ROOTS OF THE WEAKNESSES OF THE EURO

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Abstract

The aim of the euro was to speed up the integration process and economic development in Europe. History of euro showed us that these optimistic goals have been only partly fulfilled. This modest result has several essential roots. Our research showed that Europe have not been and is even not today the optimal currency area. The architecture of the EMU was incomplete: in building up it was not given enough power to ECB, also were underestimated vitality national interests in member states. Therefore common interests in euro area were not enough protected. Last global financial and economic crisis showed clearly main weaknesses of euro and enforced to start to liquidate them. We conclude that resent reforms and enlargement of the EMU (Estonia) probably will strengthen this union.

Keywords: European Monetary Union, European Central Bank, international monetary arrangements, budget deficit and dept

JEL Classification: E42, E58, F33, H6

Introduction

The introduction of euro had political and economic factors: to speed up the integration process in Europe and economic development of this region. Namely, it has been presumed that introduction of a common currency makes the European economy more efficient due to the better allocation of resources.

The 11 years history of euro has showed us that these optimistic goals have been only partly fulfilled. This modest result has several essential roots like in the framework of the common currency so in fact that Europe is not the optimal common currency zone. Some experts are even forecasting the collapse of euro in near future (Krugman, 2011).

In our paper we try to find some roots of the weaknesses of euro and to show some possibilities to improve the credibility of our common currency.

Europe is not an optimal currency area

Integration of markets needs also integration of monetary systems. So EMU (European Monetary Union) is not the first monetary union in Europe. For instance beginning in 1379 until the Napoleonic wars, cities along the Baltic Sea and North Atlantic Ocean joined together in the trading association known as the Hanseatic League, and cities and principalities inside Germany formed the Monetary

Federation of the Rhine. Within each group there was agreement upon the same gold and silver content for coinage (Einaudi, 2000, p. 2).

In 1838 a German Monetary Union was established. “Baden, Bavaria, Frankfurt, Hesse, Nassau Saxe-Meiningen (joined later), Schwarzburg-Rudolstadt (joined later), and Wurttemberg agreed on a monetary union with the northern states adopting the thaler and the southern states, the florin with a fixed rate of exchange between them.” (Hawkins and Mason, 2003, p. 27).

It may be seen that the idea of European monetary integration in the 20th century arise already in 1957 when was established European Community and it was developed ahead in Werner Report in 1970. But it took thirty years to realize it. Euro was formally introduced on 1 January 1999 as a unit of account for banks and corporations for eleven EU countries. Only on 1 January 2002 euro coins and bills became available to the people of the twelve member states. Three other members of the EU (European Union) have thus far decided not to adopt the euro. To be honest it is necessary to say that a bit later Denmark (in September 2000) and Sweden (in September 2003) voted by referendum unsuccessfully about adopting the euro. Basic idea for the common currency was that for countries joining the monetary union have much bigger benefits of exchange rate stability for international trade against the costs of giving up monetary policy independence when they are forming the optimum currency area (OCA).

The theory of OCA was developed by Mundell (1961) and McKinnon (1963). Very important aspects of the OCA are synchronisation of economic cycles, resilience to asymmetric shocks, flexibility of prices and wages and international labour force mobility. Some of these criteria are not fulfilled by the present members of the euro area. For example, mobility of labour force is insufficient in Europe mainly by language and cultural differences. It is possible to see from unemployment statistics. So before the start of the latest recession (Q4 2007) unemployment rose from 7,6 % level in euro area to 10 % in the second quarter 2010. At the same time unemployment rose moderately by 2 percentage points in Italy (reaching 8,5%) and by 1 percentage point in France and Belgium (raising to 8,9 and 8,2% respectively). Spain and Ireland saw the largest increases in the unemployment rate. These two countries rank among the euro area countries with highest unemployment rates (20% and 14% respectively in second quarter of 2010 (ECB Monthly Bulletin, December, 2010, p. 74).

Professor Axel A. Weber, President of the Deutsche Bundesbank in his lecture “The Euro: Opportunities and Challenges” mentioned that the single monetary policy requires that member states should be able cope to with asymmetric shocks to which a common monetary policy cannot respond. But in the EMU were large government deficits in some member states as well as persistent current account divergencies between member states. While some countries, such as Germany or the Netherlands, had been recording persistent current account surpluses, other countries such as Greece, Ireland, Spain or Portugal, had been posting persistent deficits. The problem with this development was that the deficit countries had not always used the inflowing capital in an efficient way. Instead of financing investments to increase productivity and to raise potential output, government and private consumption were propped up while in some instances, capital imports helped to fuel bubbles on domestic real estate markets (Weber, 2011).

Years before introducing euro it was known that European Union is not enough integrated to be the OCA. The European Commission's 1992 report stated that "It became conventional wisdom to say that Europe was not an optimum currency area" (Emerson *et al.*, 1992, p. 46). However Europe was not an ideal OCA it was necessary to work out the Stability and Growth Pact, a rule-based framework for the co-ordination of national fiscal policies in the EMU. The Pact consists of a preventive and dissuasive arm (Beetsma and Giuliodori, 2010, p. 637). The Maastricht Treaty in 1992 established five preventive criteria for entry into monetary union (Table 1).

Table 1. Maastricht Criteria

Criterion	Principles of the criterion
Inflation criterion	Inflation in a candidate country must not exceed average inflation of the three EU member states with the lowest inflation, plus 1.5 percentage points – in 2002, the indicator was 2.9%.
Interest rate criterion	Interest rate on long-term (10 years) government bonds nominated in national currency of the candidate country must not exceed average long-term interest rates in the three EU member states with the lowest inflation, plus 2 percentage points – in 2002, the indicator was 6.9%.
Exchange rate criterion	During the period in ERM2, the national currency of the candidate country must not fluctuate more than ±15% against the euro.
Government budget criterion	Annual budget deficit of the candidate country must not exceed 3% of the country's annual GDP.
Public debt criterion	General government debt of the candidate country must not exceed 60% of the country's annual GDP.

Source: http://www.eestipank.info/pub/en/EL/ELiit/Euroliit/mstr.htm/.

Price stability is the monetary policy target of the European Central Bank (ECB). Marc A. Miles argues that it is empirical fact that countries with stable money (low rates of inflation) tend to grow faster than countries with high rates of inflation. For example, over the past half-century, growth in the United States has been lower when inflation has been higher. Growth averaged 3.9 percent in years when inflation was less than 3 percent and only 2.7 percent when inflation exceeded 6 percent. A similar pattern is found in the European Union over the past decade (Miles, 2004, p. 123).

Some countries were doubtful about prospects of this preventive action (Maastricht criteria). For instance the British government evaluated the utility of adopting the euro and established five criteria, in addition to the above criteria in the Maastricht Treaty, which the UK was acknowledged to have met.

1. Are business cycles and economic structures compatible so that we and other could live comfortably with euro interest rates on a permanent basis?
2. If problems emerge, is there sufficient flexibility to deal with them?
3. Would joining EMU create better conditions for firms making long-term decisions to invest in Britain?
4. What impact would entry into EMU have on the competitive position of the UK's financial services industry, particularly the City's wholesale markets?
5. In summary, will joining EMU promote higher growth, stability, and lasting increase in jobs? (UK Membership …, 2003).

Swedish opponents of the euro also had ten arguments against adoption of the euro in Sweden (Sõrg, 2003, p. 21).

Even today, more than ten years after introducing the euro EMU has not achieved fulfilling the OCA criteria. Reszat (2005, p. 224) concludes that the EU is not an OCA looking at trade figures. On average intra-European trade is low and the factor labour in the region is still highly immobile.

In the stable developing period it was not very noticeable but after middle of 2007 when the global financial crisis started some countries experienced deep economic downturn and debt crisis. In 2010 Greece and Ireland did not resolve without external financial support. Big problems are also in Portugal and Belgium. Some even forecast by these problems the collapse of euro. The 2008 Nobel Memorial Prize in Economic Sciences winner Paul Krugman wrote that he is doubtful about the future of euro for the absence of central financial assisting system in Europe like it exists in the US. He said "Euro is not working as well as dollar in America for exactly the reasons Europe isn't fiscally integrated" (Krugman, 2011). Enlargement the EMU may also pass forward forming the OCA in this zone for last mentioned reason.

In conclusion we may say that the EMU is managing quite normally in the stable economic development period, but a new crisis period may become fatal for the reason that the European Union has not succeeded in forming in the euro zone the OCA.

Architecture of the EMU was incomplete

We already wrote that in the plans to build up the euro zone it was presumed that all EU member states will join it. It may be clearly seen from the Maastricht criteria of inflation and interest rates where into account are taken also the EU members outside the EMU. It becomes more noticeable after the EU enlargement in 2004.

Now there are two blocks of countries in the EU: 17 EMU member states and 10 non-member states. The second group may continue independent monetary policy for improving the competitiveness of these countries. Some experts have noticed that during the first years of the euro, economic development in the euro zone was slower than in the EU as a whole and also slower than in the post-communist countries of Central and Eastern Europe. Similar trends can be expected also in the next few years (Čornejová and Fassman, 2005, p. 68). What does it indicate?

Last economic and financial crisis also demonstrated that the states outside the EMU like Great Britain, Sweden and Denmark managed their problems better than the euro zone as a whole. By that reason some new EU member states do not hurry to join the EMU. However, although the idea of a rapid shift to the euro receives widespread support, opposing voices can also be heard. A number of influential economists have warned of rushing into the euro zone, arguing that despite unquestionable long term benefits for the country, in the medium term adoption of the euro may cause painful side-effects. As Edmund Pietrzak, an economic advisor to the President of Poland points out of that striving to meet the down in GDP growth and a rise in unemployment, which is already very high (Gardawski, 2005, p. 214–215).

One of the weaknesses of the EMU is the fact that the European Central Bank (ECB) was not directly involved in supervision of credit institutions. It means that ECB had problems with arranging the banking policy in EMU. It has also the lack of resources to manage as a lender of last resort to avoid the lack of insolvency of states and in financial sector of EMU. We know well that one of the main reasons of the last financial crisis was uncontrolled activities of banks to finance forming the asset bubbles. From the Figure 1 we can see that during the bubble forming period (2004–2008) of bank financing constituted around three-quarters of total external financing by non-financial corporations in the euro area but less than half in the United States.

The main tool of ECB to fight against the lending boom and forming the price bubbles are central bank interest rates. The Governing Council of the ECB sets three key interest rates in the euro area that determine the monetary policy stance, namely the interest rate on main refinancing operations through fixed or variable rate tenders: on the deposit facility for overnight deposits and on the marginal lending facility for overnight credit. The ECB responded to the crisis with significant reductions in official interest rates and liquidity management interventions (The Quest for Stabiluty …, 2010, p. 63).

It did not help to avoid this phenomenon in the euro area. Our research also showed that the interest rate as the external determinant of the borrowing decision is relatively weak, and is outperformed by other external macro determinants (Tuusis, 2010, p. 135; Tuusis *et al.*, 2010)

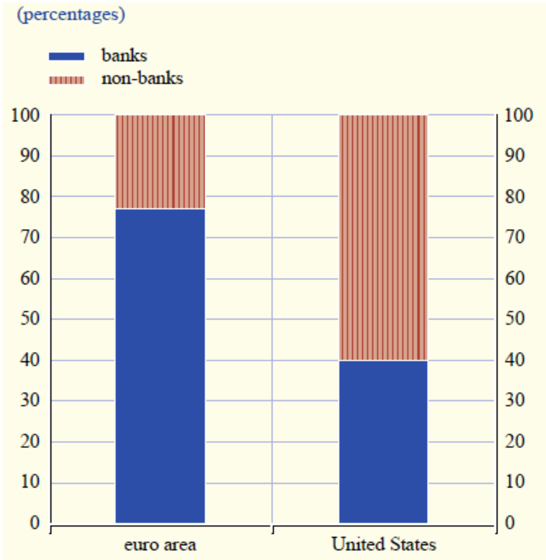

Figure 1. Sources of finance for non-financial corporations in the period 2004–2008 **(**Monthly Bulletin, ECB, October 2010, p. 62).

When it was too late to avoid big problems it was started to work out the European banking regulation and supervision system.

In October 2008 the European Commission mandated a High Level Group chaired by former managing director of the IMF Jacques de Larosière to give advice on the future of European financial regulation and supervision. The Group presented its final report on 25 February 2009 and their recommendation provided the basis for legislative proposals by Commission later that year (de Larosière, 2009).

In this report de Larosière argues that a key lesson to be drawn from the crisis is the urgent need to upgrade macro-prudential supervision in the EU for all financial activities.

However the European Commission made its proposal first, followed a little later by a Report by Herman van Rompuy, the President of the European Council. There are small – but significant – differences between the two proposals. It is anticipated that the latter will form the basis for further work.

Mr. van Rompuy's working group proposed changes in five areas: 1) strengthening of the Stability and Growth pact, 2) monitoring of macroeconomic imbalances, 3) more extensive budget coordination via the European semester, 4) creation of a long-term framework for credible crisis management and 5) creation of stronger institutions for general government finances. This box deals with the first two proposed changes (Bank of Finland Bulletin, 2010, p. 15).

The new capital requirements for banks, the Basel III framework, were approved by the G20 Seoul summit in November 2010. The extensive banking regulatory reform (Basel III) should decrease the risk of collapse so called "too big to fail" banks like happened in US with Lehman Brothers investment bank. The "too big to fail" problem is particularly serious in Europe, as the banking systems are highly concentrated in most European countries. A few large banks dominate national markets in most European countries.

From Figure 2 we may see that a "too big to fail" problem impairs the stability of the financial system more seriously in new euro area state Estonia and also Netherlands and Finland.

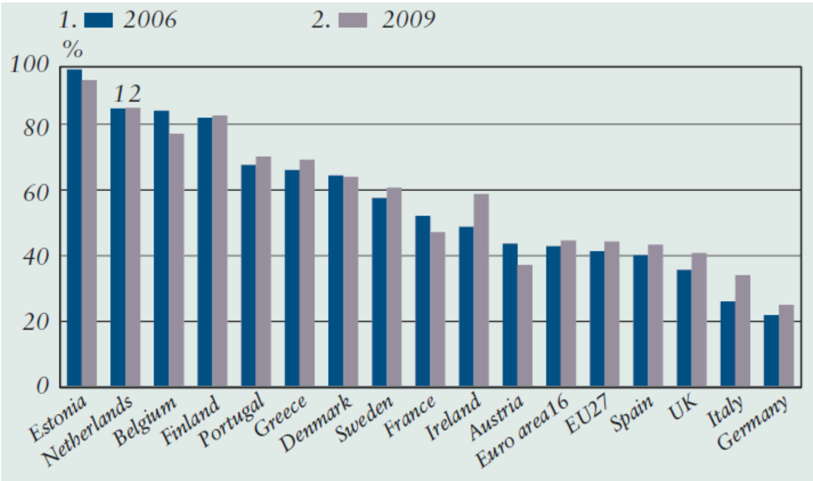

Figure 2. Credit institutions' balance sheets in different countries: proportion of the five largest institutions ex ante and ex post financial crisis (European Central Bank).

On this basis the EU heads of state and government took important decisions to strengthen the euro at their meeting in Brussels on October 28–29, 2010. The recommendations of the task force are aimed at increasing fiscal discipline and more effective supervision of the economy (Karapetyan, 2010).

So global financial crisis taught to the decision makers in the EU that it was a mistake that in the EU framework they did not give up enough administrative and financial power to the ECB to avoid the distribution of crisis of the financial markets in the EMU. Also in building up the EMU the budgetary and fiscal national interests of member states were underestimated.

Common interests were not enough protected

At the meeting held in Madrid on 15 and 16 December 1995 the European Council conformed that the third stage of the EMU will start on 1 January 1999 as laid down in Article 109 of the Treaty. But when the 11 countries adopted euro from January 1999, only Finland and Luxembourg were able to fulfil the public debt criterion (they had it lower than 60% of GDP) (Wójtomicz, 1999, p. 63).

The fact that for a single currency it was more important to follow the arranged starting data than financial stability and convergence criteria was an evident signal for the member states that it is possible by national interests not to follow common ones. When we add that in the framework of EMU were not seen sending sinners out of this club and is very easy to avoid the possible sanctions it is clear that usually were preferred the national interests. From the Table 2 we may see that even in good times several countries did not follow government budget deficit criteria. However, as in this sinners list there were also Germany and France some years, then it is not surprise that the discipline weakened step by step.

Table 2. Fiscal position in the euro area (as a % of GDP)

	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Belgium	0,4	0,1	0,4	0,0	–2,3	0,3	–0,2	–0,9	–5,9
Germany	–2,8	–3,7	–3,8	–3,7	–3,2	–1,5	0,2	–0,1	–3,4
Ireland	0,9	–0,5	0,2	1,5	1,1	3,0	0,3	–6,3	–12,5
Greece	–4,1	–4,1	–5,2	–7,8	–5,2	–2,8	–3,7	–3,4	–12,7
Spain	–0,5	–0,3	0,3	–0,2	1,1	2,0	1,9	–3,4	–11,2
France	–1,6	–3,2	–4,2	–3,7	–2,9	–2,4	–2,7	–3,2	–8,3
Italy	–3,0	–2,6	–2,9	–3,4	–4,1	–3,4	–1,5	–2,8	–5,3
Cyprus						–1,2	3,4	1,0	–3,5
Luxembourg	6,2	2,3	0,5	–1,1	–1,0	1,3	3,7	3,0	–2,2
Malta						–2,3	–2,2	–3,5	–4,5
Netherlands	–0,1	–1,9	–3,2	–1,8	–0,3	0,6	0,2	1,1	–4,7
Austria	0,3	–0,2	–1,1	–1,2	–1,5	–1,5	–0,6	–0,6	–4,3
Portugal	–4,4	–2,7	–2,9	–3,2	–6,0	–3,9	–2,6	–2,2	–8,0
Slovenia						–1,2	0,0	–0,9	–6,3
Slovakia						–3,5	–1,9	–2,2	–6,3
Finland	5,2	4,3	2,5	2,3	2,7	4,1	5,2	4,5	–2,8
Euro area	–1,8	–2,5	–2,8	–2,8	–2,4	–1,3	–0,6	–1,7	–6,4

Source: ECB Annual Report, 2009, 2008, 2006, 2004 (are taken latest figures). Completed by the authors.

Budgetary criteria did not take into account a unique feature of the euro zone that monetary policy is centralised in the hands of ECB while fiscal policy remains decentralised in the hands of the individual member states. So particular relevance for the EMU is the conflict between the monetary and fiscal authorities about the macroeconomic objectives within the union (Beetsma and Giuliodori, 2010, p. 605).

Calculation of these convergence criteria was also too optimistic. How were these reference values chosen? It has been suggested (Thygesen, 2002) that 60% was the average debt ratio of the EU Member States in 1990 and if countries kept their deficit at the 3% limit, their debt would converge to 60%, assuming that nominal GDP is rising at a trend rate of ca 5% which is the result of a real growth of 3% (assumed to be the potential output growth of the EU at that time) plus 2% inflation (in line with the ECB's inflation target) (Orban and Szapáry, 2004). In reality real GDP grew in the euro area every year less than 5%, annual real GDP growth will range between 1,6% and 1,8% in 2010, between 0,7% and 2,1% in 2011, and between 0,6% and 2,8% in 2012. With uncertainly remaining elevated, the risks to the economic outlook are tilted to the downside (ECB Monthly Bulletin, December, 2010, p. 76, 63).

Empirical results from cross-country study of economic growth for 112 countries with available data from 1960 to 2000 showed that growth depends negatively on the rate of inflation and the ratio of government consumption to GDP (Barro, 2004, p. 243)

The introduction of euro was based on both political and economic factors. The most significant political factor was the wish to speed up the integration process of the European countries. The theoretical description of economic factors is usually based on the theory of optimal currency area. Namely, it has been discovered that introduction of a common currency makes the economy more efficient due to the better allocation of resources, as the currency exchange costs and exchange risks within the currency union disappear.

Also was supposed that European monetary integration is only one element in the process of economic and financial integration and the – preliminary – last step in the development of a common monetary and financial culture that is deeply rooted in history (Reszat, 2005, p. 184). Our analysis showed that this wish for policy harmonization was not fulfilled due to the weak discipline in euro zone.

We may conclude that in December 1991 the Maastricht Treaty agreed the convergence criteria that were aimed for providing stability in the currency union. However the common interest were weakly protected, some countries used it for protecting national interest in short run with the price of weakening the common currency and damaging their own national interests in long run.

A lack of confidence in the most highly indebted European countries' ability to service their debts came ahead in the spring on 2010 and again at the end of the year. Prolongation or further tightening of the debt crisis remains a threat to the recovery of the European economy and to the world economy overall as well as to financial system stability. Experts forecast that the EMU has ahead the third act of the nowadays financial crisis when it will be necessary to start to save Italy and Spain (Lepik, 2010).

Following the positive assessment of Estonia's economic convergence in the ECB's and the European Commission's Convergence reports of May 12. 2010, and the June 2010 EU Council Conclusions to welcome Estonia's entry into the euro area, the Ecofin Council adopted a decision allowing the country to join the euro area January 1, 2011. The Ecofin Council also irrevocably fixed the conversion rate of the Estonian kroon at its central parity within ERM II agreed in June 2004, which is EEK 15,6466 to EUR 1.

It has been told that Estonia jumped on to the drowning ship and its economy will be destroyed by the collapse of euro. But probably the contrary scenario will realize. Bloomberg forecasts that however Estonians prefer a stability-oriented approach as their fiscal policy shows. Analysts said that Estonia's adaption of the euro may bolster a German-influenced faction on the European Central Bank's Governing Council that is pushing for more government austerity in the member states (Bloomberg, 2011). So Estonia's joining the EMU may accelerate the process of renovating it for increasing benefits and cutting costs of monetary unification.

Conclusions

The introduction of the euro had both political and economic factors: to speed up the integration process in Europe and economic development of this region. Namely, it has been presumed that introduction of a common currency makes the European economy more efficient due to the better allocation of resources.

The EMU manages quite normally in the stable developing period. But last financial crisis period showed that it may become fatal for the reason that the EMU has not been successful in forming the OCA.

One of the weaknesses of the EMU is the fact that the European Central Bank was not directly involved in supervision of the credit institutions. It means that the ECB had problems with arranging the banking policy in the EMU. When it was too late to avoid the crisis of the euro the European banking supervision system was started to work out.

However, as long as the monetary policy is centralised in the hands of the ECB while the fiscal policy remains decentralised it produces the conflict between the monetary and fiscal authorities and therefore weakens the common currency.

So, the global financial crisis taught to the decision makers in the EU that it was a mistake that in the EU framework they did not give up enough administrative and financial power to the ECB to avoid the distribution of crisis of the financial markets in the EMU. And also the national interests were underestimated in building up the EMU.

References

1. Bank of Finland Bulletin, No. 2, 2010.

2. **Barro, R. J.** Economic Growth Across Countries. The Road to Prosperity: The 21st Century Approach to Economic Development. Heritage Books, 2004, p. 209–245.
3. **Beetsma, R.** and M. Giuliodori. The macroeconomic costs and benefits of the EMU and other monetary unions. An Overview of Recent Research. Journal of Economic Literature, September, 2010, p. 603–641.
4. **Bloomberg,** http://www.bloomberg.com/news/2011-01-04/ecb-s-germanbloc-may-be-bolstered-by-formar-estonian-fencing-champion.html
5. **Čornejová, H., and M. Fassman.** Czech republic: pros and cons of adopting the euro. What price the euro? The social impact of euro-zone accession for the new member states. Edited by Béla Galgóczi. ETUI-REHS, Brussels, 2005, p. 35–70.
6. **De Larosière, J.** Report of the high-level group on financial supervision in the EU, Brussels, 2009.
7. ECB Annual Reports 2004, 2006, 2008, 2009.
8. ECB Monthly Bulletin, December, 2010.
9. **Einaudi, L.** The Generous Utopia of Yesterday can become the Practical Achievement of Tomorrow: 1000 Years of Monetary Union in Europe. *National Institute of Economic Review (Italy)*, 1 April 2000, p. 2.
10. **Emerson, M.** *et al.* One market, One Money-An Evaluation of the Potential Benefits and Costs of Forming an Economic and Monetary Union. Oxford, UK: Oxford University Press, 1992, p. 46.
11. **Gardawski, J.** Poland: risks of eurozone accession with particular reference to the labour market. What price the euro? The social impact of euro-zone accession for the new member states. Edited by Béla Galgóczi. ETUI-REHS, Brussels, 2005, p. 195–218.
12. **Hawkins, J. and P. Masson.** Introduction to Regional Currencies and the Use of Foreign Currencies. Annex A, May 2003, Bank of International Settlements, p. 27.
13. **Karapetyan, E.** Estonia to support crisis management mechanism at European Council meeting in Brussels. *The Baltic Times*, November 4–10, 2010, p. 2.
14. **Krugman, P.** Can Europe Be Saved? The New York Times, 2011, January 12..
15. **Lepik, K.** Võlakriisi teine vaatus. *Postimees*, 19. November 2010.
16. **McKinnon, D. I.** Optimum currency areas. *American Economic Review,* September, 1963, p. 717–725.
17. **Miles, M. A.** Stable Money: A Critical Step on the Road to Economic Freedom and Prosperity. The Road to Prosperity: The 21st Century Approach to Economic Development. Heritage Books, 2004, p. 121–146.
18. **Mundell, R. A.** A theory of optimum currency areas. *American Economic Review,* September No. 4, 1961, p. 657–665.
19. **Orbán, G. and G. Szapáry.** The Stability and Growth Pact from the perspective of the new member states, Hungarian National Bank, working paper 2004/4.
20. **Reszat, B.** European Financial Systems in the Global Economy. John Wiley & Sons, Ltd., 2005.
21. **Sõrg, M.** Estonian Monetary System: Readiness to Join the European Monetary Union. Integration of Financial Sectors of Baltic States into the European Union:

Challenge and Experience. Edited by Mart Sõrg and Vello Vensel. Tallinn, 2004, p. 5–25.
22. The Quest for Stability: the financial stability view. Ed. by Morten Balling *et al*. SUERF Studies 2010/4.
23. **Thugesen, N.** The Stability and Growth Pact: any need for a revision? European Parliament, Note to Economic and Monetary Affairs Committee (November), 2002.
24. **Tuusis, D.** Interest rate influence on the behavior of economic subjects. Dissertationes Rerum Oecononicarum Universitas Tartuensis 31. Tartu Ülikooli Kirjastus, 2010, 201 lk.
25. **Tuusis, D., Sander, P., Juhkam, A.** Does interest rate matters: study of investment management of Estonian companies. – Eesti majanduspoliitilised väitlused. Artiklid. Berlinen Wissenchafts-verlag GmbH, Mattimar OÜ, 2010, lk. 472–489.
26. UK Membership of the Single Currency: An Assessment of the Five Economic Tests: EXECUTIVE SUMMARY. Her Majesty's Treasury, June 2003, at http://www.hm-treasury.gov.uk./media/FFC/8C/EMU03_exec_126.pdf
27. **Wójtowicz, G.** The Monetary Policy of European Union in the Globalisation Area, and its Influence on Central and Eastern European Countries. In: Jerzy Kleer and Aleksander Lukaszewicz, eds. Euro and its Impact on the Banking System in Central and Eastern Europe. Friedrich Ebert Foundation, Warsaw Office, 1999, p. 63–73.