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Boom and Bust in the Baltic Countries – Lessons to be Learnt

For the first seven years of this decade, the Baltic countries experienced very rapid GDP growth. In 2007, though, the boom period turned to bust as country-specific factors such as the slowdown in credit growth dampened domestic demand growth. This was followed by the international financial crisis, which further limited the availability of foreign capital and pushed the Baltic countries into severe recession. This article looks in particular at the role of public finances, the impact of the fixed exchange-rate regimes and the need for a more balanced growth pattern in the future.

Between 2000 and 2007, the three Baltic countries Estonia, Latvia and Lithuania experienced strong economic growth, increasingly driven by domestic demand and linked with rapid financial deepening. This boom period led to a significant accumulation of external and internal imbalances, including relatively high inflation[1] and a rapid build-up of foreign debt. These developments proved to be unsustainable and, starting in 2007, the boom period turned into bust. Two stages can be differentiated in this context. First, country-specific factors such as the growing risk awareness of Scandinavian banks, which dominate the Baltic banking sector, led to a tightening in lending standards and a deceleration of credit and – subsequently – domestic demand growth. Second, the international financial crisis further limited the availability of foreign capital and, together with the decrease in external demand, pushed the Baltic countries into severe recession.

Notwithstanding considerable differences among the three countries, all of them are now in the middle of painful internal adjustment processes including sizeable wage cuts and reductions in social expenditures and pensions. Latvia, the Baltic country with the most significant economic imbalances and vulnerabilities at the end of the boom period, was hardest hit by the crisis and needed a financial assistance package from the EU, the IMF and other donors that was agreed in late 2008.

This paper first discusses some conceptual issues relating to boom and bust cycles. This is followed by a review of the Baltic boom and bust cycle, looking at the main drivers of growth, the resulting economic imbalances and vulnerabilities and the eventual change from boom to bust. The final part of the paper draws conclusions from the Baltic experience.

Conceptual Issues

Although boom-bust episodes are a recurrent feature in economic development, there is no unified theoretical framework that defines them and explains their emergence and evolution.[2] Instead, there are various theoretical approaches which emphasise different transmission channels in the evolution of booms and busts. In the context of the Baltic boom and bust cycle, the following channels deserve particular attention: 1) the credit transmission and asset price channel, 2) the fiscal channel and 3) the trade channel.[3]

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1 See e.g. European Central Bank: Convergence Report May 2010, Frankfurt am Main 2010; as well as A. Vanags, M. Hansen: Inflation in Latvia: Causes, prospects and consequences, in: BICEPS Occasional Paper, No. 2, 2007.

2 Many academic papers develop formal tests to identify boom and bust episodes, e.g. A. Jaeger, L. Schuknecht: Boom-Bust Phases in Asset Prices and Fiscal Policy Behavior, in: IMF Working Paper, WP/04/54, 2004; C. Detken, F. Smets: Asset price booms and monetary policy, in: H. Siebert (ed.): Macroeconomic Policies in the World Economy, Berlin 2004, Springer. Such tests are mainly aimed at identifying boom-bust episodes from large country samples and/or long time periods whereas the country selection and the time period are predetermined in this paper.

3 For more details on these channels, see e.g. R. Martin, L. Schuknecht, I. Vansteenkiste: The Role of the Exchange Rate for Adjustment in Boom and Bust Episodes, in: ECB Working Paper, No. 813, Frankfurt am Main 2007.

Table 1
Annual GDP Growth
(in %)

	2000-02	2003-05	2006	2007	2008	2009
EE	8.5	8.1	10.4	6.3	-3.6	-14.1
LV	7.1	8.8	12.2	10.0	-4.6	-18.0
LT	5.6	8.5	7.8	8.9	3.0	-15.0

Source: Eurostat.

Turning first to the credit transmission and asset price channel, the financial accelerator literature explains boom-bust phenomena by pointing at asset supply rigidities and credit booms. When asset prices rise, the collateral value of the assets increases, which in turn stokes credit supply and demand. This provokes further real demand, output and asset price rises. Once asset supply and the debt level increase beyond a critical point, however, this process will reverse, resulting in a downturn of asset prices and the real economy.[4] In the case of catching-up economies such as the Baltic countries, however, it is particularly difficult to distinguish "harmful" boom episodes from "benign" real convergence processes including financial deepening. Moreover, in the Baltic countries the magnitude of the credit transmission channel was strongly impacted by international capital flows. During the boom phase, large-scale inflows enabled higher loan-to-deposit ratios in the banking sector and – more generally – a faster financial deepening process which also entailed a strong increase in external debt. Once the boom turned to bust it became more difficult for the Baltic countries to obtain financing abroad and to service the debt.

The fiscal channel is relatively little discussed in the boom-bust literature, although revenue windfalls during boom periods can create incentives for policymakers to pursue pro-cyclical policies, further stoking the boom.[5] During the bust period, however, fiscal policies may be forced to become highly restrictive in order to prevent destabilising deficit increases, in particular if the fiscal position at the beginning of the bust is weak. Moreover, large fiscal deficits can make countries vulnerable to "sudden stops" of international capital flows.

Through the trade channel, countries are likely to lose competitiveness during boom periods via an overly rapid increase in wages and unit labour costs. Wage increases initially further boost domestic demand and imports but eventually undermine international competitiveness unless they are matched by productivity gains, resulting in external imbalances. In the downturn, relative price adjustments result in a revival of import-competing industries which, together with rising exports, helps the economy to emerge from the downturn. However, if the nominal exchange rate is fully or almost fully fixed, as in the Baltic countries, the adjustment in relative prices has to come through a reversal of unit labour cost developments and an adjustment of relative prices between tradable and non-tradable goods before the revival of exports can set in ("internal adjustment").

The different nature of these channels as well as their interlinkages suggest that boom and bust periods such as the recent economic development in the Baltic countries are best addressed using a broad-based analytical framework. This paper therefore discusses real economic developments and imbalances as well as macro-financial issues that played an important role in the Baltic boom and bust cycle.

A Short Review of the Baltic Boom and Bust Cycle

The Main Drivers of GDP Growth During the Boom

Between 2000 and 2007 the Baltic countries experienced very strong real GDP growth, at times above 10% per annum (Table 1). GDP growth peaked in all three countries around 2006/2007 before it started to slow down, with all three Baltic countries experiencing severe recessions in 2009.

The main contributors to output growth in the Baltic countries changed notably during this period. In the early years of the decade, the contribution of net exports to real GDP growth was neutral or positive, but by the middle of the decade it had become strongly negative. By contrast, the positive contribution of domestic demand to real GDP growth, which in Latvia and Lithuania was notably driven by consumption growth, increased significantly. Once the boom turned into a bust in 2008, the pattern of growth reversed rapidly. The contribution of net exports to real GDP growth turned positive again, mostly due to the collapse in import demand, and the contribution of domestic demand became strongly negative.

4 See e.g. B. Bernanke, M. Gertler, S. Gilchrist: The Financial Accelerator in a Quantitative Business Cycle Framework, in: J.B. Taylor, M. Woodford (eds.): Handbook of Macroeconomics, Vol. I, 1999; C. Borio: The search for the elusive twin goals of monetary and financial stability, in: L. Jonung, L. Walkner, M. Watson: Building the Financial Foundations of the Euro – Experiences and Challenges, London 2005, Routledge.

5 See e.g. A. Jaeger, L. Schuknecht, op. cit.

Table 2
Annual Growth in Bank Lending
(in %, end of period data)

	2000-02	2003-05	2006	2007	2008	2008
EE	23.4	36.4	41.6	33.0	7.2	-5.0
LV	41.4	47.5	58.3	34.0	11.8	-6.6
LT	16.2	52.4	40.5	42.8	18.1	-8.2

Source: National data.

Table 3
Annual House Price Growth
(in %, nominal terms)

	2000-02	2003-05	2006	2007	2008	2009
EE	21.8	23.9	51.8	10.1	-12.3	-39.1
LV	n.a.	n.a.	159.3	45.1	-18.3	-30.5
LT	7.9	26.6	39.2	33.5	5.2	-31.0

Source: National data.

In line with the above-mentioned credit transmission and asset price channel, rapid financial deepening and a strong increase in asset prices were key drivers for the economic boom in the Baltic countries. Bank lending accelerated to annual rates between 30% and 60% in 2005 to 2007. In 2009, however, annual rates of credit growth turned negative in all three countries.

Given the nominal exchange-rate regimes of the Baltic countries (currency boards in Estonia and Lithuania and an exchange-rate peg with a ±1% fluctuation band in Latvia), nominal interest rates developed largely in line with euro area nominal interest rates. Short- and long-term nominal rates reached their trough in 2005 (between 2.4% and 3.1% for long-term and 3.7% to 4.2% for short-term rates) before starting to increase again in 2006. Real ex post interest rates, however, (deflated by headline inflation) were mostly close to zero or negative from 2005 onwards, which contributed to rapid credit growth during the boom years. Since 2008, increasing risk awareness, more restrictive lending practices by commercial banks and in particular the increasingly weak economic environment led to the rapid deceleration of credit growth.

The high private sector credit growth rates during the recent boom period in the Baltic as well as in many other CEE countries prompted the question whether credit growth in the region could still be considered as an equilibrium phenomenon. Earlier papers tended to arrive at rather benign assessments, although they acknowledged the macroeconomic and financial stability risks associated with fast credit growth.[6] Zumer et al.[7], however, find that by early 2009, i.e. right after the end of the boom period, private sector credit-to-GDP ratios reached or surpassed their long-term equilibrium levels in most CEE countries.

A particular aspect of the credit boom in the Baltic countries relates to the importance of foreign currency-denominated loans. At the end of the boom period (2006/2007), the share of foreign currency lending to the private sector (excluding financial institutions) was above 80% in Latvia and close to 80% in Estonia. Only the level for Lithuania was lower, fluctuating between 50% and 60%. Looking at the period 1999-2007, Rosenberg and Tirpak identify a number of important drivers for foreign currency borrowing, notably the interest rate differential between loans in domestic and foreign currencies and the extent to which lending is based on funding from abroad rather than on domestic deposits.[8] They also find that other variables such as country size, per capita income level, trade openness and regulatory policies have some impact. Whereas this analysis focuses on the demand side of foreign currency borrowing, the supply side, i.e. the role of the banks in promoting the use of foreign currency-denominated loans, has received less attention.

The rapid financial deepening process was closely interlinked with changes in asset prices and, in particular, real estate prices.[9] House price increases peaked in the Baltic countries around 2006, followed by a deceleration of real estate prices in 2007 and a considerable price adjustment in 2008 and 2009.

6 See e.g. C. Cottarelli, G. Dell'Ariccia, I. Vladkova-Hollar: Early birds, late risers and sleeping beauties: Bank credit growth to the private sector in Central and Eastern Europe and in the Balkans, in: Journal of Banking & Finance, Vol. 29, No. 1, 2005, pp. 83-104.

7 T. Zumer, B. Égert, P. Backé: Credit developments in CEE: From boom to bust or back to balance?, in: Bancni Vestnik – The Journal for Money and Banking, Vol. 58, No. 11, 2009, pp. 94-101.

8 C. Rosenberg, M. Tirpak: Determinants of Foreign Currency Borrowing in the New Member States of the EU, IMF Working Paper, WP/08/173, 2008. Another paper (H. Basso, O. Calvo-Gonzales, M. Jurgilas: Financial Dollarization – the Role of Banks and Interest Rates, ECB Working Paper, No. 748, 2007) looking at 24 transition economies, arrives at similar conclusions.

9 For Estonia this link is elaborated in some detail in Z. Brixiova, L. Vartia, A. Wörgötter: Capital Inflows, Household Debt and the Boom-Bust Cycle in Estonia, in: OECD Economics Department Working Paper 700, 2009.

Table 4
Government Net Lending/Borrowing
(in % of GDP)

	2000-02	2003-05	2006	2007	2008	2009
Government net lending/borrowing						
EE	0	1.6	2.5	2.6	-2.7	-1.7
LV	-2.4	-1	-0.5	-0.3	-4.1	-9
LT	-2.9	-1.1	-0.4	-1	-3.3	-8.9
Cyclically adjusted government net lending/borrowing						
EE	0.6	0.8	0	-0.7	-4.1	1.3
LV	-1.5	-1.4	-3.2	-4.5	-6.4	-6.3
LT	-1.6	-1.7	-2.1	-3.7	-5.7	-6.7
Fiscal impulse						
EE		-0.2	0	0.7	3.4	-5.4
LV		-0.1	1.4	1.3	1.9	-0.1
LT		0.1	0.7	1.6	2	1

Source: Eurostat.

Table 5
HICP Inflation
(in %)

	2000-02	2003-05	2006	2007	2008	2009
EE	4.4	2.8	4.4	6.7	10.6	0.2
LV	2.4	5.3	6.6	10.1	15.3	3.3
LT	1	0.9	3.8	5.8	11.1	4.2

Source: Eurostat.

The rapid rise in house prices led to the question whether real estate price levels in the Baltic countries were still in equilibrium or misaligned at the height of the boom. Although comparative real estate price level analyses for the CEE region are almost impossible due to the lack of reliable and comparable data, the available information on real estate price levels suggests that the price level for top-end real estate in the Latvian capital Riga in 2006 was already above comparable price levels in Vienna and Berlin, which in turn tend to be rather low by West European standards.[10] This in turn suggests an at least partial misalignment of real estate prices at the height of the Baltic boom.

Turning to fiscal developments in the Baltic countries, the headline figures for public borrowing and lending between 2000 and 2007 appeared, in principle, rather positive. Estonia almost always had budget surpluses which tended to increase over time, whereas Latvia and Lithuania had small but declining headline budget deficits.

Cyclically adjusted deficit figures for the Baltic countries show, however, that fiscal policy tended to be pro-cyclical in all three countries during the boom period, in particular in Latvia and Lithuania.[11] The sizeable improvements in (headline) budget balances thus appear to have been largely the result of windfall revenues. Another way to gauge the extent of pro-cyclicality is to calculate the "fiscal impulse", which can be approximated by the annual change in the cyclically adjusted public finance balance. In all three Baltic countries this impulse was consistently positive, even at the height of the boom period. In addition, current public expenditure in the Baltic countries in per cent of GDP either increased or remained practically unchanged, and low tax levels are likely to have further stoked the boom.

In 2008 both headline and cyclically adjusted budget balances deteriorated significantly in all three Baltic countries due to the beginning of the economic and financial crisis, and in 2009 headline balances deteriorated significantly further in Latvia and Lithuania.

Besides the financial deepening process and fiscal policy, there are a number of other factors that have played a role in stoking domestic demand in the Baltic countries, inter alia the remittances they received from an increasingly large number of emigrants and the inflow of funds in the context of EU Cohesion Policy. According to the World Bank, remittances in 2007 ranged between 2.1% and 3.8% of GDP for the Baltic countries. Regarding EU Cohesion Policy, the figures envisaged in the 2007-2013 EU budget framework suggest that the Baltic countries will receive on average around 2.5% of GDP per year during this seven-year period. For the period 2004 to 2006, the budget was somewhat lower.[12]

10 The European Council of Real Estate Professions (CEPI) collects maximum real estate price levels in EU capitals and "second cities" (www.cepi.eu) and average real estate price levels were reported in UniCredit Group: Residential Real Estate in CEE, May 2008.

11 Although the overall picture regarding the cyclically adjusted public finance figures for the Baltic countries is rather clear, the precise quantitative estimates should be interpreted with caution given the difficulty in quantifying potential output in catching-up economies.

12 Data on remittances are downloadable at http://econ.worldbank.org. On EU Cohesion Policy see e.g. C. Kamps, N. Leiner-Killinger, R. Martin: The Cyclical Impact of EU Cohesion Policy in Fast Growing EU Countries, in: Intereconomics, No. 1, 2009, pp. 23-29.

Table 6
Current and Capital Account Balance
(in % of GDP)

	2000-02	2003-05	2006	2007	2008	2009
EE	-6.6	-10.1	-17	-17.9	-9.136	3.9
LV	-5.9	-10.2	-22.5	-22.5	-13	6.8
LT	-5.1	-6.2	-10.4	-15	-12.4	0.1

Source: ECB.

The Build-up of Economic Imbalances and Vulnerabilities

Turning to the economic imbalances building up in the Baltic countries during the boom period, HICP inflation increased strongly from low levels in 2003/2004 to double-digit figures in 2008 before decreasing again quite rapidly in 2009.

Inflationary pressures during the boom years were broad-based, with large contributions to inflation coming from external factors such as increases in food and energy prices as well as adjustments in taxes and excise duties. There were, however, also large increases in services prices, which mainly reflected the tightening labour market situation. Strong domestic economic growth, mostly unfavourable demographic developments and a sizeable increase in labour migration[13] led to a considerable tightening of the labour market situation in the Baltic countries, with unemployment declining to around 5% to 6% in 2007 and 2008. In line with labour market developments and increasing inflation expectations, the growth rate of nominal compensation per employee increased significantly during the Baltic boom years, exceeding productivity gains and resulting in considerable increases in real unit labour costs.

During their boom period, the Baltic countries experienced not only internal imbalances in the form of increasing inflation but also considerable external imbalances in the form of large current and capital account deficits. The deficits peaked in 2007 in a range between 15% (Lithuania) and 22% (Latvia). In 2009 external imbalances had reversed, mainly as a result of collapsing imports.

Current account developments in the Baltic countries during the boom period appear to support the idea propagated by the trade transmission channel that countries are likely to lose competitiveness during boom periods via rising unit labour costs.

In addition, the Baltics (except Estonia) and other CEE countries with large current account imbalances appear to depend too much on relatively lower value-added exports.[14] Together with the aforementioned boom-related losses in cost competitiveness, this structural shortcoming seems to explain the very significant external account imbalances of the Baltic countries towards the end of the boom period.

From Boom to Bust in the Baltic Countries

Real GDP growth in the Baltic countries peaked in 2006/2007 and decelerated afterwards, suggesting that the turning point in the growth cycle of the Baltic countries was related to the country-specific internal and external imbalances described above rather than the international economic and financial crisis, which hit most emerging markets only in the second half of 2008. The impact of the crisis, however, severely aggravated the economic situation in the Baltic countries.

As argued above, the interaction between the financial and "real" sectors played a key role in the boom. Exceptionally favourable external financing conditions facilitated a strong increase in domestic credit and the fixed (or quasi-fixed) exchange-rate regimes helped to keep interest rates low. Strong credit growth and increasing integration with the EU fuelled strong real GDP growth, which over time increased inflation and ULC growth. Higher inflation resulted in negative real interest rates, which likely further stoked credit growth, domestic demand and external debt. Moreover, strong competition for market share in the fast-growing banking markets may have had a negative impact on lending standards. At the same time, buoyant imports and declining competitiveness relative to other countries resulted in large external imbalances and increasing external debt. In the later stage of the boom, strong asset price growth, in particular for housing, further increased the scope for credit growth via increased collateral values, and asset price increases resulted in exuberant expectations by economic agents.

13 In tight labour markets, the option to migrate may be sufficient for "stayers" to obtain higher wages, thus increasing the impact of migration on wage developments in the sending countries beyond the actual decline in labour supply. See e.g. IMF: Regional Economic Outlook Europe – Dealing with Shocks, Washington DC, 2008.

14 See J. Rahman: Current Account Developments in New Member States of the European Union: Equilibrium, Excess, and EU-Phoria, in: IMF Working Paper, WP/08/92, 2008; R. Kattel: The rise and fall of the Baltic States, in: Development and Transition, No. 13, 2009.

What were the domestic factors triggering the economic turnaround in the Baltic countries? Again there appears to have been a close interaction between the financial sector and the real economy. Although the above-mentioned empirical estimates of equilibrium credit and house price levels arrived at somewhat ambiguous results, there was a growing awareness at the end of the boom period of the risks associated with the rapidly increasing internal and external imbalances.[15] This in turn appears to have resulted in more restrictive lending practices by commercial banks, some cooling of the housing markets (possibly also due to the strong increase in housing supply) and a growing realisation that prices in at least some segments of the real estate market were no longer in line with economic fundamentals. These mutually reinforcing effects resulted in a reversal of investment and consumption growth as well as income and profit expectations, ending the Baltic boom period already before the international financial crisis started to hit emerging markets around the globe in the second half of 2008.

Given the considerable macroeconomic vulnerabilities accumulated during the boom years, the international economic and financial crisis hit the Baltic countries particularly strongly.[16] First, it created difficulties in obtaining financing abroad to service existing debt and to ensure further credit growth. Second, it weakened foreign demand and reduced exports, which had a negative impact on output and employment. This in turn aggravated problems in the banking sector, such as an increase in non-performing loans.

To assess the importance of the difficulties in obtaining financing abroad, it is important to recall that gross foreign debt (in % of GDP) in the Baltic countries roughly doubled between 2000 and 2008 and reached levels above 120% of GDP in Estonia and Latvia in 2008.[17] This was mainly a result of very strong credit growth to the private sector, which was to a large extent financed by foreign (mostly Scandinavian) banks dominating the Baltic banking sector. Furthermore, short-term external debt relative to GDP showed a clear upward trend in the Baltic countries during the boom years. By 2007 this ratio exceeded 50% in Estonia and Latvia before starting to decrease in 2008. By contrast, the ratio of reserves to short-term debt in 2008 – an important buffer in case short-term external debt cannot be rolled over quickly enough – tended to decline during the boom years. The ability to roll-over external debt depends critically on the extent to which a country is seen as "risky" by international financial markets. As soon as the international economic and financial crisis spread to the Baltics and other CEE countries, however, speculation about the risk of sovereign defaults became topical and rating agencies started to lower Baltic country ratings. In sum, the international economic and financial crisis exposed existing macro-financial vulnerabilities in the Baltic countries and resulted in considerable tensions in the Baltic financial markets. In Latvia these developments ultimately necessitated the use of international financial assistance.

Looking at the impact of declining foreign demand, it needs to be recalled that the international competitiveness of the Baltic countries at the end of the boom period was already burdened by a combination of structural shortcomings in their export structure and a gradual deterioration of their cost competitiveness. In addition, they were facing a considerable weakening of world demand as a result of the international economic and financial crisis. This fall in foreign demand affected all countries in the CEE region (and beyond), but given their exchange-rate regimes, the only way for the Baltic countries to respond to the crisis by regaining competitiveness was an "internal" adjustment process, in which the reduction of production factor costs, in particular wages, plays a key role. By contrast, the competitiveness of most Central European EU countries such as Poland and Romania benefited at least in the short run from the considerable nominal depreciation of their exchange rates in late 2008.

Conclusions: Lessons to be Learnt

Three main issues emerge from the analysis above: the role of fiscal policy, the choice of the appropriate exchange-rate regime and the need for a more balanced growth pattern.

Turning first to fiscal policy, the experience of the Baltic countries shows that fiscal policy should be sufficiently countercyclical during boom periods to dampen the boom and to create room for macroeconomic manoeuvring in times of need. Fiscal policies in the Baltics, however, tended to be generally pro-cyclical in recent years and did not contribute to reducing macroeconomic imbalances. The most positive example among the three Baltic countries in this regard is Estonia. Although there was also some pro-cyclicality in Estonian fiscal policy during the boom years, the Estonian government had had growing budget surpluses since 2001. The fiscal

15 See for example IMF: Regional Economic Outlook Europe – Reassessing Risks, Washington DC, 2008; A. Vamavakidis: Convergence in Emerging Europe: Sustainability and Vulnerabilities, in: IMF Working Paper, WP/08/173, 2008.

16 See for example S. Gardó, R. Martin: The impact of the global financial economic and financial crisis on central, eastern and south-eastern Europe – a stock-taking exercise, in: ECB Occasional Paper, No. 114, June 2010.

17 The level in Lithuania also increased considerably but remained just over 70% of GDP in 2008.

surplus reached approximately 3% of GDP in 2006 and 2007, and the government sector piled up more than 10% of reserves at the end of 2007 with almost no debt at the central government level.[18] This relatively good performance was also instrumental for Estonia's meeting the Maastricht criteria on fiscal policy in 2010, paving the way for euro adoption in 2011. Fiscal policy was considerably less prudent in Latvia and Lithuania. As a result, public finances in these countries are now facing huge adjustment needs, resulting in painful and politically difficult austerity packages.

The Baltic boom-bust experience also illustrates that the selection of the appropriate exchange-rate regime in small, open, catching-up economies like the Baltic countries remains a very difficult issue. Given the fixed or almost fixed nominal exchange-rate regimes in the Baltic countries, monetary policy could do little or nothing during the boom period to influence domestic liquidity conditions and credit growth.[19] In addition, central banks and supervisors took measures to strengthen banks' capital bases, encourage better risk management, increase disclosure requirements and broaden the collection of information in the credit registry. They also made public statements on the risks related to developments in the housing market. However, the impact of these measures tended to be limited. Although fixed ER anchors have obvious advantages, the Baltic experience shows that fixed exchange-rate regimes can contribute to accelerating the financial deepening process and GDP growth beyond sustainable levels.[20] Once a country decides to adopt a fixed exchange-rate regime, it thus needs to ensure that its markets remain sufficiently flexible to avoid overheating and – if needed – to manage an "internal" adjustment process.

The third macroeconomic issue that emerges from the Baltic experience is the need for a more balanced growth pattern to avoid protracted sizeable external deficits. This in turn raises difficult questions. First, how can unsustainable domestic boom periods and the associated asset price "bubbles" be avoided? Second, how can external competitiveness be maintained or increased?

As regards the first question, governments should try to prevent overly optimistic expectations regarding future incomes and asset price developments. This can be done e.g. by appropriate public wage setting, prudent fiscal policy and appropriate communication with the general public. After all, the fiscal boom-bust transmission channel can be more easily managed by domestic policymakers than other transmission channels. In addition, authorities should try to avoid credit growth rates that appear to be "excessive". Measures that appear to be suitable in this case are *inter alia* the introduction or tightening of loan-to-value ratios and payment-to-income ratios. In addition, higher capital weights can be required, central credit registries established and policy measures that support real estate and thus mortgage credit booms can be abolished, e.g. the tax deductibility of interest paid on mortgages.[21]

Regarding the second question, policy recommendations are in line with standard – but still valid – advice on structural reforms. First, it is necessary to maintain or promote labour market flexibility and to avoid labour market bottlenecks during periods of rapid growth, e.g. by means of suitable education and training measures, a well-designed migration policy, etc. Second, it is necessary to maintain or promote product market flexibility and to be an attractive location for inward FDI. The Baltic countries have rather flexible economies, although there are also areas for improvements, such as measures to help exporting companies to climb the "quality ladder".

It is important to keep in mind that many of the lessons to be drawn from the boom and bust experience of the Baltic countries relate to a world where external capital was readily available and relatively cheap, a situation which can no longer be taken for granted. But even if the recent economic and financial crisis turns out to be a "watershed" requiring a structural change in the growth pattern of the region (e.g. more reliance on domestic rather than foreign capital and more labour- and productivity-intensive growth rather than capital-intensive growth), there are important lessons for macroeconomic management that other countries can learn from the Baltic boom and bust cycle.

18 On this issue see e.g. U. Kaasik: Reserves can help – the case of Estonia, in: Oesterreichische Nationalbank (ed.): Recent Developments in the Baltic Countries – What are the lessons for South-Eastern Europe? Proceedings of OeNB Workshops, No. 15, 2009.

19 Latvijas Banka, the only Baltic central bank setting policy rates, raised its key interest rate by a total of 300 basis points to 6.0% between September 2002 and May 2007. The de facto impact on monetary conditions in Latvia was limited, however, due to the large degree of euroisation.

20 O. Arratibel, D. Furceri, R. Martin: Real Convergence in Central and Eastern European EU Member States – Which Role for Exchange Rate Volatility?, ECB Working Paper, No. 929, 2008, find that during the 1995 to 2006 period in the CEE countries, lower nominal exchange-rate volatility was associated with higher growth, higher FDI inflows, higher current account deficits and a more volatile credit cycle.

21 For a more general overview on Latvia, see S. Berzina: Assessment of past Developments and Economic Policy Challenges in Latvia, in: Oesterreichische Nationalbank (ed.): Recent Developments in the Baltic Countries – What are the lessons for South-Eastern Europe? Proceedings of OeNB Workshops, No.15, 2009.