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Macroeconomic Management, Financial Sector Development and Crisis Resilience: Some Stylized Facts from Central and Eastern Europe*

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Emerging Central and Eastern Europe (CEE) is the region most affected by spillovers of the global financial crisis which originated in the U.S. and quickly spread to Western Europe and other world regions. Nevertheless, some countries in CEE appeared to be more prepared and resilient than others. While Hungary, Latvia, Serbia, Romania and Ukraine were among the first to approach and negotiate financial support programs with the IMF, other countries, e.g. Estonia, Lithuania, Montenegro and Armenia, followed and showed signs of increasing distress and international assistance. On the other hand, countries such as the Czech Republic, Poland, Slovenia and Slovakia have been significantly more resilient to the immediate effects of the global financial crisis. Although the latter small open economies did not escape the negative second round effects due to large declines in the external demand for their exports. In order to draw some lessons from why some countries weathered the initial negative spillovers of the global financial crisis better than others, we focus on the case of the Czech economy and

* The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent. The Author thanks Pradeep Mitra, Marcelo Selowsky and Fernando Montes-Negret for their comments on earlier drafts of this paper.

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characteristics of its financial sector in particular, and subsequently bring in some supporting cross-country evidence from the new EU member states.

1. The Czech Republic Case

Instead of carrying out a cross-country comparison of financial sector indicators we focus on institutions, economic policies and ensuing economic behavior in different sectors of the economy to understand the drivers behind relatively positive financial sector indicators for the Czech Republic. The predispositions of the Czech economy to endure the initial effects of the global financial crisis better than some other CEE countries have derived from several factors/policies: (i) the applied flexible exchange rate regime, (ii) relative fiscal discipline, (iii) success in ensuring macroeconomic stability, (iv) consolidated financial supervision, and (v) the experience and lessons from a past financial crisis.

(i) Exchange Rate Management

Although the Czech economy has large export-oriented manufacturing sector with the share of industrial production on GDP of about 30 percent – the largest in the EU – the Czech National Bank (CNB) firmly embraced the idea of not artificially manipulating the exchange rate to the advantage of the export industry despite its strong lobby. The CNB repeatedly emphasized that a small economy and its businesses and labor unions should learn to deal with external shocks and this approach contributed to increasing flexibility of the Czech economy. In addition, the sustained appreciation of the exchange rate due to favorable productivity growth differential vis-à-vis the Eurozone helped contain overly optimistic expectations in the corporate sector and excessive credit boom in this sector.

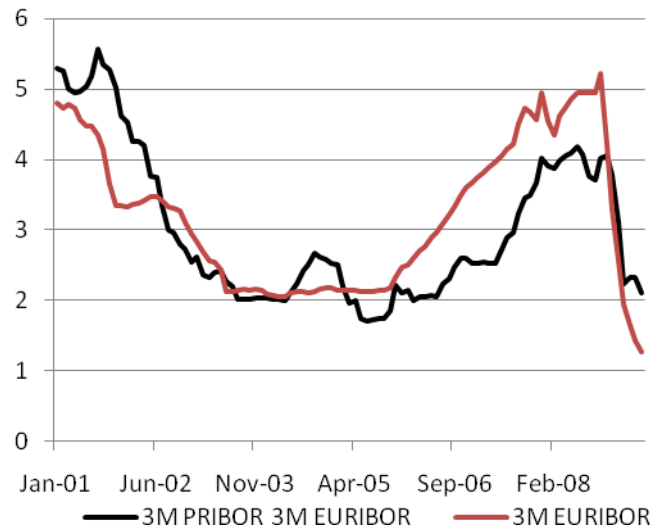
(ii) Fiscal Policy

There has been also strong consensus on the need to increase fiscal discipline that has been realized in the years preceding the global financial crisis. Hence, the flexible exchange rate regime and fiscal prudence have been the main factors in helping sustain external balance – trade surplus and modest current account deficit.

(iii) Central Bank Independence

The high independence¹ and gained credibility² of the CNB contributed to successful macroeconomic stabilization in the years preceding the global financial crisis. This together with increased fiscal discipline and sound balance-of-payments accounts was the main drivers behind the fact that since early 2005 there has been a negative interest rate differential between the CZK and EUR interest rates (see Figure 1).

Figure 1: The CZK-EUR Interest Rate Differential 2001-2009



Source: DataStream

Although one would expect that low interest rates result in undesirable credit boom this circumstance had some shielding effects on the Czech economy. Namely, the CZK, as a relatively low yielding currency, is not so attractive for speculators, and unlike in some other countries Czech households do not have the incentive to borrow in foreign currency and expose their balance sheets to foreign exchange risk. The government itself has not borrowed extensively in foreign currency and this raises an interesting question concerning the effect of public-debt currency allocation on the private sector-debt currency allocation. Nevertheless, mortgage lending grew substantially with financial

¹ The CNB independence was established in 1993, anchored in the Constitution and tested by Constitutional Court.

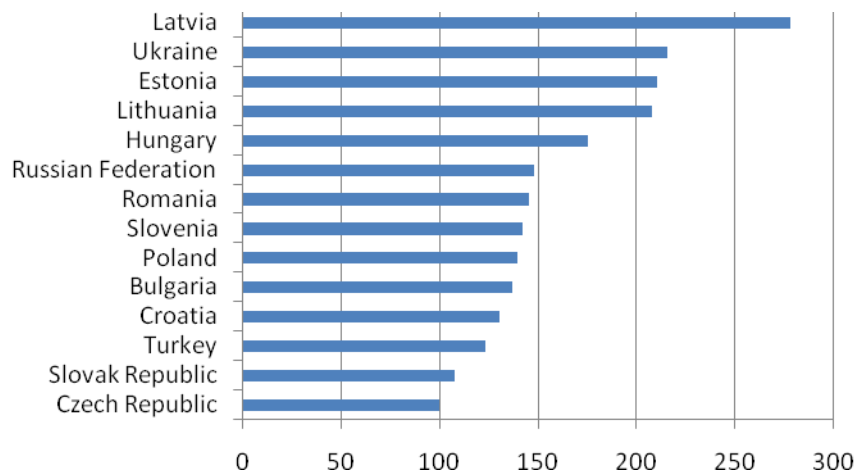
² Mainly thanks to conservative monetary policy within the inflation targeting framework (as of 1998).

penetration in this segment reaching significantly higher levels than in other EU10 countries, except for Slovakia, comparable to Belgium, Denmark or Luxemburg. This has resulted in housing bubbles especially in large cities like Prague. This could be seen as a troubling element waiting in the pipe-line when credit portfolio quality deteriorates as a result of the decline in aggregate income. Only relatively conservative lending practices in the past, involving a more conservative average loan-to-value ratio and debt service-to-income ratio, are somewhat comforting.

(iv) Macro-Financial Stability

The Czech financial system has been characterized by excess liquidity, supported by low CZK interest rates, and CNB has been traditionally withdrawing liquidity from the market in the tune of CZK350 bln daily. The high credibility of domestic currency (CZK) -- thanks to prudent monetary policy -- high financial penetration³ and relatively less impatient households helped establish a solid and relatively diversified deposit base which was able to fully finance the most recent credit boom, on aggregate. Namely, the loan to deposit ratio stood at 78 percent by mid-2008, by far the lowest among EU10 countries (see Figure 2).

Figure 2: Loan-to-Deposit Ratios of Selected ECA countries



Source: IFS, EBRD

³ About 80 percent of adult population has a bank account, similarly as in Slovakia and Croatia while in Slovenia this ratio reaches 97 percent.

While the exposure of the banking system to toxic assets was negligible (less than 1 percent) the system has been showing relatively high profitability as compared to other EU10 countries. Specifically, by April 2008 the ROE stood at about 23 percent the third highest after Poland and Bulgaria (both with about 25 percent ROE). This certainly helped sustain the little external funding from mother banks that the Czech banking system, largely foreign owned, was tapping into. Preliminary anecdotal evidence, based on the comparison of the relative speed with which external funding has been withdrawn from Kazakhstan and Hungary, could suggest that a higher degree of committed foreign ownership in a domestic banking sector, through incorporated foreign subsidiaries, can decrease reversibility of external financing.

(v) Consolidated Supervision

In addition, the institutional arrangement concerning financial regulation and supervision and its links to monetary policy proved to be important for the Czech Republic in coping with the onset of the global financial crisis. In 2005, the Czech Republic integrated its financial supervision and undertook a related functional reorganization so that as of 2006 consolidated supervision of all segments⁴ of the financial system was in place. The experience has shown that financial groups very much appreciate having to deal with just one financial supervisor, especially in periods of financial turmoil. The capacity for rapid supervisory response has been boosted by increased monitoring efforts and collection of daily information⁵, and 1-2 week frequency of communication between the CNB Governor (Vice-Governor) and the bank association. The ability of rapid supervisory action has been tested in practice in the context of the Societe General scandal. The independence of bank subsidiaries has also played a role in protecting their financial standing when problems within the financial groups arose – e.g. Komerčni Banka

⁴ Nevertheless, there are still some financial sector institutions which the CNB does not supervise, such as e.g. leasing companies or non-bank credit institutions. These institutions could be used for regulatory and supervisory arbitrage.

⁵ The decision to collect daily data was implemented on the next day, and the collected data comprise cash requirements, money market and government bond market, financial institutions (banks and other important financial players), liquidity stance, exposures within group, deposits levels, fulfillment of regulatory limits and withdrawal from money market funds.

(Societe General) or AIG Czech Republic. In addition, existence of own national currency makes funds withdrawal from subsidiaries to parents more complicated. Furthermore, as of February 2008 the mandate of the CNB was augmented to include consumer protection in financial services which effectively increased the powers of the supervisor in the area of business conduct enforcement. This further enhances financial prudential supervision by enabling the CNB to curb the accumulation of indirect credit risk in the households sector.

(vi) Experience of a Past Crisis

Apart from all the negative effects of financial crises, the experience of a past financial crisis, like that in the Czech Republic during 1997-1998, makes countries usually more agile in undertaking crisis-mitigation reforms in the financial sector. Namely, the experience tends to (a) improve the coordination between key financial sector government agencies, i.e. the MoF and the CB, (b) equip countries with tested bank resolution and financial rehabilitation frameworks, and (c) make government aware of the need to prioritize in their classification of systemically important banks with respect to the limited available fiscal space, (d) make countries adopt measures to support efficient dealing with bad loans and out-of-court loan restructuring. Nevertheless, repeated financial crises tend to further undermine the credibility of the financial sector, divert the financial sector reform agenda from a holistic to a piece-meal approach, and induce strong and sustained negative social impacts.

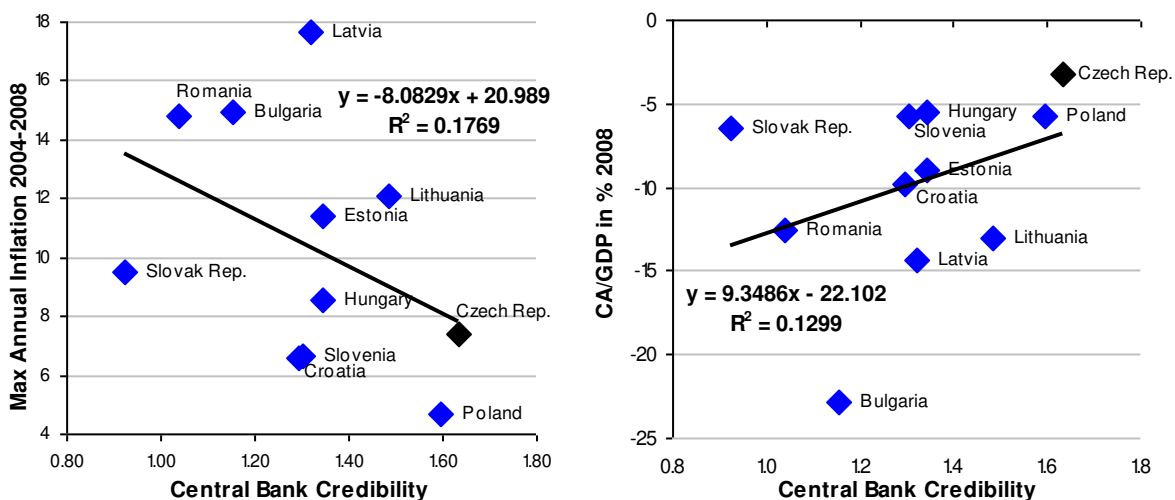
2. Supplementary, Cross-Country Data Analysis

In this section, we make some preliminary cross-country comparisons in order to put the discussion in Section 1 into a quantitative perspective. We compare the selected aspects of the Czech Republic's economy to other countries with similar institutional backgrounds, levels of income convergence and the degree of integration to the EU. Namely, we consider the following group of countries as reasonable comparators: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia (the EU11 henceforth).

We structure the cross-country data analysis around the outcome variables that have made the Czech Republic more resilient to the first round of negative effects from the global financial crisis. Following this structure, we then associate the outcomes with their possible drivers, without claiming causality. In a nutshell, there have been three main outcomes that have enabled the Czech economy to withstand the first wave of capital flow reversals from emerging markets.

These three outcomes, i.e. the initial conditions before the global financial crisis, have been (i) a relatively low interest rate differential vis-à-vis developed countries, the Eurozone in particular; (ii) a relatively low loan-to-deposit ratio, and (iii) a relatively low share of foreign exchange loans in total bank loans. The relatively low interest rate differential and loan-to-deposit ratio have helped in discouraging large short-term capital inflows and thus have diminished the leverage effect of potential capital flow reversal. The relatively low foreign currency denomination of the domestic deposit base and credit (both public and private) permits the Czech economy to take advantage of CZK depreciation and ensure that even at higher levels of the depreciation the positive income effect – through increased price competitiveness of net exports – dominates the negative balance sheet (valuation) effect stemming from the FX denominated credit. Some empirical support for the three outcomes is presented next.

Figure 3: Central Bank Credibility and Internal and External Balances



Note: the Central Bank credibility index constructed as a sum of CB independence and transparency indexes. Source: Crowe & Meade (2008), IMF and staff calculations

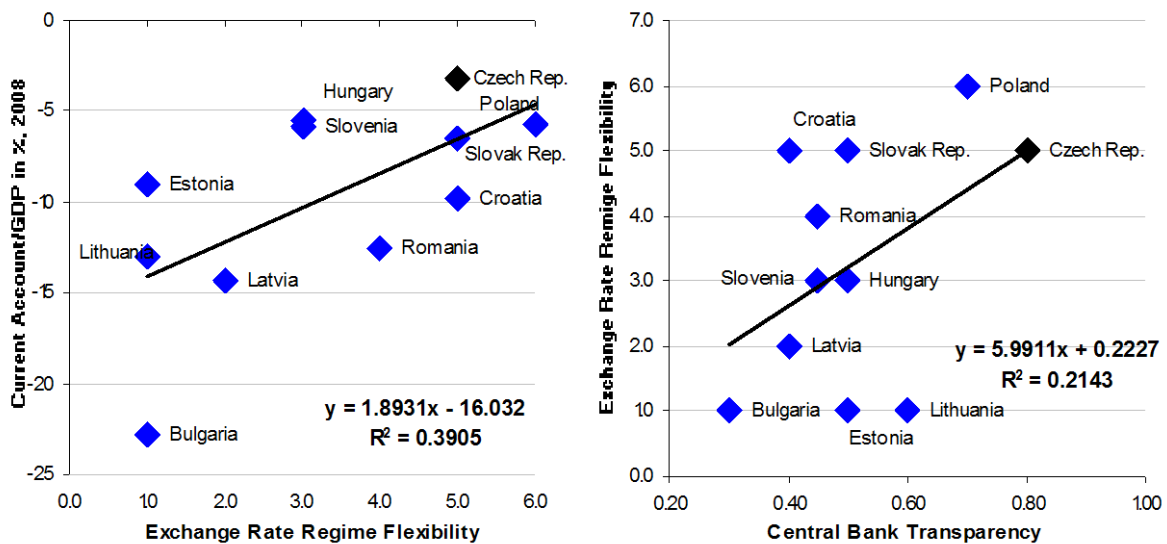
The data for the EU11 suggests that an independent and transparent central bank facilitates better macroeconomic management and lower risk premium on the national currency. The evidence presented in Figure 3 supports this premise as central bank credibility appears to be significantly⁶ correlated with lower overheating in the EU11 countries (left panel). The degree of overheating, traditionally measured by the size of an output gap, is here approximated directly by the maximum annual inflation rate experienced by the EU11 countries over 2004-2008.⁷ Higher central bank credibility appears to be also associated with lower external imbalances, as approximated by the current account-to-GDP ratio (the right panel), and hence lower currency risk premium.

Flexible exchange rate regimes appear to significantly reduce accumulation of large external imbalances and thus the currency risk premium. Figure 4 (left panel) shows that the relationship between the external imbalance (current account-to-GDP ratio) by 2008 and the flexibility of an exchange rate regime appears to be significant for the EU11 countries. Hence, obstructing the most flexible price of any small open economy, i.e. the exchange rate, can make the economy much less flexible and competitive vis-à-vis changing external environment unless the lost exchange rate flexibility is substituted by relatively higher product and labor markets' flexibility. In addition, it appears that more transparent central banks tend to apply more flexible exchange rate regimes (Figure 4, right panel), which points to the importance of promoting transparency and accountability of public institutions in order to foster an economy's flexibility and competitiveness.

⁶ In fact, when the Slovak Republic, with extremely low central bank credibility is eliminated from the sample the correlation becomes much more significant with R2 of close to 0.40. The same holds for the correlation between the central bank credibility and the current account-to-GDP ratio.

⁷ Nevertheless, one should bear in mind that this measure mixes demand side and supply side shocks. The increases in food and commodity prices have thus biased this measure but we assume it has a broadly uniform effect on the EU11 economies.

Figure 4: Flexible Exchange Rate Regimes, External Imbalances and Central Bank Transparency



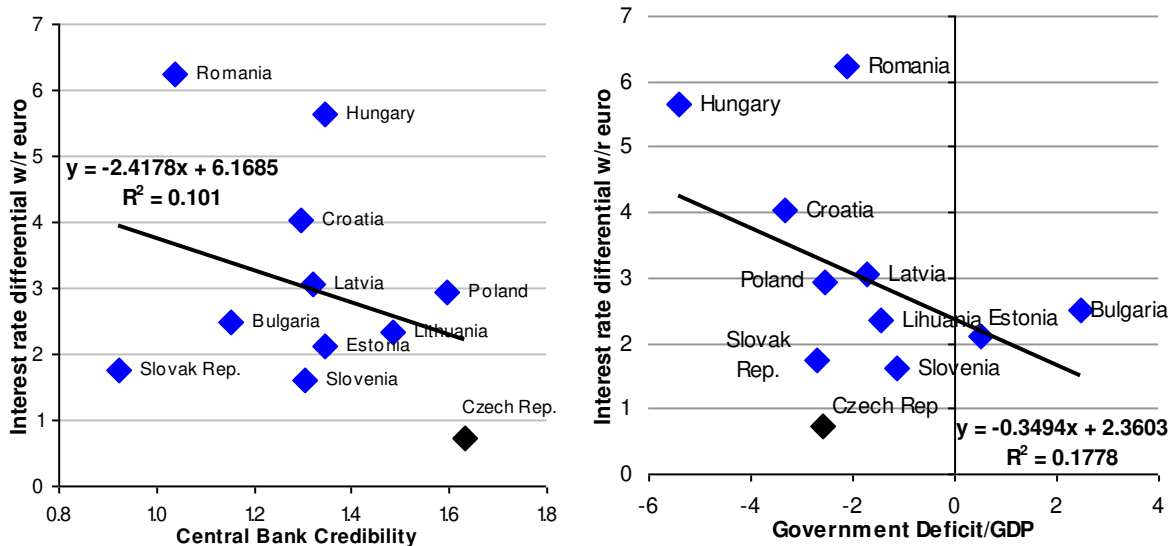
Source: Crowe & Meade (2008), IMF, Levy-Yeyati and Sturzenegger (2005)

Credible monetary policy under flexible exchange regimes seemed to have worked for the EU11 countries well in terms of building trust in their national currencies and achieving greater interest rate convergence with the Eurozone. Figure 5 (left panel) shows that the EU11 countries with more credible monetary policy tend to be more successful in achieving higher interest rate convergence with the euro as the risk premium on their respective national currencies is diminished. In fact, if the Slovak Republic is taken out for its unusually low score on central bank credibility the correlation between central bank credibility and interest rate convergence to the euro increases to about 0.35.⁸ This would suggest that adopting credible macroeconomic policies could be a better strategy for a country, than fixing or converting the national currency to the euro, to shield itself better from negative spillovers from a financial crisis. Further, governments get to learn

⁸ This is because e.g. Cukierman's index shows Slovakia as significantly more independent compared to Crowe & Meade's index. There are some inconsistencies across different Central Bank independence Indexes. I have opted for Crowe & Meade's (2008) Central Bank Independence index which appears to be the most up-to-date as opposed to e.g. Cukierman's CBI index which runs only till 2000. Both indexes show some striking differences and similarities across countries, however, the CEE countries have undertaken significant reforms since 2000 in the area of central bank independence so that the index of Crowe & Meade seems to be more appropriate.

over time about the counterproductive effects of politically-influenced over-expansionary fiscal policy in a presence of an independent and transparent central banker. And, as the data suggest, the increased fiscal discipline will also help diminish the risk premium on the national currency and promote interest rate convergence to the euro (Figure 5, right panel).

Figure 5: Credible Monetary Policy, Fiscal Discipline and Interest Rate Convergence



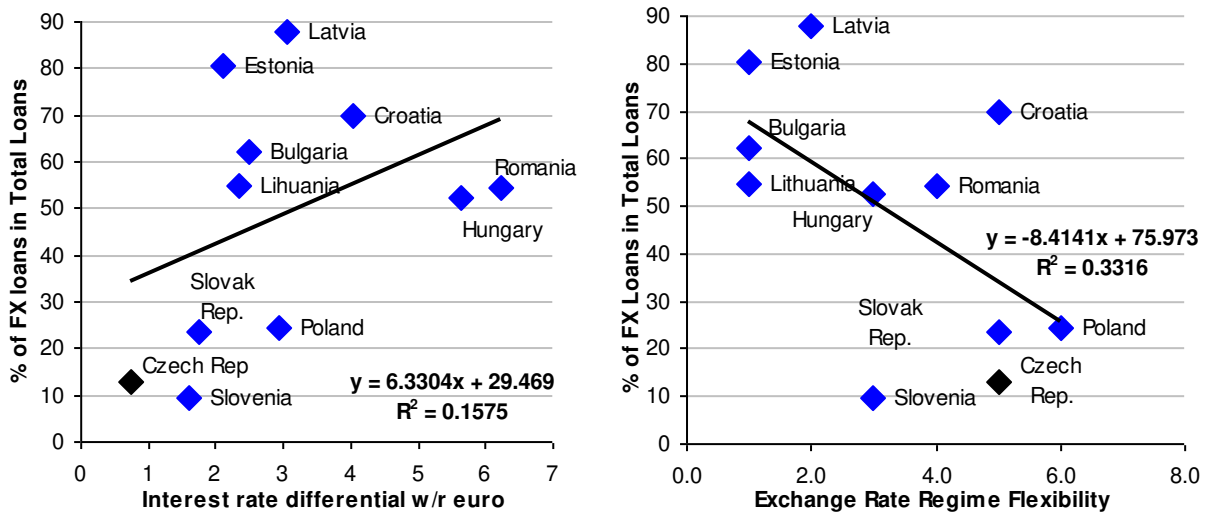
Note: 2004-2008 averages except for CB Credibility
Source: Crowe & Meade (2008), IMF

This raises a question of whether implementation of a fiscal policy rule could substitute for greater independence and transparency of the central bank, especially, in an institutional environment in which political economy aspects constrain the move to greater independence and transparency of the national central bank.

The data evidence presented in Figure 6 implies that the institutional and applied macroeconomic policies, which contributed to relatively greater interest rate convergence of countries like the Czech Republic to the Eurozone, also contributed to lower credit dollarization. Credit dollarization is here expressed as the percentage of foreign exchange (FX) denominated loans in total loans (Figure 6, left panel). One of the applied policies that contributed to better macroeconomic stabilization, lower currency risk premium and thus interest rate convergence has been the adoption of flexible exchange rate regimes.

Figure 6(left panel) shows that there has been a significant association between higher exchange rate flexibility and lower credit dollarization in the EU11 economies. This lower credit dollarization has enabled countries to respond to lowering external demand with corresponding depreciation of their currencies, thus increasing the price competitiveness of their products and services and balancing their external accounts. However, this positive income effect of depreciating domestic currency is dominated by a negative valuation effect in countries with highly dollarized credit because the debt-service charges on FX denominated debt increase non-linearly when the domestic currency devaluates.

Figure 6: Interest Rate Convergence, Flexible Exchange Rates and Credit Euroization



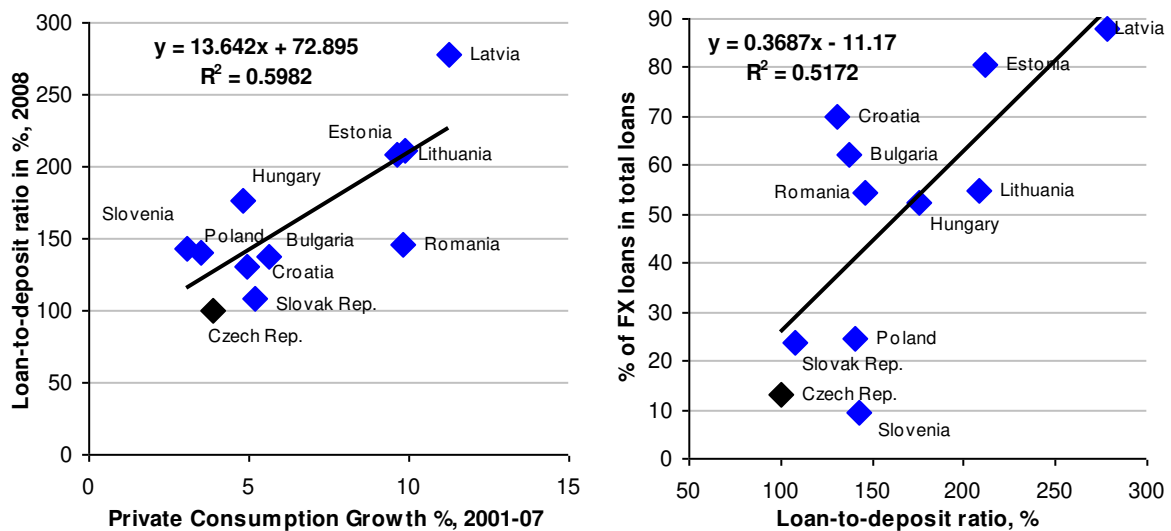
Source: IMF, Raiffeisen, Bloomberg, Levy-Yeyati and Sturzenegger (2005)

The credit dollarization exacerbates the situation further by impairing the ability of the non-bank private sector with unhedged FX exposures to service their debt and leads, in conjunction with the depreciating domestic currency, to realization of indirect credit risk due to preexisting FX exposures. This, in turn, leads to deterioration of banks' loan portfolio and, in times when the debt-servicing ability of households and firms is also squeezed from other side due to lower income, a severe credit crunch is inevitable. The large FX exposures are especially dangerous as banking regulation often does not require banks to provision for the corresponding expected losses which are thus being backed up directly by banks capital. This is one of the justifications for the emerging market

economies with higher credit dollarization to have higher capital requirements, even for subsidiaries of foreign banks.

However, there could be even more fundamental reasons for the increased credit dollarization, accumulation of indirect credit risk, ensuing credit crunch and potential bank failures. The fundamentally higher impatience of households⁹, who faced credit rationing during the 1990s in some countries, could be one of those. Figure 7 (left panel) shows a significant positive correlation between the average private consumption growth over 2001-2007 – roughly the length of the last credit boom – and the loan-to-deposit ratios in the EU11 countries. The 0.6 correlation coefficient suggests that countries with relatively impatient households ended up leveraging themselves more by borrowing from abroad and consuming beyond their means.

Figure 7: Households Impatience, Banking Sector Leverage and Indirect Credit Risk



Sources: IFS, EBRD, Raiffeisen, Bloomberg

⁹ Note that the relatively lower saving rate as a result of higher average consumption growth would be also a main factor behind the formation of unsustainable current account deficits, although some other factors such as relatively higher government dissavings, more rigid exchange rate regimes or higher remittances, could play a role as well.

An important driver on the supply-side was also the allocation policies of the banks which favored high loan-to-deposit ratios in countries with high interest rate spreads and thus fueled rapid credit growth and dollarization (euroization) of the provided credit. As economies increase their leverage by utilizing foreign credit lines the competition in lending for higher credit-market shares becomes more intense. This usually results in lowering interest rates on domestic currency loans. Next, banks focus on FX denominated loans also to unhedged borrowers to cut the costs (not hedging or converting the FX funding into local currency), they do not provision for the laid off indirect credit risk, and on top, use the FX currencies with the highest negative interest rate spread, e.g. the Swiss franc in Hungary. Then or in parallel with the switch to FX lending, banks start to lower the credit standards till the credit cycle tilts. Increased proximity of financial supervision and monetary policy is thus needed to ensure better macro-prudential supervision, such as the consistency of the economy's saving rate with its credit growth. The process of switching to FX lending under higher leverage in order to gain some advantage in competing for the market share is illustrated in Figure 7 (right panel). It shows a significant association between the loan-to-deposit ratios and credit dollarization in the EU11 countries.

These preliminary findings raise a couple of questions. First, did the impatience come from the desire of e.g. the Baltics to get to the living standard enjoyed by the Nordics? Or, is it because the emphasis on and political agenda behind income convergence went astray from sustainable income convergence? Maybe, it is a lesson to go to the basics not only in terms of financial innovation and introduction of financial products, but also in assessing what are the sustainable (potential) growth rates for emerging market economies -- especially in their transformation from upper-middle income economies to high income economies. The catch-up effect from improved institutions and imitation in innovation is finite and should not be overstated, while indicators of overheating should be closely monitored and responded to with adequate policy measures. Second, has it been excessive financial penetration or banks' competition in lending that have made several financial sectors in the EU11 stretched beyond their capacities? Or, has it been

inadequate regulation and its enforcement and the negligence of important macro-financial linkages. One could argue that most probably both.

At the same time, several countries of the EU11 saw the benefits from consolidated financial supervision and its proximity to monetary policy. The second round of the negatives spillovers of the global financial crisis became more pronounced, though, and the declining external demand from developed economies brought many small, open, emerging economies to recession. This then leads to another set of questions may arise concerning the tradeoff between specialization (product and geographical) for foreign trade and export diversification and import substitution.

4. Conclusion

The experience of the 1997-1998 financial crisis and the onset of the current global financial crisis has offered some lessons in the case of the Czech Republic. Namely, that it is effective to establish a consolidated supervisor at the national level, ideally within a strong and independent central bank. That, consolidation of financial regulation and supervision facilitates a fast-action response, comprehensive data collection and analysis, and generates higher respect for the supervisor in the financial community. These lessons are especially important in the context of possible future centralization of financial supervision at the European level, since the potential European supervisor should avoid coordinating several institutions at the level of individual countries. In addition, the lessons further stress the important role of macro-prudential supervision focusing, among others, on ensuring moderate loan-to-deposit ratios of the banking sector and low dollarization of loans through adequate pricing of foreign exchange risk by the banks. A prudent macroeconomic management also appears to deliver the benefits of low interest rate differentials and thus a lower share of reversible capital. Finally, more sustainable foreign financing appears to be enjoyed by banking sectors with higher shares of foreign banks' subsidiaries in total banking sector assets.

So what could have been the policy response to the creeping-in effects of the global financial crisis in the case of the Czech Republic? Due to low credit euroization, the

macroeconomic policy response to the negative spillover effects in the form of low external demand could involve further CZK depreciation. While the increased external price competitiveness could provide some support to aggregate income through increased exports, it is important that the banking system can support lending to SMEs. This is because SMEs will attempt to substitute out less price-competitive imports and fill in opening supply-side niches.