ESTONIA: IN AND OUT OF CRISIS

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Abstract

The paper analyses Estonian economic developments during the first decade of 21st century. Estonia provided in that period a clear-cut example of the classical business cycle with an extreme bubble-burst sequence of economic activities. The author analyses the reasons on such a volatile economic growth pattern and explains economic cycle management particularities in Estonia. In the frames of macroeconomic developments will be analyzed monetary and fiscal policies. The author argues, that Estonia's fiscal policy has been always pro-cyclical, what has deepened country's macroeconomic volatility. The paper also analyses critically the government activities and policies during the recent crisis.

Keywords: Estonia, fiscal policy, monetary policy, taxation, budget, deficit, government expenditures and revenue

JEL Classification: E6, E52, E62, H12

"If it is crisis, in such a crises I'd like to live", Mr. Andrus Ansip, Estonian Prime Minister, December 2007[1]

1. General

Estonia provided during the last decade a clear-cut example of a classical business cycle with an extreme bubble-burst sequence of economic activities[2]. Rather similar patterns of economic developments can also be observed also in the neighboring Baltic countries[3].

At the turn of the century, the Baltic countries recovered from the Asian and Russian crises and continued the accession process with the European Union. Until the global recession, which started in 2008, the Baltic countries demonstrated exceptionally high growth rates and fast increases of living standards. However, in the global economic downturn, the Baltic countries suffered dramatic and substantial GDP declines. As put by the Mrs. Solvita Aboltina, Speaker of the Latvian parliament, the Saeima – "we found ourselves in a deep crisis as a result of ignoring the basic laws of economics and following thoughtless politics" (Aboltina 2011, p.1.). Therefore one can ask – what went wrong in Estonia and the other Baltic

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[1] Estonian PM denies any crises and economic downturn possibilities even very clear warning signals

[2] Comprehensive overview of business cycles is given by Knoop (2010)

[3] The Baltic countries here and thereafter are defined as Estonia, Latvia and Lithuania.

countries and what were the reasons for such considerable economic fluctuations? Was such a shocking situation avoidable?

Rather often in Estonia is presented a narrative, that small and open economies like hers could do nothing to prevent the impact of outside economic shocks and that there are no possibilities to stabilize the economy during a worldwide financial and economic recession. In such a situation they are left alone in the global turbulence and their fate depends completely on outside developments. Somehow that is a very comfortable position for the Estonian ruling political coalition, as it allows rechanneling the responsibility for the crisis to *force majeure* circumstances. True, Estonia is the second smallest economy in the European Union after Malta. Therefore, its economic volatility is rather high and its susceptibility to outside shocks is considerable.

However, the purpose of the paper is to demonstrate~~,~~ that the economic crisis in Estonia has its own *built-in* causes and that the global crises only deepened the harshness of the situation. Another *rationale* for the paper is to explain Estonian macroeconomic policy options and to critically evaluate the policy choices made during the boom and bust periods.

It is the author understands that comprehensive studies of the economic cycle and its management in Estonia during the last decade are still missing[4]. There are many studies, analyzing different aspects of economic developments, but rather often those are concentrating on a certain phase or aspect of the business cycle (e.g. Purfield and Rosenberg 2010). As a result, analysis of the full-scale Estonian business cycle is somewhat fragmented. The current paper closely connects different phases of the business cycle. There is a clear link between the recession and mistakes in macroeconomic policy~~,~~ which allowed the economy to overheat and to accumulate enormous imbalances during the earlier boom years.

The author shares the understanding, that the main reason for Estonia’s crisis is related to unbalanced growth during the years 2004-2008. Those years laid the foundation for the deformation of the economic structure and decreased its strength to compete globally. The economic bubble in certain sectors – primarily in construction, retailing and related industries - generated the situation; the downside correction was inevitable. Therefore, the Estonian and Baltic recession is undoubtedly related to the economic policies and the “state of affairs” during earlier boom years.

The first part of the paper gives the indicators which demonstrate the foundations for the “bubble” and economic overheating in Estonia. The second part of the paper generalizes macroeconomic policy and business cycle management in Estonia during the crises years 2008-2010. Since the paper’s scope is limited, not all presented statistical date will be equally explained.

[4] Excellent study about Latvian economic cycle management is provided by Åslund and Dombrovskis (2011).

Table 1. GDP level, *per inhabitant* , thousands of euros and in *Purchasing Power Parity* standards (in brackets)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2008 compared with 2000 Year 2000 =100
Estonia	4.5 (8.6)	5.1 (9.2)	5.7 (10.2)	6.4 (11.3	7.2 (12.4)	8.3 (13.8)	10.0 (15.6)	12.0 (17.5)	12.2 (17.2)	10.3 (15.0)	10.7 (15.7)	171% (100%)
Latvia	3.6 (6.9)	3.9 (7.6)	4.2 (8.4)	4.3 (8.9)	4.8 (9.9)	5.6 (10.8)	7.0 (12.2)	9.2 (13.9)	10.1 (14.0)	8.2 (12.2)	8.0 (12.6)	181% (103%)
Lithuania	3.6 (7.5)	3.9 (8.2)	4.4 (9.1)	4.8 (10.2)	5.3 (11.0)	6.1 (11.9)	7.1 (13.1)	8.5 (14.8)	9.7 (15.4)	8.0 (12.9)	8.4 (14.2)	169% (105%)
Nordic countries average*	32.2 (25.8)	32.8 (26.1)	34.2 (26.6)	34.4 (26.8)	35.9 (28.9)	38.5 (30.1)	41.1 (32.2)	43.2 (34.0)	44.4 (34.6)	39.9 (31.1)	44.2 (33.1)	38% (34%)
EU (27) average	19.1	19.8	20.5	20.7	21.7	22.5	23.7	25.0	25.0	23.5	24.4	31%
Estonia's level compared to the Nordic countries	14.0% (33.4%)	15.6% (35.3%)	16.7% (38.3%)	18.6% (42.2%)	20.1% (43.0%)	21.6% (45.8%)	24.3% (48.4%)	27.8% (51.5%)	27.5% (49.7%)	25.8% (48.2%)	24.2% (47.4%)	
Estonia's level compared to the EU average	23.6% (45.0%)	25.8% (46.5%)	27.8% (49.8%)	30.9% (54.6%)	33.2% (57.1%)	36.9% (61.3%)	42.2% (65.8%)	48.0% (70.0%)	48.8% (68.8%)	43.8% (63.8%)	43.9% (64.3%)	

Source: *Eurostat* Homepage (Section: Statistics; Economy and Finance; National Accounts) and author's calculations.

2. Cooking the economic bubble in Estonia

This section of the paper characterizes the Estonian growth period, which ends with sharp contraction of economic activities in 2008. During the decade, until the crises, Estonia and the other Baltic countries made considerable progress in economic development and noticeably improved their living standards. Table 1 presents GDP *per capita* developments in the Baltic-Nordic and the European Union membership countries growth figures. The Nordic countries include Finland, Sweden, Denmark and Norway. The figures at this point and hereinafter are calculated as average figures of those countries. The EU 27 countries average figures are received from the *Eurostat* statistical portal.

Estonian GDP level *per capita* increased during the decade considerably. The highest level on average GDP level was reached in 2008 - just on the eve of the crisis. In that year, the GDP level per capita was 171% higher than at the beginning of the century. About the same rate of GDP level growth took place in the other Baltic countries.

At the same time the Nordic countries – a traditional benchmark region for the Baltic States – have demonstrated much slower speed of GDP growth - only 38% from the beginning of the period. On the whole, the rest of the EU countries have grown at even a slower pace than the Nordic region.

However, in comparison with the Nordic countries, the Baltic countries' GDP per capita level in absolute terms remains far lower. Despite some *catching-up* effect, the Baltic countries, GDP *per capita* is about one fourth of Nordic ones. To compare with the EU average level, Estonia progressed from 24% close to half of the EU income. Nevertheless, in absolute terms, the Nordic countries advanced during the period more than did Estonia – correspondingly they gained 12.2 and 7.7 thousand *euros* per inhabitant.

Baltic economic leveling with the EU average GDP level figures were based on high growth rates during 2000-2007 (Table 2).

Estonia's growth in early 2000 indicates recovery from the setbacks during the Asian and Russian crisis at the end on 90-ies. However, the growth rate remained significantly high until 2007. Also, the other Baltic countries‘ economic growth rates until the crisis were extraordinary high in the European context, which brought into use the phrase "*Baltic tigers*". As the table shows, in some years the Baltic's growth reached more than 10 percent. The European and Nordic countries' average growth rates remained in the range of 1 to less than 4 *percent* until 2008. The growth rate in Estonia was from 2 to 4 times higher than in the Nordic countries during 2000-2007. In comparison with EU averages, the difference is even bigger. Unfortunately, the GDP growth turned negative in 2008.

Table 2. Real GDP growth rate, %

	Average 2000-2003	2004	2005	2006	2007	2008	2009	2010
Estonia	8.3	7.2	9.4	10.6	6.9	-5.1	-13.9	3.1
Latvia	7.2	8.7	10.6	12.2	10.0	-4.2	-18.0	-0.3
Lithuania	6.8	7.4	7.8	7.8	9.8	2.9	-14.7	1.3
Nordic	2.2	3.6	2.8	3.6	3.2	-0.03	-5.1	2.8
EU (27)	2.1	2.5	2.0	3.2	3.0	0.5	-4.2	1.8
Estonia compared to the Nordic average*	3.8	2.0	3.4	2.9	2.1	-	-2.7	1.1
Estonia compared to the EU*	3.9	2.9	4.7	3.3	2.3	-10.2	3.3	1.7

* Estonian figures are divided by correlative figures.
Source: *Eurostat* Homepage (Section: Economy and Finance; National Accounts) and author's calculations.

The fast GDP growth correlates directly with the strong labor market characteristics (Table 3). Employment in Estonia grew from 573 thousand persons at the beginning of century up to 657 thousand employed persons in 2008.

Table 3. Labor market characteristics, age group 15-74 (thousands), ratios and average salary, 2000-2010

	Average 2000-2003	2004	2005	2006	2007	2008	2009	2010
Employed	582.5	595.5	607.4	646.3	655.3	656.5	595.8	570.9
Unemployed	76.6	63.6	52.2	40.5	32.0	38.4	95.1	115.9
Inactive	388.0	388.7	389.0	362.3	359.0	347.9	348.0	348.0
Employment rate, %	55.6	56.8	57.9	61.6	62.6	63.0	57.4	55.2
Un-employment rate, %	11.6%	9.7%	7.9%	5.9%	4.7%	5.5%	13.8%	16.9%
Average salary, EUR	< 400	443	502	582	705	806	771	767

Source: Statistical Office of Estonia (Section: Subject area: Social life; sub-section Labor Market) and author's calculations.

On the peak of the economic cycle, the unemployment rate declined down to 4.7%, which is perhaps lower than natural rate of unemployment. Participation rate increased significantly. In 2008, average work salary doubled if compared with the beginning of the period.

To summarize the section, during the period 2000-2007, Estonia and the other Baltic countries demonstrated unique growth rates in the EU context and enjoyed a very strong labor market situation. Unfortunately, such high growth wasn't sustainable. Even worse, the economies went into severe decline in 2008-2009.

3. Factors behind the growth

What were the main driving forces behind the exceptionally high growth rates? In general, the growth was based on a mix of various (coincident) components. Among several, the author emphasizes three of most important –the impact of the EU enlargement effect on the Estonian economy; strong domestic demand and the *pro-cyclical* nature of macroeconomic policies. On a large scale, the Estonian situation was similar to the Latvian and Lithuanian economies during the named period.

3.1. The EU enlargement effect

One of the essentials of fast economic growth was related to the so called EU "enlargement effect"[1]. This is a broad term, which characterizes the positive impact of EU membership on new members of the economic and customs union. In general, the foundations of the EU enlargement effect can be considered as market impact and regulatory impact. The outstanding image and reputation of the EU economic, technological and social standards become automatically attributable to the all union members. In the course of EU accession, Estonia adopted *acquis communautaire*.

The Estonian economy integrated during the decade with European economic space and thus obtained easy access to very large-scale and high purchasing-power markets. The EU enlargement effects can be summarized as intensifying trade and investment activities and strengthening Estonia's economic environment. Joining Estonia to the EU in 2004 was followed by the strengthening of the country's global competitiveness and export capacity.

Most visibly the positive effect is noticeable in trade and investment flows. European markets provided new business opportunities for Estonian companies and Estonia became more attractive for international businesses, especially as a destination for foreign investments. Table 4 presents flows of FDI (foreign direct investment) during the decade.

[1] Compact overview of the "enlargement effect" is given by Purfield and Rosenberg (2010)

Table 4. Direct investment in Estonia (FDI)

	Million *euros*				*Percent* of total		
	FDI	Equity capital	Re-invested earnings	Other direct investment capital	Equity capital	Re-invested earnings	Other direct investment capital
2000	425	251	116	58	59.1%	27.3%	13.6%
2003	822	341	410	72	41.4%	49.8%	8.8%
2004	771	297	510	-36	38.5%	66.2%	-4.6%
2005	2,307	1,788*	568	-49	77.5%	24.6%	-2.1%
2006	1,432	143	1,000	288	10.0%	69.9%	20.1%
2007	1,985	273	1,367	345	13.8%	68.9%	17.4%
2008	1,182	195	871	116	16.5%	73.7%	9.8%
2009	1,323	1,219**	407	-303	92.2%	30.8%	-22.9%
2010	1,162	349	928	-115	30.0%	79.9%	-9.9%

* Includes Hansabank minority shares takeover by the parent Swedbank.
** Includes Estonian Telecom (public company) shares selling to TeliaSonera.
Source: Bank of Estonia Homepage (Section - International investment position) and author's calculation.

There is an observable clear trend of investment increase during 2003-2007. In the middle of the decade the annual inflow of FDI increased 5 times compared with the beginning of the century. Particularly, Nordic banking corporations obtained strong positions on Estonia's financial markets. Also significant investments went into the manufacturing, retailing and logistics sectors. The Estonian legal and economic environment is transparent and predictable for foreign businesses. As a result, the Baltic countries became more closely integrated with of Nordic economic environment.

However, the FDI structure by the form of investments is somewhat warped. There has been a rather high share of reinvested earnings, which in most of the years cover more than two thirds of all incoming FDI[2].

Such a situation is clearly related to Estonian tax system features, which favors reinvested earnings before other forms of investments[3]. Another aspect of FDI is related to its sectoral allocation. Some researchers emphasize, that too many investments have been allocated to financial and low tech sectors (Zhan and Sulstarova 2011). Those investments are focused on domestic consumers and not able to generate export flows or high technology products.

[2] In 2005 high equity capital inflow was related with takeover of Hansapank minority shares and 2009 selling of Estonian telecom shares to TeliaSonera corporation.
[3] As profits tax applies only for dividend payout, therefore companies are not motivated to distribute profits.

To conclude this section – the EU enlargement effect can be highlighted as the most important aspect of Estonia's significant growth record. However, EU enlargement was a *once-in-a- lifetime* factor and it accelerated economic growth only during the short term.

3.2. Domestic demand as a growth engine

Table 5 presents the components of GDP and their impact on general growth. Private consumption is usually the biggest part of GDP and therefore mainly determines gross product dynamics. Private investment's contribution to growth has been volatile, but mostly it has changed hand in hand with consumption dynamics. Public expenditure was rather a minor supporter of growth during the boom years and its contribution remained less than 1% of total demand most of the years. Net export, differently from the other GDP components, was negative during 2000-2007. During the boom years demand for imports significantly exceeded export capacity.

Table 5. Estonian GDP components (in millions of *euros*) and their contribution to GDP growth (in brackets, percent) and balance of payment (PoB) indicators (percent of GDP)

	Average 2000-2003	2004	2005	2006	2007	2008	2009	2010
Real GDP growth, %	8.3	7.2	9.4	10.6	6.9	-5.1	-13.9	3.1
Private consumption	4,054 (4.5)	5,329 (4.5)	6,070 (5.3)	7,254 (7.3)	8,517 (4.7)	8,657 (-3.4)	7,201 (- 8.5)	7,235 (-0.9)
Gross fixed capital formation	2,123 (4.7)	2,991 (1.9)	3,589 (4.7)	4,819 (7.4)	5,713 (4.0)	4,849 (-5.4)	2,969 (-11.3)	2,694 (-1.9)
General government final consumption	1,389 (0.5)	1,709 (0.2)	1,923 (0.6)	2,169 (0.9)	2,643 (1.1)	3,131 (0.8)	3,046 (-0.3)	2,991 (-0.2)
Net export	-405 (- 3.3)	-683 (- 1.2)	-727 (- 1.5)	-1,372 (- 7.0)	-1,483 (- 2.6)	-697 (5.3)	807 (11.1)	983 (2.5)
BoP: Current account	-8.1%	-11.3%	-10.0%	-15.3%	-17.2%	-9.7%	4.5%	3.6%
BoP: Financial account	9.0%	14.2%	11.0%	17.9%	15.7%	11.0%	-6.6%	-12.2%

Source: Statistical Office of Estonia (Subject area: Economy; National Accounts); BoP statistics from Bank of Estonia (Section Balance of Payments) and author's calculations.

As is evident in Table 5, the Estonian economic boom and overheating during 2004-2007 was generated by domestic demand factors - private consumption and investments. Perhaps for the first time in the history of Estonia (true also for the other Baltic countries), the society was able to increase its individual consumption level and general welfare with such high speed.

However, during the 2008-2009 crisis years, investment demand declined immediately. Private ~~investments~~ in 2009 was only about half of what it had been in 2007. Usually public sector expenditure increases during recessions and government spending compensates, in part, for private sector contraction. However, in Estonia the private sector decline was far larger than the expansion of public sector spending.

The Table also shows how domestic consumption correlates with the Balance of Payments. During the boom years, the Current Account was deeply negative – mainly due to a negative trade balance. The net import flows were financed by the incoming financial resources and investments nicely demonstrating financial account dynamics.

Fast economic growth in the boom years was supported not only by strong labor markets but also by fast growing incomes, which were further leveraged by borrowed funds. Table 6 provides an overview of the stock of Estonian loans over the 90s, mostly by foreign owned, commercial banks. The amount of loans outstanding increased from 2001 to 2008 more than 7 times and reached close to 90% of GDP! The household loan burden, which was very limited even a decade ago, increased to about 40% of the total outstanding debt at the end of the boom years.

Table 6. Stock of loans, billion euro

	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
TOTAL	1.8	2.5	3.4	4.3	5.7	8.3	11.4	13.3	13.0	12.7
% of GDP	26%	32%	39%	44%	51%	62%	71%	82%	94%	89%
General government	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.4	0.4
Non-fin. corporations	0.8	0.9	1.1	1.4	2.3	3.7	5.1	6.1	6.0	5.8
Households	0.4	0.6	0.8	1.2	2.4	4.0	5.3	6.3	6.2	6.2
% of GDP	6%	8%	9%	12%	21%	30%	33%	38%	45%	43%
% of total	21%	24%	24%	28%	41%	48%	47%	47%	48%	48%

Source: Bank of Estonia Homepage (Section: Financial Sector Statistics).

The loans went primarily to the private sector; the public borrowing remained rather minor. The accessibility of loans was made easy - banks aggressively competed for customers. Easy access to credits increased nominal purchasing power. The debt was primarily channeled to housing-construction; retailing and related activities. As was mentioned earlier - there were “natural” reasons behind the high consumption activity.

Also, dating from the collapse of the Soviet Union until the turn of century - the construction of residential housing had practically stopped. The depreciation of the existing housing stock and dissatisfaction with Soviet-style housing generated a real need for housing modernization and for an expanding construction sector and its related activities. However, the construction sector clearly expanded too fast and generated a “housing bubble”. This market bubble is also characterized by price increases in housing (Table 10), in certain years, the fastest in the EU.

To summarize this section – the Estonian economic boom was generated by domestic consumption and investments, which were fueled (and financed by rapidly increasing incomes; easy indebtedness and foreign direct investments.

4. Outcomes of overheating

Estonian macroeconomic data demonstrates extremely fast growth of the economy during 2000-2007. However, the rapid growth period was followed by a sharp downturn. Estonian economic growth wasn’t sustainable and recession corrected the accumulated imbalances.

Economic overheating generated various macroeconomic setbacks in the economy. The biggest of them are - negative changes in the structure of economic activities; limited motivation for productivity growth and a decline in Estonia’s global competitiveness.

The speedily expanding domestic market absorbed most business activities products-services and companies had that much less motivation to expand to foreign markets. Therefore, the economic structure and labor allocation moved to domestic consumption and services. As Table 7 presents, employment increased significantly during the boom years.

The largest employment gains in the growth years were in the construction sector, retailing and accommodation-food service. Such a trend indicates a labor force shift to domestic consumption-oriented activities. During the crisis years those industries lost their employment at about the same rate. But agriculture was the biggest looser of employment, which mainly indicates a general structural changes in economy.

Table 7. Estonian employment structure*, thousands

	Average 2000-2004 (1)	Average 2005-2008 (2)	2009	2010 (3)	Diffe-rence (2)-(1)	Diffe-rence (3)-(2)
Economic activities total	585.1	641.4	595.8	570.9	56.3	-70.5
Construction	42.3	68.9	58.3	47.9	26.6	-21.0
Wholesale and retail trade	80.6	86.9	83.2	80.0	6.3	-6.9
Accommodation and food	17.9	22.2	20.1	19.4	4.3	-2.8
Manufacturing	130.4	133.7	113.8	108.4	3.3	-25.3
Arts and recreation	15.0	16.5	14.2	14.7	1.4	-1.8
Real estate activities	11.4	10.0	9.2	10.1	-1.4	0.1
Agriculture and forestry	38.5	29.5	24.0	24.1	-9.0	-5.4

* Employment by industries is ranked - by most gained professions to the lowest and indicated first three and least three. In the middle is given "manufacturing" as the biggest sector of employment.

Source: Statistical Office of Estonia Homepage (Subject area: Social life; sub-section Labor Market) and author's calculations.

During the boom years, employment growth in the biggest employment sector – manufacturing - was rather moderate. The allocation of labor resources to the sectors which mainly satisfy domestic demand for consumption and services, *i.e.* allocation to low-tech industries, slowed down production modernization. At the same time, high domestic demand and low employment pushed up nominal wages. Table 8 presents' the behavior of unit labor costs and labor productivity in various countries.

Table 8. Unit labor cost (2005=100%) and labor productivity (in brackets, rounded, compared to EU (27)

	2001	2002	2003	2004	2006	2007	2008	2009	2010
Estonia	101 (41)	100 (43)	101 (46)	102 (49)	100 (52)	105 (56)	114 (56)	117 (59)	109 (61)
Nordic	102 (126)	103 (124)	103 (125)	101 (129)	98 (132)	100 (130)	101 (132)	107 (126)	104 (130)
EU(27)	102	102	102	100	98	97	98	101	100

Source: Eurostat Homepage (Section: Statistics; Economy and Finance; Annual National Accounts; Unit Labor cost) and author's calculations).

Unit labor costs in Estonia increased rapidly during the period. At the same time, Nordic and EU labor costs were rather stable. Despite some gradual catching up with EU average productivity levels, production efficiency remains low in comparison to the EU average figures. At the same time, the Nordic countries' average labor productivity is about one third higher than the EU average.

We begin to see meaning in the assertion, that domestic consumption grew "too fast", in that such growth slowed down Estonia's microeconomic upgrading and deformed companies' export motives (State of Region Reports, 2010 p.2). All that weakened the Estonian global competitiveness position. As presented in Table 9, after 2005 Estonia' competitive position started to deteriorate and the country fell 15 places in the world competitiveness ranking. There is a paradoxical situation – during the fast economic growth, Estonia's global competitiveness actually fell.
Similarly, the other Baltic countries lost their competitiveness positions. At the same time, the Nordic countries and Germany, already highly ranked in global competitiveness maintained their favorable positions.

Table 9. Global competitiveness ranking

	2004	2005	2006	2007	2008	2009	2010
Germany	13	15	8	5	7	7	5
Sweden	3	3	3	4	4	4	2
Finland	1	1	2	6	6	6	7
Estonia	20	20	25	27	32	35	33
Lithuania	36	43	40	38	44	53	47
Latvia	44	44	36	45	54	68	70

Source: World Economic Forum Homepage, (Section Reports; relevant years' issues).

To conclude the section, imbalanced economic growth deformed resource allocation and lessened motives for economic modernization. Therefore, despite the opening accesses to the EU markets, Estonian companies actually were not increasing their microeconomic competitiveness.

5. Macroeconomic policies

In the following pages will be generalized Estonian macroeconomic policy options for managing the business cycle. First will be considered aspects of monetary policy and the final part of the paper are dedicated to Estonian government's fiscal activities during the different phases of the business cycle.

5.1. Monetary policy

Since Estonia's currency reform in 1992, the country has been ~~is~~ using a fixed exchange rate system, i.e., its specific adaptation – the so called currency board system. In January 2011, Estonia joined the *eurozone* and became its 17th member.

Estonia is a small, open economy. That means that under fixed exchange rate regime conditions, the country's central bank has rather limited impact over monetary policy instruments. The central bank cannot change the anchor exchange rate (*e.g.* against the euro); also, it has limited impact on interests rate levels (which are given by the global markets) and limited control over the credit supply. Since monetary policy tools are limited – effective inflation control is also narrowed.

Because the basis for monetary expansion or contradiction moves along with the business cycle – monetary policy in Estonia under the currency board system has been always *pro-cyclical.* The central bank has rather limited tools to stop credit overhang or to expand the money supply during recessions. The Estonian Bank is limited to a persuasive and informative role in monetary policy.

As demonstrated in Table 6, borrowing in Estonia increased significantly during the first half of the decade. Such a fast increase of credit created unbalances and overheating consumption and investments. The significant inflow of cheap credits and high spending activity generated relatively high inflation (Table 10), which did not allow Estonia to join the *eurozone* in 2007 or 2008.

Table 10. Annual average rate of change of consumer prices (HICPs); housing price index (in brackets, 2005=100) and Real Effective Exchange Rate (REER); 1999=100

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estonia	5.6 (80)	3.6 (87)	1.4 (89)	3.0 (93)	4.1 (100)	4.4 (111)	6.7 (127)	10.6 (148)	0.2 (150)	2.7 (155)
REER	98	100	107	112	113	121	139	152	153	142
Nordic	2.6 (87)	1.8 (90)	1.9 (95)	0.7 (97)	1.2 (100)	1.8 (105)	1.4 (106)	3.6 (112)	1.7 (115)	2.0 (120)
REER	98	101	104	104	105	106	110	114	113	114
EU(27)	2.2 (89)	2.1 (91)	2.0 (93)	2.0 (95)	2.2 (100)	2.2 (105)	2.3 (109)	3.7 (116)	1.0 (117)	2.1 (120)
REER	92	97	109	116	114	115	122	124	121	122

Source: Eurostat Homepage (Section: Statistics; Economy and Finance; Exchange Rates) and (Section: Statistics; Economy and Finance; Harmonized indices of consumer prices (HICP) and author's calculations).

Particularly high were price increases in the construction, housing and retailing sectors. The annual HICP was 1.5-3 times higher than in the EU average and compared with the Nordic countries. While there are other instruments to control inflation - like fiscal constraints or direct price regulation, anti-inflationary measures were not effectively used in Estonia.

As domestic prices increased much faster in Estonia than in most EU countries, its real effective exchange rate significantly depreciated. Particularly strong was depreciation against currencies of its main export destination countries – Finland and Sweden. Therefore, the country lost significantly its competitive position in Nordic markets.

To conclude this section, one may say – the Estonian monetary system functioned efficiently to maintain exchange rate stability and therefore provided needed confidence to both domestic and foreign businesses. However, the currency board system is not an effective mechanism to shelter against outside economic shocks and for fine tuning of economic processes. Monetary policy was incapable of neutralizing credit overhang during the boom years and did not allow the use of "quantitative easing" schemes during the recession. But, once again, the monetary system in Estonia did its main duty – it maintained the sustainability of its currency system and avoided exchange rate devaluation.

5.2. Fiscal policy

As argued earlier, monetary policy under a currency board system is not an effective tool for macroeconomic management and controlling monetary flows in a small, open economy. In such a case, the most influential instrument for managing a business cycle is a fiscal policy – tax policy and public spending, with specific targeted fiscal measures.

The Estonian approach to fiscal and tax policy has been over the decades somewhat simplistic. On the one hand, there is emphasized the "need" to maintain a budget surplus, a simple tax system and low public debt. On the other hand, fiscal policy in Estonia has been rather weakly used as an active tool for business cycle management and as an economic stabilization mechanism. The county's mainstream understanding about government fiscal activities opposes the traditional Keynesian understanding, where one the main goals of fiscal policy is to stabilize GDP volatility. Estonian fiscal policy has ignored stabilization issues and instead, focused on narrow political objectives (e.g. tax rate decreases or budget balance). Therefore, over the decades Estonian fiscal policy has been rather *pro-cyclical* by its characteristics (*e.g* IMF Annual Reports in various years). In addition, the scope and role of automatic stabilizers in the economy has also been rather limited.

During the period 2001-2007, Estonian public sector expenditures and revenue percentages remained below Nordic and EU average levels and were rather stable (Table 11). Estonia's revenue level during the pre-crises period was about 20 percentage points less than in the Nordic countries.

Fast economic growth and a low public sector "maintenance cost" allowed both a low expenditure and revenue side of the public budget.

Table 11. Total general government expenditure and government revenue (in brackets), % of GDP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estonia	34.8 (34.7)	35.8 (36.0	34.8 (36.5)	34.0 (35.6)	33.6 (35.2	33.6 (36.1)	34.0 (36.4)	39.5 (36.5)	45.2 (43.2)	40.6 (40.9)
Nordic	50.2 (55.5)	51.6 (54.6)	52.3 (54.4)	51.1 (55.0)	49.8 (56.0)	48.5 (55.9)	47.6 (55.4)	48.4 (55.6)	53.9 (54.9)	53.0 (54.3)
EU (27)	46.1 (44.6)	46.6 (44.0)	47.2 (44.0)	46.8 (43.9)	46.8 (44.3)	46.3 (44.8)	45.6 (44.7)	47.1 (44.7)	51.0 (44.1)	50.6 (44.1)

Source: Eurostat Homepage (Section: Statistics; Economy and Finance; Government Statistics; Annual Government finance statistics).

During the crisis years 2008-2009, the situation in Estonia radically changed – first the expenditure and then revenue ratios increased sharply. It must be noted, however, that the significant increase of expenditures and revenues, as a percentage of GDP, were not caused by their increase in absolute terms, but is the simple mathematical result of the severe contraction of the GDP.

A very different situation is visible in the Nordic countries, where only the expenditure side increases in the recession and the revenue side – or tax burden- was kept stable. The Nordic countries supported economic stability through a stimulation package, which eventually increased the public spending level.

Business cycle phases are also apparent in Estonia's public deficit levels (Table 12). Estonia's usual budget surplus turns negative during the crises years. Such a situation is rather common - fiscal deficits and debts are declining during boom years and increasing during recessions. However, the Nordic countries did, on the average, maintain budget surpluses even in case of global recession.

Table 12. Budget deficit and general government consolidated gross debt (in brackets), % of GDP

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Estonia	-0.1 (4.8)	0.3 (5.7)	1.7 (5.6)	1.6 (5.0)	1.6 (4.6)	2.5 (4.4)	2.4 (3.7)	-2.9 (4.5)	-2.0 (7.2)	0.2 (6.7)
Nordic average	5.4 (44.0)	3.1 (44.9)	2.3 (46.9)	4.1 (46.4)	6.3 (43.6)	7.5 (43.0)	7.8 (38.6)	7.2 (39.1)	1.2 (42.7)	1.4 (43.9)
EU (27) average	-1.5 (61.0)	-2.6 (60.4)	-3.2 (61.9)	-2.9 (62.3)	-2.4 (62.8)	-1.5 (61.5)	-0.9 (59.0)	-2.4 (62.5)	-6.9 (74.7)	-6.6 (80.1)

Source: Eurostat Homepage (Section: Statistics; Economy and Finance; Government Statistics; Annual Government finance statistics) and author's calculations.

The Table 12 also demonstrates a unique feature of the Estonian fiscal situation – the extremely low level of the public debt - while in the other EU countries public debt reached far over Maastricht criteria levels.

5.3. Taxes and the business cycle

There is a clear impact of tax policy on economic developments in various phases of the business cycle. The key terms of Estonian tax policy have been "flat tax", "no tax on reinvested profits" and "shifting tax burden to consumption". As an outcome, the country's tax policy impact on the economic cycle has been clearly *pro-cyclical*. Such a tax system increases government sector dependency on consumption, narrows the tax base and limits the scope of automatic stabilizers. The profits tax from reinvested earnings was abolished in 2000. This significantly decreased the tax burden on businesses. The author's argument here is that the *pro-cyclical* tax environment was one of major reasons that led Estonia to economic overheating and afterwards – record-deep recession.

In the course of EU enlargement, Estonia had to satisfy the indirect tax harmonization requirements of the union, which in practice meant establishing some new indirect taxes, increasing the VAT and excise duties at least to the EU's required minimal levels. All that, in combination with the expanding social expenditures, dragged the tax burden up somewhat. However, the country's pre-crisis tax burden remained far below its Nordic neighbors (Table 13).

Table 13. Tax burden compared with GDP, *per cent*

	Estonia			Nordic			EU (27)		
	2001	2008	2009	2001	2008	2009	2001	2008	2009
Total taxes (including SSC)	30.3	31.5	35.5	46.5	45.0	45.2	40.2	40.1	39.4
Taxes on income and wealth	7.2	7.8	7.6	22.3	22.2	21.5	13.4	13.3	12.4
Taxes on production	12.3	11.9	14.7	14.9	14.7	15.3	12.9	12.7	12.6
Social security contributions	10.7	11.6	13.1	8.9	7.7	8.1	12.8	12.7	13.1

Source: Eurostat Homepage (Section: Statistics; Economy and Finance; Government Statistics; Annual Government finance statistics).

The *pro-cyclical* nature of the Estonian tax system grounds in two facts – the high dependency on consumption taxes and the limited scope of tax based automatic stabilizers. Any sharp decline in consumption, as happened during the last recession, puts the public sector budgets at risk. While the burden of consumption taxes in Estonia compared with the GDP is in about the same average range as in the Nordic countries and the EU, Estonia has the highest proportion of consumption taxes to total taxes in the EU.

The most striking difference in the tax structure between Estonia and the Nordic countries comes in income (both personal and business) and wealth taxation. The Estonian public sector collects only about 1/3d of the revenue of its Nordic peers. During the boom years, Estonia continued decreasing direct personal income (as well as profit) tax rates- from 26% down to 21%. The tax rate cuts were purely politically driven and were implemented in extremely favorable economic conditions. The lower income tax rates lowered private sector budget constraints and increased its nominal purchasing power. As a result, the increase of purchasing power in turn fueled private consumption and investments and the economy's overheating. Lower tax rates made the tax schedule less progressive and in turn, the scope of automatic stabilizers was further limited. However, the negative outcomes of such tax structure changes were widely ignored; even the Central Bank never paid attention to such a pro-cyclical tax policies.

6. Crises management

The impact of the global crisis in 2008 on the Estonian economy and society was fast, unexpected and devastating. The country was already on the road to economic recession and the worldwide crises multiplied the scope of the downturn.

As emphasized earlier, Estonian economic misbalance and overheating inevitably led to a certain natural need for correction. From the second half of the 2008, clear signs of an economic slowdown were present. However, the government clearly underestimated the recession risks and warning signals. The adopted State budget for 2009 expected only somewhat lower economic growth and moderate increases of unemployment compared with the earlier years (Estonian Ministry of Finance Homepage; State Budget 2009). The society's expectations were, that the economy would slow down to a "soft landing"

However, just "overnight" were reached high levels of unemployment and economic decline unseen over the last decade in Estonia. The economic downturn from the second half of 2008 led the public budget speedily into the negative side.

How did the Estonian government respond to the crises? Were the actions adequate?

There is no one short answer. Actually the crises can be separated into two episodes - the first episode is the fast economic decline during the period, 2008-2010, and the second, stabilization and recovery during 2010-2011. Perhaps it is too early to say that the crisis is over; therefore this article will consider the last years as a part of the recession period.

During the first phase of the acute crisis Estonia did everything exactly the opposite of what standard economic theory recommends. There are efficient measures applicable during a recession - an increase in government consumption and investment spending, a decrease of income, profit and consumption tax rates and an increase of transfers to financially constrained households (American Economic Journal, 2012).

Instead, Estonia cut government spending and investments severely, increased labor and consumption taxes and did not increase transfer payments to the neediest part of the population. As, expected theoretically, the outcome was a fast decline in the economy and high unemployment.

The government's immediate reaction to the crisis was to cut budget expenditures. Further, the Parliament adopted several negative budgets during the 2008 and 2009 (Ministry of Finance Homepage; State Budget relevant years). The Estonian government even called itself the "world champion of business cuts".

Another measure to sustain "fiscal stability" was to increase consumption taxes and to increase the VAT rate by 2 percentage points in mid-2009. As predicted by standard economic theory - such *pro-cyclical* measures deepened the crisis even more. As the GDP decreases, the relative ratio of the tax burden increases significantly. In 2010, Estonia's relative increase of the tax burden was the highest in the European Union (Taxation Trends in EU, 2011, p.21).

In the midst of deep crisis, the government decided in mid-2009 to join the *eurozone* as of January 2011. Fulfillment of the Maastricht criteria meant proceeding further with the austerity measures. Such steps limited the government's room for maneuver in growth and labor market stabilization. In comparison with many other EU countries, Estonia had "space" for more active measures to smooth the business cycle volatility (Economic Crisis in Europe, 2009).

Estonia did not accept various stimulus packages which were used in most of the European Union countries (Szekely, 2011). Therefore, the author agrees with the opinion, that a narrow focus on Maastricht criteria strengthened the deepness of the crises (State of Region 2010, p. 2).

The question arises – how did the country maintain low public debt during the recession years and still attain economic growth without stimulus measures?

As was emphasized, the country's monetary policy measures are very limited in fixed exchange rate conditions. Even more, the fixed and stable exchange rate has been for decades one of Estonia's economic policy cornerstones. Therefore even the hypothetical possibility of the devaluation of the *kroon* made the society very nervous. The devaluation option wasn't politically or socially possible. For that reason Estonia did not have the option to depreciate its currency as was done in the UK, Poland, Sweden and many other countries.

Unlike many countries, Estonia did not opt for the rather common stimulation measures through public borrowing and increasing public debt. The actual Estonia's "stabilization package" was, in the European context, as unique as its "growth package" had been a few years earlier. As emphasized above, in the boom years' the public sector enjoyed extensive windfall revenues; a fraction of those revenues were channeled to a Stabilization fund. In the crisis year, those reserves were used to cover budget expenditure.

However, there were certain other, rather exclusive, sources for stabilizing government finances. Two of them should be emphasized here – the large-scale sale of various types of government assets and intensive use of EU structural funds donations.

To stabilize the budget, the Estonian government speedily sold the majority shares of Estonian Telecom to the Finnish-Swedish communication company TeliaSonera. In addition public companies accumulated profits were intensively channeled to the use of the public sector.

One extraordinary measure was the sale of so called pollution quotas or CO_2 emission rights quotas. Trade with those quotas generated a significant inflow of budget revenues.

Additionally, government forced the exploitation of EU structural funds. During the EU financial perspective of 2007-2013, Estonia has the option to use more than 3.40 billion euros (EU Structural Assistance). As most of those funds are distributed on a competitive basis, the government sector was forced to justify various “project money” from EU sources.

Considering these extraordinary budget measures, Estonia was able to maintain budget stability even during the deepest economic slowdown. However, the outcome of using such extraordinary revenues is deformation of the budget revenue structure. Namely, the state budget becomes largely dependent on non-tax revenues (Table 14).

Table 14. Estonian central government budget, million euros

	2001	2004	2005	2006	2007	2008	2009	2010
Central government budget	1,954	2,985	3,525	4,336	5,240	5,423	5,476	5,610
Tax revenues	90.6%	84.0%	83.2%	81.4%	82.6%	82.9%	74.4%	72.1%
Nontax revenues	9.4%	16.0%	16.8%	18.6%	17.4%	17.1%	26.0%	27.8%

Source: Estonian Ministry of Finance Homepage (Section State Budget, relevant years) and author’s calculations.

Non-tax revenues – assets sales and EU donations - were rather a minor part of budget revenues at the beginning of the century. During the crisis years those revenues have come to cover about one third of the entire budget. As one can recognize, those revenues exist only temporarily. The inflow of such revenues is going to sharply decline and must be replaced by regular tax revenues.

To generalize – Estonia experienced one of the severest GDP declines in the global context and very high unemployment rates. However, Estonia did not use standard fiscal policy tools to stabilize its economy and to keep the labor market “alive” during the recession. The reasons behind the steps taken are the lack of experience and political choices.

7. Conclusions

The economic cycle in Estonia during the last decade has been very volatile. Such a high amplitude in the level of economic activities evidences inadequate discretionary policies and weak automatic stabilizers in the economy.

During the years, 2000-2007, Estonian economic growth was very high. The high rate of economic expansion was based on mix of various factors – the low initial economic level, the EU enlargement effect, the favorable global environment and economic policies supportive of expansion. However, during the period, macroeconomic imbalances accumulated – the growth was based on domestic consumption and unrestrained credit expansion. Unproductive FDI led to inefficient resources allocation. Macroeconomic policies and regulations were not able (monetary policy) or were not focused (fiscal policy) to curb such unbalanced economic expansion. To make matters worse, lowering income taxes and increasing public spending contributed to the economy's overheating. As an outcome, the country's economy lost its global competitiveness and businesses modernization was curtailed. As Estonia's growth become unsustainable, certain macroeconomic corrections were predictable.

However, the warning signals of the coming recession were largely ignored by Estonian government, partly because of inexperience in managing an economic cycle during crisis periods and partly for political reasons.

During the first phase of the crisis, 2008-2009, government actions were just the opposite of measures that professional economists widely consider helpful in stabilizing an economic slowdown. Radical cuts in state budgets and investment, and; increasing consumption and labor taxes deepened the crises even more. Eventually, the economic decline was one of the highest in the EU and unemployment reached almost 20%. The recession and unemployment was followed by the impoverishment of the population; accelerated emptying of remote regions and outmigration to foreign countries.

During 2010-2011, more stabilization measures were used – faster and expanded use of EU structural funds, the sale of pollution quotas (half of total global trade in them!) and the channeling of those funds in the form of public investments to the economy. Those measures allowed stabilizing public finances and stimulating economic growth at the same time. However, those extra-revenues will drastically decline during the coming years. The Estonian public sector should be able to compensate declining subsidies through expanded collection of tax revenues.

To conclude, the recent boom and severe recession provided a valuable lesson about unsuccessful business cycle management in Estonia. To secure sustainable growth in the future, economic policies should be focused on attaining a manageable business cycle, economic modernization and increased global competitiveness.

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