR 14 bn of debt (with interest) is due in 2009, while in 2010 the amount of debt service declines to EUR 7,6 bn and continues to fall subsequently (according to the latest available data). There is altogether EUR 45 bn of Croatian debt service outstanding which will have to be repaid (the amount higher than the GDP of 2007). Similarly, debt structure according to maturity is also worsening, as short-term debt participated in total external debt by only 4% in 2002 and increased to 14%. As regards Croatian debt structure according to domestic sectors, three quarters of total debt was realised by private companies (50%) and commercial banks (25%), while the central government reduced its share to 10% in 2008, compared to 40% in 2000.

Croatian international reserves are sufficient to meet the criterion of covering at least three months of imports and they registered a slight increase (3.4%) in the period 2006-2009 (September); meanwhile, other countries have accumulated new stocks of international reserves by 30-90% (Romania, Bulgaria, Poland, Hungary). Croatian international reserves comfortably cover 20% of gross external debt – a threshold which is considered acceptable to guarantee external liquidity under normal conditions. Finally, ratio of inter-

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[19] Regarding the threshold values of liquidity indicators, Daseking (2009) differentiates them between least developed and highly indebted countries (max. 200% of external debt-to-export ratio) and other non-industrialized countries (max. 40% of debt-to-GDP ratio).

national reserves-to-short-term debt, the so called Guidotti-rule, exceeds 1 in the majority of countries (except Bulgaria, Poland and Slovakia) indicating their ability to service all foreign liabilities maturing within a year even under external financial shock (Table 3); however, sustainability of this condition requires well balanced real exchange rate and modest current account deficit (Bussière and Mulder, 1999).

Table 3 Indicators of international liquidity for Croatia and selected transition countries, 2008

	HR	BG	CZ	HU	PL	RO	SK[a]	SI[a]
gross external debt	82.6	108.4	60.1	115.3	47.8	53.5	59.9	108.8
gross external debt (% exports of goods)	401.6	242.0	58.1	166.3	151.3	218.6	80.6	174.3
international reserves (months of imports of goods and services)	4.6	5.5	2.7	3.4	3.3	5.3	4.2	–
international reserves (% gross external debt)	23.3	35.1	46.0	19.7	25.6	35.7	48.5	–
international reserves (% short-term debt)	1.71	0.99	1.43	1.23	0.96	1.27	0.96	–
debt service (% exports of goods and services)	14.5	35.7	4.4	17.1	33.9b	29.3	–	–

[a] *Statistical treatment of international monetary reserves, arising from the EMU-membership (Slovenia since 2007, Slovakia since 2009), changes in the way that only the non-EU currencies which are invested outside the EMU constitute foreign currency reserve component (leading to reduction in international reserves and foreign liquidity position by 30-85%).*
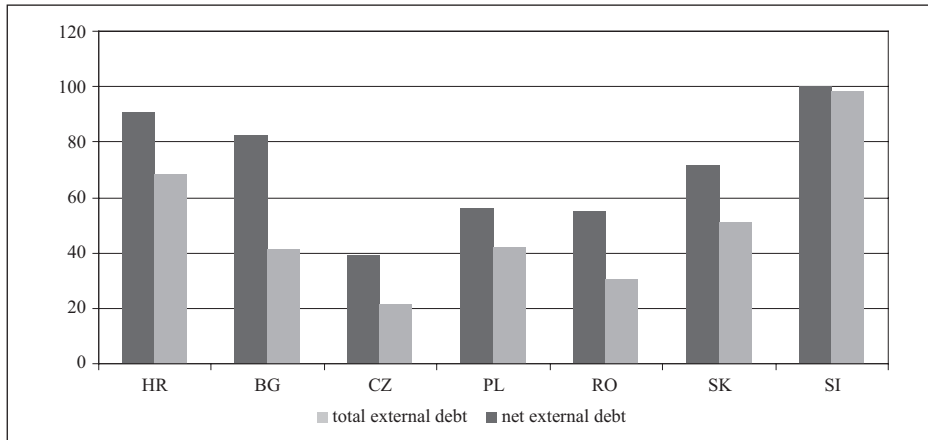
[b] *2007*

Note: BG = Bulgaria; CZ = Czech Republic; HR = Croatia; HU = Hungary; PL = Poland; RO = Romania; SK = Slovakia; SI = Slovenia

Source: BIS, 2009 (access to national central banks' statistics).

Relation between external debt and international reserves can be seen from Figure 6 which shows that Bulgaria achieves the best liquidity position with international reserves sufficient to cover app. one half of total foreign debt, with similar situation in the Czech Republic and Romania.

Considering the above said Croatia meets the criteria of liquidity slightly better than solvency indicators. Increasing trade deficit with consequent deterioration of the current account balance could impose pressure on exchange rate and monetary policy determined by "euroization' of domestic economy and commitments in respect of joining the EMU. Financial openness could, however, help to ease such position.

Figure 6 Total external debt and net-external debt of Croatia and other transition countries (% GDP), 2007[a]

[a] Difference between gross external debt and international reserves (without gold).

Note: BG = Bulgaria; CZ = Czech Republic; HR = Croatia; HU = Hungary; PL = Poland; RO = Romania; SK = Slovakia; SI = Slovenia

Source: IMF, 2008; BIS, 2008.

3 International financial integration of croatia and other transition countries

International financial integration which gained pace in the late '80s and early '90s coincided with internationalization of business activities (FDI) and liberalization and de-regulation of financial markets (including Eastern Europe). However, global financial integration did not solve the problem of the instability of international financial system which, together with often misaligned fundamentals on national scale (exchange rate, foreign debt, current account deficit, fiscal imbalance, etc.), have led to series of financial crises[20].

Besides benefits of financial integration (easier access to financing economic growth and development, prudent macroeconomic policy, better allocation of resources in a more competitive and transparent system), there are, however, certain costs associated with volatility in short-term capital flows which can put exchange rate and monetary policy under pressure[21]. Furthermore, SMOPEC are considered to be in a fairly difficult position as their access to international financial markets mostly follows the stage of a business cycle which means that they realise bad access to capital in bad times (Agénor, 2003). Addi-

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[20] These include the Mexican (1994), Asian (1997), Russian (1998) and "nordic" (Finland, Norway, Sweden) crisis of the '90s, as well as the Argentinean (2001-2002) and the most recent financial crisis (2007-2008). The causes of these crises came either from monetary policy tightening, terms of trade shock, or contagion effect from abroad (on financial crises triggers see: Ghosh et al., 2009). System risk, together with falling property prices and the value of related financial instruments (derivatives), triggered the last crises.

[21] Financial openness can reduce effectiveness of monetary policy. Croatian case shows that monetary authority had to undertake tough measures of increasing banks' reserves and introducing bank loan deposits in order to curb credit expansion of domestic banks the assets of which are 90% foreign-owned.

tionally, countries with narrow production structure and weak trade integration can poorly withstand external shocks, unlike developed industrial economies.

3.1. Developments in international financial position of transition countries

Unlike developed industrial countries in which capital account liberalization, deregulation of financial markets and financial innovation have contributed to increasing financial openness, transition countries have experienced different pattern and hence slower pace of international financial integration. Basically, they realize lower values of foreign assets and liabilities, mostly due to underdeveloped financial sector which often lacks effective regulation of securities markets and non-bank financial institutions. This prevented transition countries from achieving market liquidity and capitalization comparable to the levels realized by developed countries (EBRD, 2008). Moreover, as non-members of the EMU, the majority of transition countries are exposed to strong exchange rate risk which further limits their cross-border financial transactions. Nevertheless, these countries have found their *"niche'* on international financial market mostly through issuing liabilities (net-debt creation), equity instruments (net-inflow of FDI) and the growth in external assets (increasing official reserves).[22]

Notwithstanding the real obstacles to increasing "international financial exposure', transition countries have significantly built up their foreign assets and liabilities which, taken together, reached app. 210% of the 2006 GDP. As shown in Figure 7, this result approaches that of the USA, while financial openness of the euro-area, supported by the introduction of the common currency, overreached that of other countries.

Figure 7 Foreign assets and liabilities of transition countries, the euro-area and the USA (% GDP)[a]
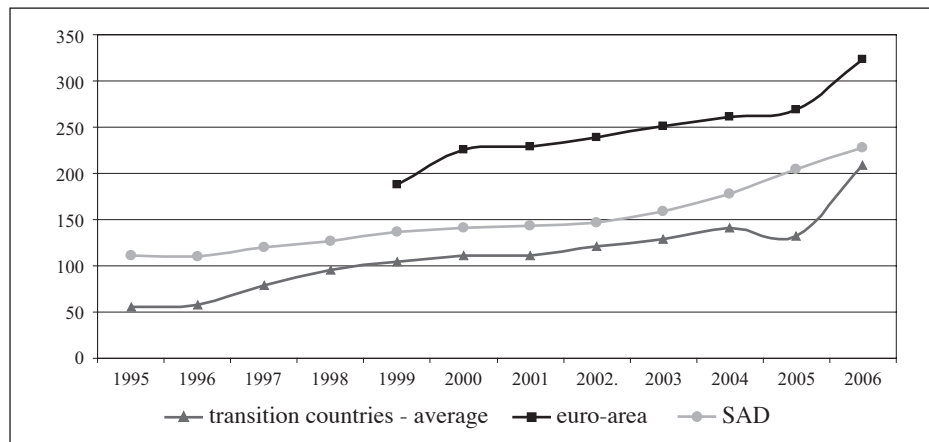

[a] *Sum of FDI, portfolio investment, other investment, financial derivatives and official reserves.*

Source: IMF (2007, 2008)

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[22] Some authors claim that *"... advanced countries are typically "long equity, short debt", with the opposite pattern holding for most other countries."* (Lane and Milesi-Ferretti, 2008:329), that obviously refers to transition countries as well.

However, growth dynamics of foreign assets and liabilities of selected transition countries is almost the same as that of the euro-area – on average transition countries realized an average annual growth rate of 16.1% (euro-area: 17.1%). International financial openness of all transition countries grew steadily throughout the observed period of 1995-2007 and, as expected, exceeded average GDP-growth rate – most notably in the Baltic countries, Poland and Croatia. These countries, together with Hungary, realized the most dynamic growth of their international financial "exposure", while foreign assets and liabilities position of Bulgaria and the Czech Republic grew at considerably slower pace, i.e. below the 16%-average (Figure 8).

Figure 8 Average annual growth rate of foreign assets and liabilities and GDP for
*individual transition countries and the entire group of countries (% GDP),*
1995-2006[a]
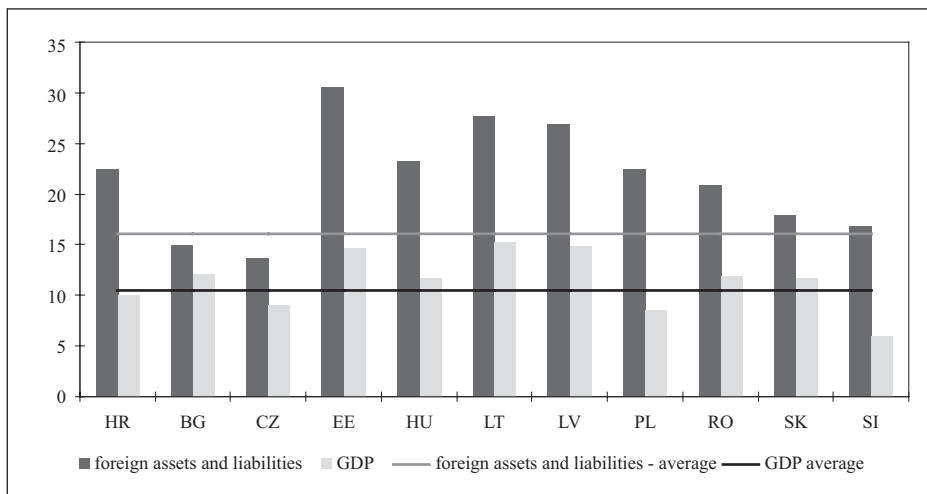
In the structure of Croatian foreign assets and liabilities, other investment and FDI dominate, while with the remaining countries, mostly EMU-candidates, official reserves, together with FDI realize the greatest share. As regards total (portfolio and FDI) equity holdings, Croatia resembles the analyzed group of transition countries, though with more divergent developments in the period 2000-2003 when significant FDI-inflow, owing to large privatization projects, was realized[23] (Figure 9).

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[23] On the impact of composition of financial flows on financial stability see: Frankel et al., 2008 and Bekaert et al., 2006. Relatively large inflows of FDI have made it possible for transition countries to run larger current account deficits than in the case of dominant share of debt-type capital inflows. Furthermore, risk sharing for FDI-host economy is relevant, since returns on FDI depend upon business conditions of the local economy, unlike the case with debt instruments (Lane and Milesi-Ferretti, 2007a).

Many studies have confirmed positive relation between financial and trade openness[24]. In that respect, trade openness of Croatia and the remaining ten transition countries, can be seen as interrelated with their increasing financial integration. Individually, almost all countries realized trade volume (goods and services) above their GDP with the more advanced countries holding higher positions – Slovakia 173,6%, Hungary 157.9%, Estonia 156.5%, the Czech Republic 149.3%, Bulgaria 147.5%, Slovenia 144.7%, Lithuania 129.9%, Latvia 108.1%, Croatia 106.1% Poland 85.3% and Romania 76.8% of GDP. In Croatia, an increase in the degree of financial openness is lower than the overall increase in trade integration realized from 1995 through 2007. As can be seen from Figure 10, trade integration rose by 22 p.p., (right hand-side scale measure), while foreign equity grew by 12 p.p. (left hand-side scale measure).

Figure 9 Foreign equity (portfolio investment and FDI) assets and liabilities for Croatia and other transition countries (% GDP)
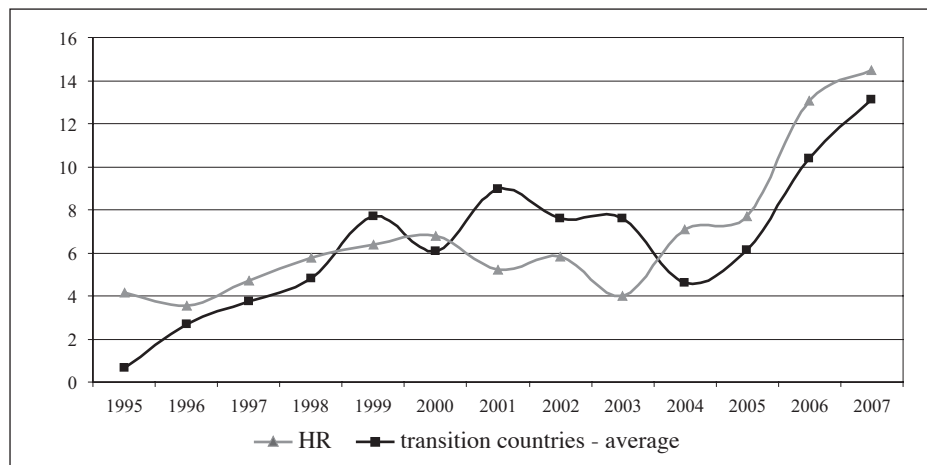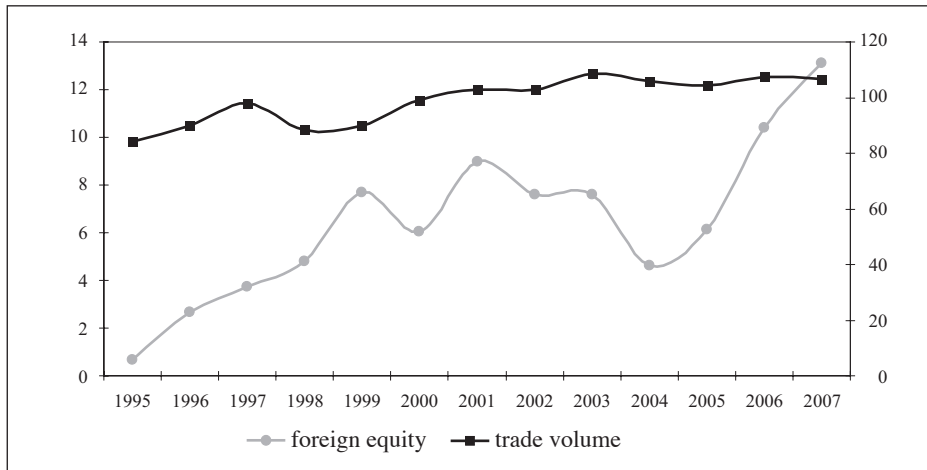

Source: IMF (2007, 2008)

Yet, regardless of the intensity of foreign assets and liabilities growth, the main determinants of the transition countries' international financial integration are to be found out. This issue becomes even more important when specific problems of transition countries are taken into consideration with special reference to economic restructuring and specific development needs, institutional reform and the EU-membership.[25] These circum-

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[24] Aizenman and Noy (2004) found out that trade openness contributes to increasing financial flows which in turn stimulate trade growth, while Rayan and Zingales (2003) corroborate the above said by their findings that negative trade balance is strongly correlated with financial openness. Cavallo and Frankel (2008) confirm less vulnerability of more open economies to external shocks and explain it through their ability to "externalize' the adverse impact of financial shocks.

[25] Croatia already realizes a high degree of international financial integration with the EMU as a source of 80% of total FDI, 30% of portfolio investment and 85% of foreign bank assets; 80% of Croatian portfolio debt investment and 65% of international bond issues has been realized within the EMU (according to: Lane and Milesi-Ferretti, 2007a):115-117). Additionally, three quarters of Croatian trade is denominated in euro (HNB).

stances make transition countries' adjustments to external shocks even more complex through increasing their external vulnerability. In order to find out determining factors of the transition countries' financial openness, regression analysis is carried out.

Figure 10 Croatian foreign equity (portfolio investment and FDI) assets and liabilities and trade volume (% GDP)

Source: IMF (2007, 2008)

3.2 Model specification and results

Cross-country panel data analysis which follows includes 11 transition countries and covers the period of 1995-2007.[26] The dependent variable in the regression model is individual country's international financial position calculated as the sum of foreign assets and liabilities,[27] expressed in terms of the current year's GDP (*FAL*).

Selected explanatory variables describing country characteristics include: indicator of trade openness (goods and services) as a percentage of national GDP (*EIGS*), gross domestic product (*GDP*), population (*POP*) and gross domestic product *per capita* (*GDPC*). Trade openness is expected to positively influence international financial integration through creating corresponding financial flows (payments) or capital flows (loans, debts), the latter in the case of trade imbalance. It also improves cross-border information flows and, hence, reduces the risk of carrying out international financial transactions. The same

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[26] The sample includes: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. Analysis includes 143 observations out of which those lacking the data were removed. Financial data were obtained from the IMF-financial statistics and the WIIW-statistics, while the financial sector development data were gathered from the EBRD-reports. Financial data on foreign assets and liabilities were taken from the countries' international investment position (IIP) posts of the IMF-financial statistics. Unlike the balance of payments data in which net-flows can take negative values, the IIP-data represent economy's external assets and liabilities stock, adjusted for changes in the price level and the exchange rate.

[27] FDI, portfolio (debt and equity) investment, other investment, financial derivatives and official reserves.

(positive) sign is expected in case of GDP/*capita* as its growth indicates increasing wealth of an economy and possibly less risk aversion towards cross-border investment (Lane and Milesi-Ferretti 2003). The impact of the absolute size of an economy, expressed in terms of population or GDP, on the degree of financial openness is, however, more difficult to predict – larger markets offer more opportunities for (domestic) portfolio diversification, but the final effect ultimately depends upon the level of financial market development. Since only some of the analyzed countries have realized financial market standards equal to industrial countries[28], negative impact of the economic size of an economy on financial openness can not be *á priori* expected.

Indicators of banking and financial market developments cover: indicator of financial depth – liquid liabilities-to-GDP ratio[29] (*LL*), stock market capitalization, also measured in terms of national GDP (*SMC*) and the amount of cumulative privatization revenues as a percentage of national GDP (*CPR*). Growth in banking and financial market can have adverse effects on financial openness, but increasing investment opportunities can, however, attract foreign investors to domestic markets. Regarding the recent history of privatization in Eastern Europe, stronger positive impact on financial integration of transition countries can be expected from capital inflows realized through privatization projects.

Dummy-variable for the EU-membership (*Dummy-EU*) differentiates between full-fledged membership (1), association agreement (Europe Agreement, Stabilization and Association Agreement – 0,5) and no formal relationship with the EU (0). Finally, dummy-variable indicating country size (*Dummy-POP*) is also included in the model (population: 0-5 mn – 0; 5-20 mn – 0,5 and 20 mn and more – 1). Membership in or even accession to the EU which incorporates economic convergence, elimination of institutional barriers and legislation approximation is expected to result in growing financial openness of the analyzed countries (Lane and Milesi-Ferretti, 2007a).

The analyzed regression equation is of the following general form:

$$\ln Y_t = const. + \beta_{it} X_{it} + \beta_{jt} X_{jt} + \mu \tag{1}$$

in which X_{it} refers to independent variables transformed into natural logarithm (ln), while X_{jt} describes dummy-variables, not transformed in the logarithmic form; subscript t denotes time and there are no lagged variables in the model. The estimated parameters are calculated according to the OLS-methodology. The coefficients estimated by the regression equation are presented in Table 4, together with the results of statistical and econometric tests of the estimated model.

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[28] According to the EBRD the following countries belong here: the Czech Republic, Estonia, Hungary and Poland (EBRD, 2007, 2008).

[29] As the sum of demand deposits, time, savings and foreign currency deposits, foreign liabilities and central government deposits this variable is aimed to approximate "international exposure' of commercial banking sector.

Table 4   Results of the regression analysis (11 countries), 1995-2007

		Stepwise/forward introduction of independent variables in the model					
		1	2	3	4	5	6
const.		2,590	0,921	1,191	1,411	1,911	2,656
	t-test	$11,765^a$	$2,598^b$	$3,649^a$	$4,360^a$	$4,720^a$	$5,884^a$
LNLL		0,563	0,401	0,322	0,264	0,345	0,399
	t-test	$9,966^a$	$6,926^a$	$5,875^a$	$4,689^a$	$5,023^a$	$5,859^a$
VIF		1,000	1,324	1,439	1,626	2,488	2,642
LNEIGS			0,493	0,452	0,422	0,431	0,400
	t-test		$5,649^a$	$5,677^a$	$5,429^a$	$5,609^a$	$5,375^a$
	VIF		1,324	1,337	1,360	1,365	1,388
LNCPR				0,108	0,090	0,082	0,063
	t-test			$5,105^a$	$4,203^a$	$3,841^a$	$2,940^a$
	VIF			1,167	1,269	1,309	1,418
LNSMC					0,074	0,097	0,110
	t-test				$3,038^a$	$3,640^a$	$4,257^a$
	VIF				1,503	1,836	1,884
LNGDPC						-0,106	-0,204
	t-test					$-2,010^b$	$-3,468^a$
	VIF					2,637	3,585
Dummy-EU							0,404
	t-test						$3,254^a$
	VIF						1,623
R² adjusted		0,450	0,564	0,640	0,664	0,672	0,698
No. of observations		121	121	121	121	121	121
F-test		$99,322^a$	$78,517^a$	$72,149^a$	$60,224^a$	$50,251^a$	$47,131^a$
St. Error of the Estimate		0,278541	0,248168	0,225384	0,217855	0,215054	0,206614

[a] *Statistically significant at the 1%-level.*

[b] *Statistically significant at the 5%-level.*

Source: Author's own calculation.

The results of the analysis are generally in line with theoretical expectations since all the variables but one realize the expected sign and all of them are statistically significant. The analysis confirmed the relevance of general economic indicators, indicators of banking and financial market developments and dummy-variables in explaining variations in international financial integration across the analyzed countries. However, trade openness, banking sector "internationalization' and (formal) relations with the EU realize the strongest positive impact on financial integration. Regarding the fact that the highest share (40%) of total cross-border capital flows of the analyzed sample of countries was realized by (inward) FDI and referring to the existence of a positive "two-way feedback' between trade and equity investment (Aizenman and Noy, 2004), such outcome was expected. The strong-

est contribution to the explanatory power of the regression model came from the variable of liquid liabilities which entered the regression equation first and kept fairly strong impact throughout. Significant contribution of the banks' liabilities to financial openness can be explained through increasing share of their foreign liabilities which materialized in credit expansion to domestic market adding to increasing external debt. Economic integration with the EU and the expected joining the EMU contributed to increasing (equity) investment and other cross-border capital transactions for the majority of the analyzed countries. On the other hand, variables of *GDP*, *POP* and *Dummy-POP* did not prove significant in explaining the variations of the dependent variable and were therefore excluded from the model showing that during the analyzed period (1995-2007) economic size was not an obstacle to transition countries' financial openness. Hence, they are not included in the table above. Apart from the fact that only two countries included in the model (Poland and Romania) are considered big economies, the shortage of capital and its high marginal productivity on the Eastern European markets, followed by large opportunities for equity investment (privatization, etc.) have contributed to overall financial openness of transition countries. This explains why variables of cumulative privatization revenues and stock market capitalization have entered the model as relevant explanatory variables. Finally, GDP/*capita* has not entered the regression model until the fifth iteration; it modestly increased the model fit and contrary to expectations, indicated negative impact on financial openness. Hence, the possible field of future research might be investigating how different stages of economic development influence degree and composition of financial integration. In order to achieve this, analysis based on more disaggregated data would be needed.

Across iterations all the variables included in the final version of the model *(6)* proved statistically significant (two-tailed t-test) as did the estimated model (F-test). As adjusted coefficient of determination increases and in the final model comes close to 70%, standard error of the estimate diminishes and the coefficient of variation falls from 0.22% (first specification) to 0.16% (final specification). There is no multicolinearity among regressor variables, as confirmed by the Variance Inflation Factor of the estimated coefficients which satisfies the condition of $VIF_i < 5$; the Chi-test indicates absence of mutual correlation across regressor variables[30] as well. The model is free from heteroscedasticity in the variance of residuals as they are normally distributed with the expected value equal to zero and the standard deviation approaching to 1 (0,975).

4 Concluding remarks

Liberalization and deregulation of financial markets, together with innovative financial instruments, have created immense business opportunities on international financial markets which, however, melted down as soon as "liquidity bubble' burst on the first signs of demand shock. The spill-over of financial crisis to other countries than those which initiated it, points out at complexity and interdependences of integrated financial markets and economic globalization. Hence, it will not be easy to find the right strategy of international financial integration for transition countries, be they or not a member of the EU.

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[30] Table value of Chi-test (32,67) is higher than the empirical value (0,809).

From the theoretical point of view, Croatia would not constitute an OCA with the EU at the moment (but neither is the EU an OCA itself). If we, for a moment, disregard wage flexibility and fiscal federalism, there remain two important factors for a successful monetary union creation – integration of production factor markets and trade integration. The importance of the former in the case of Croatia arises from the failure to improve the latter, as Croatian trade with the EU constantly registers relatively low share in Croatian total trade[31]. Therefore, financial market openness and flexibility become the necessary preconditions for Croatian successful participation in the EMU, since integrated financial markets make possible the alleviation of the burden caused by asymmetric shocks across monetary integration. Furthermore, financial integration is even more important for countries which have development gap towards the rest of the monetary union as financial market liberalization opens up possibilities for free capital flow according to its marginal productivity; in this way economic growth can be encouraged even in countries or regions suffering from idiosyncratic shock. As far as the Maastricht criteria are concerned, Croatia currently fails to fulfil only one, referring to price stability, while it takes no part in the formal arrangement of the ERM II. Government finance presently show improvement (yet with rather gloomy prospects for 2009 and 2010), interest rates are low and despite the non-participation in the ERM II, fluctuation margins of Croatian national currency are even narrower than the standard band for the EMU.

The main characteristic of international financial integration of Croatia and other countries from Central and Eastern Europe is dynamic growth of foreign assets and liabilities, yet of a structure slightly different to that of the developed countries. The main factors which determine transition countries' increasing financial globalization are: trade integration, financial sector development and formal relations with the EU in particular. However, a more dynamic growth of financial integration, as compared to GDP, indicates that general development level of an economy proved less relevant in explaining a rising financial globalization of transition economies. In light of severe consequences of financial crisis in some countries, this calls for assessment of the country's external balance, its dynamics and medium-term sustainability being the factors that could have significant impact on the intensity of asymmetric shocks.[32] The main characteristics of Croatian external balance – strongly increasing trade and current account deficit, high foreign debt, though followed by sufficient international liquidity – show high external vulnerability of Croatian economy and potentially high sensitivity to external shocks, possibly resulting in economic slowdown or even recession. Regarding the fact that there is no more room for a significant increase in services income (tourism) without additional capital investments and that further FDI-inflows might be more determined by the lack of privatization projects, than by genuine investment friendly climate, while making reference to high burden of servicing foreign debt, Croatian external position should not be challenged any more. Recession which currently marks international economic scene (including Croatia) and will probably continue to do so in the next year, accentuates the question of timing

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[31] The share of the EU 27 amounts to 63% (January-August 2008), (DZS, 2009).

[32] Croatia successfully buffered adverse effects of actual financial crisis of the end of 2008, mostly owing to accountable monetary policy. However, weak solvency indicators will continue to assert pressure on exchange rate and challenge monetary policy. This is all the more the case regarding the fall in international capital flows and resulting slowdown in economic growth worldwide.

for joining monetary integration. Countries suffering from falling economic activities are certainly not strong enough to eventually withstand external asymmetric shocks.

Finally, considerations on pros and cons of Croatian joining the EMU cannot be complete without reference to monetary policy which is, in achieving its primary objective of price stability, largely determined by specific conditions of Croatian economy. Therein belong "euroization', indexation of prices according to the exchange rate and strong import base of Croatian economy[33]. Due to the same policy objective Croatian central bank has similar monetary policy stance as its European counterpart, while the specific role of the exchange rate forces Croatian monetary authority to avoid too strong a volatility of the exchange rate easily translatable into increasing domestic price level. However, entering the new European monetary system, in case of Croatia, would mean elimination of "euroization', indexation of prices and exchange rate pass-through would cease to exist, while price stability would remain highly ranked on the economic policy agenda. Since the great part of Croatian foreign transactions are denominated in euros, this leads to further macro- and microeconomic effects of the EMU for Croatia. With the introduction of the euro exchange rate risk and credit risk would be largely diminished, while more transparent business conditions would contribute to increasing investment opportunities, economic and company restructuring and increasing trade with the EU-market. Strong international position of the euro as the world currency would make positive spill-over to Croatian economy possible, while credible policy of the ECB and a stabile and strong monetary system would eventually protect Croatian economy from speculative currency attacks and external crises. However, economic restructuring which is lagging behind, when compared to the new EU-member countries, potentially exposes Croatia to strong asymmetric shocks what would be the main argument in favour of a more cautious approach not only to monetary integration, but to economic integration in general.

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[33] On the influence of exchange rate movements on domestic prices see: Billmeier and Bonato, 2004 and Kraft, 2003.

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