DOI: 10.20472/IAC.2015.018.033

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METHODOLOGY FOR EXAMINING THE ECONOMIC CONVERGENCE: SELECTED ISSUES AND ECONOMETRIC MODELING TECHNIQUES

Abstract:

The article is devoted to the problems of the international monetary system with the stress on the global crisis that revealed the vulnerability of modern financial markets. The main goal of the article is to evaluate reform efforts done by the International Monetary Fund and European Central Bank. Closer attention is focused mainly on the reform efforts that have been triggered by contemporary financial crisis. The analysis provides two highly probable scenarios of the euro area future development. European Monetary Union will either partially break apart when economically weaker countries leave, or it will maintain the existing member base with a gradual transition to the full Economic and Monetary Union.

Keywords:

European Central Bank, EU, International Monetary Fund, economic crisis

JEL Classification: E22, F33, F34

1. Introduction

The global expansion of international capital in the second half of the 90s of the 20th century enabled many countries to repay their loans derived from the Fund and other official creditors; it also helped to accumulate foreign exchange reserves. However the collapse of mortgage lending in the USA in 2007 resulted in a global economic crisis which then spread all over the world and in 2008 it caused an enormous imbalances in global capital flows and economic problems in individual economies. During years 1990 and 1995 the global capital flows represented 2-6% of the world GDP. Since then there has been an increase to 15%. In 2006 it was 7,2 trillion American dollars, it means more than three times of their volume in 1995. The fastest growth was recorded in developed economies. Nevertheless developing markets and developing economies started integrate to financially as well. The motive of direct foreign investments was for example an effort to circumvent tariffs and restrictions on imports which can be documented on investments of Japanese car-companies in the USA which are not subject of import tariffs counter to car imports. Individual countries are also trying to use the grant and investment incentives on foreign markets. The main factor is not labor price and inputs, but questions of political and social stability and favorable business environment.

The current global crisis then revealed the vulnerability of modern financial markets. In 2007 there was a collapse of the real estate market in the USA. Soon after, on 15th September 2008, the US investment bank Lehman Brothers was obliged to ask for court protection from creditors; followed by Merril Lynch that agreed with the transition under Bank of America. Financial markets were hit by mistrust which forced governments and central banks of individual countries to act. Policymakers of the states came with a rescue in a form of various “packages”. The central banks then correspondingly reduced interest rates and supplied the markets required liquidity. This distrust in financial markets hit also up-grading and developing economies. The reason could be, for example, a high proportion of loans of domestic residents in foreign currencies (in the case of the EU states it included, for example, the Baltic states and Hungary).

2. The Role of the International Monetary Fund in the Contemporary World Economy

The international Monetary Fund started to react on the events in the world economy in late 2008. It began an offering of massive loans exceeding 1000% membership quota, see Table 1. A great support of creditor countries was needed to such step. So the Fund lending capacity tripled to about 750 billion of American dollars. Simultaneously the Fund lending policy was reformed, including the creation of the Flexible Credit Line (Flexible Credit Line, FCL) intended primarily for countries with strong economic fundamentals, with responsibly conducted economic policy.

Table 1: The amount of outstanding loans as% membership quota at the IMF

State	Loan amount (mil. SDR)	% quotas	Term of approval
Ukraine	11000	802	5. 11. 2008
Hungary	10537	1015	6. 11. 2008
Iceland	1400	1190	19. 11. 2008
Pakostan	7236	700	24. 11. 2008
Latvia	1522	1200	23. 12. 2008

Source: Procházka a Sedláček (2009)

G20[1] summit can be regarded as an important milestone which was took place in April 2009. The focal points of the summit were regulations of financial markets and financial support from international financial institutions. The global surveillance was commended under the auspices of the IMF and together with the Financial Stability Board, they should have taken the restructuring of an early warning system. In the alternative, it has been decided about a new issue of SDR in the amount of 250 billion USD, of which 100 billion USD was designed for emerging markets and developing countries.

BRIC[2] group countries have also been successful with revision of members' quotas which should be implemented by 2011. Procházka and Sedláček (2009) highlight the above mentioned revision of the members‘s quotas. In the foreground is especially the sixtieth anniversary of the establishment of the Fund (in 2004) which led to the evaluation of the current activities of the Fund and its future directions. Therefore already in 2005, a reformed document proposing, among other things, adjustment of members' quotas was presented by the Director of the Fund (Rodrigo de Rato). The reason was mainly the Asian crisis of the late 90s of the 20th century when emerging economies protested due to an inadequate and unequal representation in the Fund.

The result was a resolution adopted in Singapore in 2006 concerning the adjustment of members' quotas. Still there was the consensus about lack of quotas correction between countries of the *emerging markets* group. The reform of quotas and voting shares from 2008 entered into force on 3. 3. 2011 after the ratification of the amendment to the Articles of the IMF Agreement. The amendment was ratified by 117 member countries that represent 85% of the overall votes of the Fund. Adjustments of the Voting shares were presented by the Fund as such ones which enhance representation of dynamic economies in the IMF and increase the quotas and voting shares of countries with low incomes. These adjustments were followed by another reforming step in 2010 which will lead, as soon as it comes into effect, to another enhancement of the members' quotas and dynamically developing in emerging and developed countries more than 6 %, for more information see the IMF (2013). Table 2 contains changes of voting shares in the period before and after the reforms from 2008 and 2010. The changes of

[1] Group of 20 largest world economies: Argentina, Australia, Brazil, China, EU, France, Indie, Indonesia, Italy, Japan, South Africa, South Korea, Canada, Mexico, Germany, Saudi Arabia, Russia, Turkey, the USA, Great Britain
[2] Common economic grouping of Brazil, Russia, India, China and South Africa

members' quotas and voting shares actually happen after the repayment of increased quotas from the individual states (Table 2 shows the state according to the paid-up quotas on 26th April 2012).

Table 2: Voting shares before and after the implementation of the reforms in 2008 and 2010

	Voting shares			
	Before Singapore	On 26th April 2012	After the reform from 2008	After the reform from 2010
Developed economies	**60,6**	**59,5**	**57,9**	**55,2**
States of G7	**45,1**	**44,3**	**43,0**	**41,2**
The USA	17,0	16,7	16,7	16,5
Other states	28,1	27,6	26,3	24,7
Other developed economies	**15,4**	**15,2**	**14,9**	**14,0**
EMDC	**39,4**	**40,5**	**42,1**	**44,8**
Developing economies	**31,7**	**32,9**	**34,5**	**37,1**
Africa	6,0	5,9	6,2	5,7
Asia	10,4	11,6	12,8	16,1
Middle East, Turkey and Malta	7,6	7,6	7,3	6,8
Western hemisphere	7,7	7,8	8,2	8,4
Transition economies	**7,7**	**7,6**	**7,6**	**7,7**
Totally	100,0	100,0	100,0	100,0

Source: IMF (2013), own adjustment

A part of the reformation effort was also strengthening of supervision effectiveness. The pressure was mainly set to improve the analysis quality and recommendation from the Fund, but also to individual countries and their membership obligations. This effort resulted in the adoption of the Decision on bilateral surveillance from 2007. However the fundamental problem was the fact that this Decision was not signed by China and Indie. The cause may be seen, mainly in the most populous country in the world, in systematically undervalued juan. In 2009 the Fund President Dominique Strauss-Kahn instructed for the IMF to do not react on fundamentally biased rates, thereby he avoided the pressure of China. The global imbalance then should be solved mainly via multilateral surveillance[3].

3. Monetary stability of the Euro area: The position of Euro in Current Conditions of the World Economy

Monetary stability of the euro area mainly depends on its internal macroeconomic stability. During the first decade of the euro area functioning there was a strong economic and financial integration between the individual Member States. In the spirit of the endogeneity hypothesis of the optimum currency area criteria (Frankel & Rose, 1998) there also occurred a process of convergence between poorer states on the periphery of Europe and economically developed countries of northern Europe, for details see empirical studies (Dvoroková et al., 2011), (Melecký 2010).

However, nowadays financial and debt crisis is spread in the euro area. Despite the fulfillment of fiscal and monetary Maastricht criteria which the countries had to follow before joining the euro area, they are now in a situation of debt traps and outflow of foreign capital. Elimination of exchange rate risk in the application of common currency has led primarily to a decrease in the costs on lending in these countries, which then reflected in a positive economic growth in the euro area peripheries and capital inflows. Paradoxically, this low interest rate led to excessive lending and inflating bubbles in peripheral countries (Ireland, Portugal, Spain). Unfortunately borrowed funds were not directed productive capacity building, but they were invested to real estates, consumed by households and the government. The resulted increased domestic aggregate demand caused a pressure for higher wages and price which finally resulted in decreasing competitiveness of these economies on the world markets. These countries have lost a share on the global market due to the integration of China and other emerging markets into global production chains.

Internal problems represented by inadequate coordination of economic policies in the euro area contributed to the expansion of macroeconomic imbalances. Some of the euro area countries had bloated government spending (Greece and Portugal) which led to an increase in their domestic demand due to its debt financing. In contrast economies, which enjoyed high rates of economic growth, did not dampen increasing private demand and did not create building up of budget surpluses for a less favorable economic period. Temporary increase of output in the economy was caused by rampant real estate sector. The intense growth of tax revenues led to tax cuts and growth of expenses, which in the long run mainly in times of global economic crisis, proved to be unsustainable.

Another factor, which destabilized the euro area economy, was a structure of goods market and labor markets which helped to the excessive wage growth and price increases. Mainly in the peripheries of the euro area were increased wages due to a

[3] Multilateral IMF surveillance consists in evaluating the development on the international capital commodity markets (e.g. the oil market), estimates of financial trends and systemic risks. The MMF in this area publishes the World Economic Outlook, Report on the global financial stability (*GlobalFinancial Stability Report*) and Fiscal Monitor (*Fiscal Monitor*).

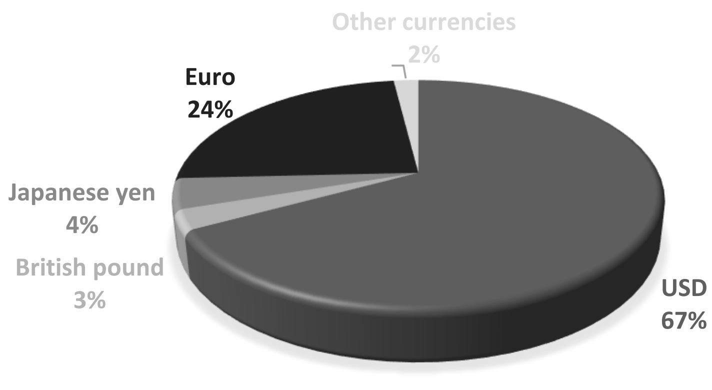
limited competition in the labor market; these were ultimately passed on the consumers through higher prices.

An important factor was also indiscipline on the financial markets. Despite the economic growth, unsustainable due to its character, and growing foreign debt of the states on the periphery of the euro area, financial markets did not reveal, as well as market regulators, too much interest in this situation. This behavior could be caused by a global decline in aversion to risk, because great financial crises were considered to be unlikely and as a result this led to riskier investment behavior.

As the above mentioned states the euro area faces its own macroeconomic problems which destabilize it outwardly. Its geopolitical position may gradually become weaker if it does not solve its internal difficulties in the nearest future. The time in this case is an important parameter, because in nowadays globalized world other important countries from the emerging markets enter the geopolitical scene.

When assessing external stability of the euro area, i.e. the position of euro in the current conditions of the world economy, the euro share is a significant determinant in the international foreign exchange reserves. During its existence euro has become, after the US dollar, the second most important reserve currency in the international monetary system. While the shares of other world currencies (e.g. USD and Japanese yen) were decreasing the share percentage of euro was continuously increasing from 18= in 1999 to 26% in 2010 (Eisen, 2012). Figure 1 shows the shares of the most important world currencies on the international foreign exchange reserves. It reflects the above mentioned fact that the US dollar still holds its dominant position with its 67% share. Euro in 2011 comprised 24% of the international foreign exchange reserves in the world. Other currencies like the British pound, and Japanese yen in comparison with the USD and euro play only a partial role in the international monetary system.

Figure 1: Composition of international foreign exchange reserves (average shares since 2002 to 2011)



Source: IMF (2013), own calculations

The international monetary system is therefore nowadays strongly oriented to American dollar as a dominant international reserve currency. The subject for discussion is a proposal of a new arrangement of the international monetary system with respect to economic and political problems which the USA faces. In comparison with the euro area the United States deal with the so called *double deficit.* They show a budget deficit in the public sector, but also deficit on the current account of the payment balance, see Table 6.

Table 3: The ratio of the current account of the PB and government debt to the GDP in the euro area and the USA in 2011 and 2012

	Current account PB/GDP (in %)		Government debt/HDP (in %)	
	2011	2012	2011	2012
Euro area	0,2	1,5	87,3	90,6
The USA	-3,1	-3,0	99,4	101,6

Source: TradingEconomics(2013)

The euro area is in comparison with the USA able to achieve in a long-term on a current account of the PB positive balance (in 2012 it was 1,5% relatively to GDP), the USA is permanently located in negative values (in 2012 the deficit on the current PB account was 3% of the GDP). The public sector deficit is again somehow higher in the USA in comparison with the euro area. While in the euro area it is still under 100% relatively to the GDP, in the USA this figure was surpassed in 2012.

A question therefore arises whether euro could take a baton after the US dollar and become a world currency number one. Lim (2006) states five important criteria that currency with the status of an international currency reserve must comply. They are as follows: a) great economic power, b) well-developed financial system, c) confidence in the value of the currency, d) political stability, e) network externalities. The US dollar was gaining its position by a gradual extrusion of British pound in its leadership position in the period between the two world wars. However the British pound has maintained its status of a reserve currency until today. The reason still remains high and frequent usage of the British pound all over the world which led to reduction of transaction costs and subsequent increase in the usage of this currency in the international trade. The same network effect can be seen with the US dollar, since the moment when it has become the world reserve currency. In the future it does not seem very likely to happen that the British pound would threaten the US dollar in its leading position. Much more significant shares of the global foreign exchange reserves may reach euro, Japanese yan and other currencies of the *emerging market.* This development will probably dependent on the robustness of the domestic institutional environment in the financial sector. If the above mentioned economies want to absorb the influx of capital flows, then it is necessary for this to have correct size and institutional background of the financial markets.

4. The ECB's Monetary Policy as a Reaction to the Current Economic Crisis

Therefore in the short term horizon The European Central Bank could play a greater role. Negative aspect of this tool is the independence limit and credibility of the central monetary authority. The European Central Bank started to carry out the so called Direct transactions in euros (EURO outright operations). Since May 2010, the ECB has purchased securities within a program for securities markets (*Securities Markets Programme, SMP*). The eligible securities were both private and public debt securities. In September 2012, the program for securities markets was finished and in February 2013, the ECB published holdings of securities acquired within this program (see Table 4).

Table 4: Securities held by the ECB within the SMP on 31st December 2012

Country	Oustanding value at par value (billion EUR)	The average residual maturity (in years)
Ireland	14,2	4,6
Greece	33,9	3,6
Spain	44,3	4,1
Italy	102,8	4,5
Portugal	22,8	3,9
Total	**218,0**	**4,3**

Source: (ECB, 2013)

At the same time, the ECB announced a new program of Eurosystem purchases in the secondary markets with government bonds – Outright Monetary Transactions (hereinafter OMT). However it is, from the perspective of general and professional public, it is a controversial step, the ECB mainly points to several channels by which non-functional bond markets deform the currency environment and threaten the price stability, see see the Monthly Bulletin, September 2011 (ECB, 2013). The ECB draws attention to the fact that within the price channel there are revenues of many corporate bonds derived from the yield curve of government bonds.

The balance sheet channel is then a situation when falling prices of government bonds cause losses to commercial banks which must recapitalize which ultimately limits their capacity to provide loans. *The liquidity channel* is denoted as a phenomenon when government bonds loose the property of eligible flag in refinancing operations with the central bank, then impeded access to the liquidity has a negative impact on the bank lending activity. Based on the foregoing the ECB is firmly convinced that the OMT program has full support in the mandate of the primary objective of price stability. In continuing distortions on the bond markets there would have threatened several destructive scenarios with fatal impacts for the price stability. According to the ECB unsupported fears on the part of the investment community, that the common currency project could be abandoned, contribute to the disruption in the bond markets. The ECB also published the basic technical characteristics of the mentioned program.

5. Conclusions

Finally, the analysis provides two highly probable scenarios of the euro area future development. This will either partially break apart when economically weaker countries leave, or it will maintain the existing member base with a gradual transition to the full EMU. If there was a reduction in the number of states in the euro area, the states which achieve weaker economic performance than the countries of the euro area core, would probably leave. These are the countries experiencing, for example, excessive public deficits, high debt of the general government, rampant unemployment and structural problems within the economy, such states as Greece, Spain and Portugal. However cost performances for these countries, in the beginning, would probably reach enormous proportions. They would be presented by necessary restoring of national currencies and a withdrawal of euro from circulation followed by its barter for the original currency. The financial markets would evaluate such step as a very risky which would be reflected in a strong depreciation of the domestic currency, increased interest income from external debt service potential impact on the growth of domestic inflation. Assuming that these countries persist in the euro area, other members of the monetary union would bear the costs of correction of their fundamentals.

Another possible scenario for the euro area future is to maintain the current membership base with progressive deepening of integration into a complete EMU. The euro area was from the beginning a political project and especially at this time strong political support for the maintenance of the project of the European monetary union can be identified. The leaders are apparently trying to rescue the euro which is possible only by further deepening of cooperation in the economic field. Individual steps in the adoption of the six-pack package, the introduction of the European Semester and the mechanism for detection of macroeconomic imbalances, the ratification of the Treaty on stability, coordination and governance in the Economic and Monetary Union, the Euro Plus Pact and, ultimately, to create a financial ESM bulwark, clearly indicating, where the euro area should be in the following years. Besides that the fact that the EMU project is not doomed to an early demise, is demonstrated by the fact that in recent years this area are entered by other countries (e.g. Estonia, Latvia, Lithuania) and others are already expressing strong interest in the adoption of the euro as the national currency, for example, Bulgaria.

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