THE HYPOTHESIS OF ECONOMIC AND MONETARY INTEGRATION PROCESS ENDOWEITY IN RELATION TO THE GLOBAL ECONOMIC CRISIS

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Abstract

The hypothesis of the integration process endogeneity assumes that in the case of a quantitative or qualitative change in economic integration the expected benefits will be visible in a certain time after the change occurred. The optimistic hypothesis of the integration process endogeneity assumes that the process of integration is connected with the growth of international trade and with the gradual higher synchronization of business cycles. The negative impacts of global economic crisis have been recorded both in the area of mutual international trade as well as in the synchronization of business cycles. The economic crisis has clearly negative impact on the process of the European economic and monetary integration; the benefits of integration are decreasing and the costs are increasing.

Introduction

The European Monetary Union, twelve years after its establishment, is facing its most difficult period due to the influence of the global economic crisis and European debt crises. The financial crisis, that has been influencing the global economy since the summer of 2007, is without precedent in post-war economic history. Although its size and extent are exceptional, the crisis has many features in common with similar financial-stress driven recession episodes in the past. The crisis was preceded by a long period of rapid credit growth, low risk premiums, abundant availability of liquidity, strong leveraging, soaring asset prices and the development of bubbles in the real estate sector. The transmission of financial distress to the real economy evolved at record speed, with credit restraint and sagging confidence hitting business investment and household demand, notably for consumer durables and housing. The cross border transmission was also extremely rapid, due to the tight connections within the financial system itself and also the strongly integrated supply chains in global product markets. The global economic crisis and European debt crisis significantly influenced the process of European economic and monetary integration: the benefits of the integration are decreasing and at the same time the costs of its maintenance are increasing. The crisis revealed a fact that the European Monetary Union joined together very heterogonous countries with different economic developments and with different approaches to fulfilling the conditions and abiding by the principles of the European Monetary Union functioning [1].

European economic integration can be described as a dynamic process influencing real convergence of the economies participating in it. The hypothesis of the integration process endogeneity assumes that the countries which participate in economic integration for a longer period of time should reach a higher level of the synchronization of the business cycles. The main theoretical basis for the analyses of cyclical and structural synchronization is the Theory of Optimum Currency Areas. On the basis of the theoretical principles, the benefits and costs connected with the entry to a monetary union are compared. Monetary integration represents, amongst others, the removal of “borders” for national currencies. This contributes to the
shortening of distances and changes in the structure of agents. Monetary integration also signals the willingness to participate in even broader economic integration, which includes, amongst others, issues of property rights, non-tariff trade barriers, labour policy, regulations, and social policies. A currency union strengthens the effects of the free market by being irrevocable. A common currency is also seen as “a much more serious and durable commitment” [11] than other monetary arrangements. It precludes future competitive devaluation, facilitates foreign direct investment and the building of long-term relationships, and is likely to encourage forms of political integration.

This article is a part of the grant of the Czech Science Foundation “Economic Integration and Globalization in Economics Theory and Reality”. The aim of this project is to map and also to compare the development of economic theories from the half of the 20th century where the influence of globalization and integrative processes is reflected; to analyze the fruitfulness of the application of these theories to the solution of economic – political problems in the EU; subsequently to determine the direction of the further progress of these theories as well as the interrelation between globalization and integration. The project aims to evaluate the applicability of the conclusions of the individual economic theories to economic policies.

1 Theoretical Framework and Related Literature

The analysis of cyclical and structural convergence is based on the Theory of Optimum Currency Areas (OCA). This theory is one of the often used approaches for the determination of the appropriate regime of the exchange rate and mainly for the decision whether an individual country is an appropriate candidate for single currency adoption. In connection with the introduction of the European single currency, the results of this theory are often used for the assessment of the advantages of the single currency adoption by European Monetary Union (EMU) countries and suitability of the application of the same procedure on new European Union (EU) members. The theory of Optimum currency areas was published by Prof. R. Mundell in 1961 in American Economic Review in an article called “The Theory of Optimum Currency Areas” [12] where an optimum currency area is defined as “a geographical area which has a high rate of product factors mobility and in the contrary factor immobility from the outside view and for these reasons it is recommended to have inner common currency and outer flexible exchange rate”. At the same time he tried to answer the question on what conditions it might be profitable for a country to give up control over its monetary policy and receive a common currency. Mundell reasoned that establishing a monetary union should be based on the comparison of benefits including the increase of trade among the countries involved with macroeconomic costs including the loss of two important means of macroeconomic stabilization (exchange rate changes and autonomy monetary policy) which can be seen especially unfavourable in the case when asymmetric shocks of demand or supply character appear. The substance of an asymmetric shock resides in the rise of unbalance, the source of which can be either on the side of demand or supply resulting from inner or outer economic conditions. Their common trait is the fact that they do not influence the whole monetary area, but only individual regions, they do not appear simultaneously, they are of different intensity and duration, and different is also the frequency of their appearance (e.g. under the influence of the uneven economic development of individual countries).

Mundell’s Theory of Optimum Currency Areas was not spared later criticism. The implicit assumption of decreasing and stable Phillips curve in a long term received strict criticism in the 60’s and 70’s of the 20th century in which it was argued that the substitution between inflation and unemployment is not possible in a long term. The basic model of the theory was also criticized by R. Lucas in [13], because it does not include the reaction on economic
policy; it means that the structure of economy is endogenous towards the applied economic policy. The model further did not include the existence of information barriers which decrease the effectiveness of economy subject decisions. The acceptance of these arguments led to the creation of modern Mundell’s model OCA. Other following theoretical works and empirical investigations mainly solve the question whether the loss of monetary tools used by individual countries before joining a monetary union will be substituted by effective mechanisms preventing or decreasing asymmetric shocks and whether union members or a monetary union as a whole will be able to cope with them. It is possible to find the recent form of the theory of optimum currency areas for example in the work “The New Theory of Optimum currency areas” by G. S. Tavlas in [15]. Empirical testing of the theory of optimum currency areas in works of the economists P. De Grauwe in [3] or Ch. Goodhard (2000) proved that there are practically no optimum currency areas in the world which would include more than one country. It still needs to be answered whether for effective functioning of a monetary union it is necessary to meet all the criteria. It is obvious that the higher degree of integration of all markets and general similarity of economy structures provide benefits from monetary integration and eliminate potential risks and negative impacts. On the other hand, even for economies which do not constitute an optimum currency area before a single currency adoption there is a possibility of convergence after single currency adoption. Another problem rests in the quantification of the criteria for an optimum currency area. The basic criteria can delimit higher or lower degree of their fulfilment but there are not any limit values which would determine the ability or inability of the country’s participation in a monetary union. [2]

The Hypothesis of the Integration Process Endogeneity was formed by J. A. Frankel and A. R. Rose in [8], which says that “the study of historical data provides distorted information on the suitability of the economy’s entry to a monetary union because the criteria of the OCA theory are endogenous”. The main idea of the hypothesis is that the criteria of OCA are met after the entry to a monetary union, thus ex-post, due to the increase of mutual integration of the countries. Endogeneities are a set of interacting processes improving the OCA-ratings of a currency area. Endogeneities are in the following four areas [4]:

- the endogeneity of economic integration primarily reflected on prices and trade
- the endogeneity of symmetry of shocks and of the synchronization of outputs
- the endogeneity of product and labour market flexibility
- the endogeneity of financial integration or equivalently of insurance schemes provided by capital markets

The hypothesis of the integration process endogeneity assumes that in the case of a quantitative or qualitative change in economic integration the expected benefits will be visible a certain time after the change occurred. If the quantitative barriers, free movement of production factors and a single currency are removed, it should result in the higher synchronization of business cycles. Each shift between the stages of economic integration should intensify this trend. The process of enlargement of the EU, in other words the increase of the number of countries participating in the integration process, should have the same effect.

A. K. Rose in [14] tried to verify this hypothesis on the basis of empirical measurements. In their study, they tried to test the validity of the hypothesis on the integration process in Europe. Its results demonstrated positive relations between the intensity of the mutual international trade and the synchronization of the business cycles. “Rose’s effect” has been supported by a number of other studies. Recent studies, however, warn that in the EMU the effect is rather limited [16]. R. Baldwin in [2] estimates that the average accrual of the mutual
international trade has been between 5-10% so far. He explains this development by the long-term development of the integration in Europe, which has been going on for more than 50 years. The study demonstrates that between 1960 and 2003 the mutual international trade between integrated European countries increased by 1200-1400% on average. Due to the high openness, which has been reached in the course of a long time period, it is not possible to expect further steep rise of international trade. The Rose’s effect will be reached within 30 years after the EMU has been established. J. Fidrmuc in [7] added to the analysis the characteristics of structural and institutional similarity of the integrating economies. The literature dealing with the endogeneity of international trade, financial integration, the symmetry of shocks and the flexibility of the labour market and products, based on the development in the EMU, come to a conclusion that hypothesis of the monetary integration process endogeneity is more likely to be valid. It means that the synchronization of economic shocks probably increases with the increased economic integration. The process of economic integration affects the symmetry of output fluctuations through diverse channels (Fig. 1). All positive conclusions respect Lucas’s criticism and Krugman’s hypothesis.

2 The Hypothesis of the Integration Process Endogeneity

The optimistic hypothesis of the integration process endogeneity assumes that the process of integration is connected with the growth of international trade and with the gradual higher synchronization of business cycles (Fig.2). Although, at the beginning of the integration process, the countries did not represent an optimum monetary area, they gradually, thanks to the increasing cooperation, formed one. The group is initially on the left of the OCA line. If these countries join European Union (EU), both trade integration and income correlation within the group will rise: they will gradually move to point B. If the same countries were to start a currency area (EMU), the degree of trade integration and income correlation within this group would rise even further, and the group would subsequently find itself on the right of the OCA line (point C). This process supports the hypothesis of the integration process endogeneity.

Source: De Grauwe; Mongeli 2005, adapted by author

Fig. 1: Effects of Economic Integration on Income correlation (Output (A)Symmetry)
The optimistic hypothesis of the integration process endogeneity

The Krugman’s hypothesis represents an opposite opinion of the monetary economist P. Krugman in [10]. According to him, if, in the framework of the developing integration process, all the barriers of mutual international trade are gradually removed, it can lead to the regional concentration of production connected with lower costs. Trade integration leads to higher specialization of countries and consequently also to the increase of the possibility of asymmetric shocks occurrence (agglomeration effect). Graphical interpretation of the The Krugman’s hypothesis is illustrated in Fig. 3. The growing specialization leads to the decrease of the synchronization of business cycles, and thus to the increase of the probability of asymmetric shocks. S. Kalemli-Ozcan, B. E. Sorensen, and O. Yosha in [9] state that the high financial integration due to risks sharing, which enables higher specialization, can have a similar effect. The argument runs as follows. Economic integration leads to better risk-sharing opportunities (income insurance) through financial market integration. This in turn makes specialization in production more attractive, rendering macroeconomic fluctuations less symmetric. The agglomeration effect results in the decrease of the business cycles synchronization (mutual international trade keeps growing) which leads to the shift from point C to point D. The benefits of the membership in a monetary union are greater than costs. If the impact of the agglomeration effect and specialization led to the shift from point C to E, the costs of a monetary union functioning would become greater than the benefits.

3 The impact of the global crisis to The Hypothesis of the Integration Process Endogeneity

The financial crisis, that has been influencing the global economy since the summer of 2007, is without precedent in post-war economic history. Although its size and extent are exceptional, the crisis has many features in common with similar financial-stress driven recession episodes in the past. The crisis was preceded by a long period of rapid credit growth, low risk premiums, abundant availability of liquidity, strong leveraging, soaring asset prices and the development of bubbles in the real estate sector. The transmission of financial distress to the real economy evolved at a record speed, with credit restraint and sagging confidence hitting business investment and household demand, notably for consumer durables and housing. The cross border transmission was also extremely rapid, due to the tight
connections within the financial system itself and also the strongly integrated supply chains in global product markets. EU real GDP shrank by some 4% in 2009, the sharpest contraction in its history (EC 2011a: 8) [5].

Cyclical synchronization, as measured by member countries similarity in the timing of cyclical peaks and troughs, has been on the increase in the Eurozone in recent years. Synchronization was particularly high during the latest recession and the early stages of the on-going recovery. In contrast, cyclical dispersion point to some divergence in member countries’ business cycles within the Eurozone in 2006-2008. The dispersion of output gaps measured by their standard deviation was remarkably low until 2006, when it picked up and was increasing steadily until 2008, reaching a level last seen in the early 1990s. This phase of divergence was followed by renewed convergence which was similar to the second half of 2008 but cyclical differences still remain significantly higher than between 1999 and 2005. Provided that business cycle synchronization (as measured by correlation) has, in the meantime, remained high or on an upward trend, the business cycle divergence over 2006-2008 can only be explained by rising member countries differences in the amplitude of business cycles. Competitiveness divergences and current account imbalances increased steadily in pre-crisis years and have in most cases largely persisted throughout the crisis. They have been underpinned by the build-up of a range of domestic economic imbalances in some member countries, including public and private debt, structural weaknesses and housing bubbles in some current-account deficit countries, as well as persistent weakness in domestic demand in some surplus countries (EC 2011b: 4,5) [6].

The most frequently quoted benefit of introducing a common currency is an increase in trade between the countries forming a single currency area as a consequence of lower transaction costs and the elimination of the risk arising from exchange-rate fluctuations. Statistics on trade between the Member States are based on Regulation (EC) No 638/2004 of the European Parliament and of the Council and Commission Regulation (EC) No 1982/2004 (amended by Commission Regulation (EC) No 1915/2005). The system set up for the collection of information on trade between the Member States as from 1 January 1993 is commonly known as Intrastat. The euro’s adoption did positively affect trade within the Eurozone in the form of
the intra-EMU trade increase. The effect on trade occurred very quickly, already in 1999 (according to some studies even a year before), and was supposed to grow gradually. This increase in intra-EMU trade was not at the expense of a smaller volume of trade with the non-members. Those countries which switched to the euro currency became generally more open to international trade, and thus strengthened their trading also with countries outside the Eurozone. Trade with non-members rose too. This increase was considered to include mainly non-members’ exports to the EMU as the results of studies dealing with EMU members’ exports to third countries are quite mixed, depending more on the particular sample used. The past two years highlighted the role of foreign trade as a transmission channel during economic crises. The global economic crisis was associated with a sharp slump in world trade which imposed a heavy toll on the growth in the Eurozone. The total Eurozone exports of goods and services (i.e. intra and extra) expanded rapidly during the decade preceding the crisis, growing in real terms by about 5-6% annually. Extra-Eurozone exports grew much faster, in real terms, than intra-Eurozone trade. The growth gap is, however, much lower in nominal terms reflecting much more muted inflation in extra-Eurozone than intra-Eurozone export prices. Differences in trade exposure can be partly explained by differences in trade openness. Trade was severely hit by the global economic crisis in 2008-2010, when extra and intra-Eurozone trade fell by 25% (EC 2011b: 8). Signs of recovery have been visible since the second half of 2009, but the level of exports still remains well below its pre-crisis peak.

Conclusion

It is too early to evaluate the hypothesis of the integration process endogeneity. On the basis of the empirical measurements of the development of economic and monetary integration in Europe, the hypothesis can rather be supported in pre-crisis period. In the period of crisis the positive impacts of the process of economic and monetary integration are suppressed (Fig.4).

![Graph showing the impact of global crisis on the integration process endogeneity](source: Own construction)

**Fig. 4: The impact of global crisis to integration process endogeneity**

The negative impacts of global economic crisis have been recorded both in the area of mutual international trade as well as in the synchronization of business cycles. The global economic crisis caused the decrease of business cycle synchronization and also the mutual international trade decreased. When illustrated by a graph, the economic crisis results in the deterioration...
of both parameters and the shift from point C to point F, in which the benefits are still greater than costs of the European Monetary Union functioning. If the economic crisis lasts for a long period of time or if other negative economic shocks influencing business cycles or mutual trade appear, a situation might occur when the costs of the European Monetary Union functioning became greater than the benefits which the monetary integration can provide its members with (point H). The current economic crisis has clearly negative impact on the process of the European economic and monetary integration; the benefits are decreasing and the costs are increasing. This negative development, however, can be limited in time. When the crisis ends and when the economic policies in EMU (EU) countries are set correctly, the recurrence of the positive effects of the economic and monetary integration can be assumed.

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Literature:


HYPOTÉZA ENDOGENITY EKONOMICKÉ A MĚNOVÉ INTEGRACE POD VLIVEM SVĚTOVÉ EKONOMICKÉ KRIZE

Hypotéza endogenity procesu ekonomické integrace předpokládá, že v případě kvalitativního nebo kvantitativního posunu v integračním procesu se očekávané přínosy projeví po určité době od této změny. Optimistická hypotéza endogenity procesu integrace dokazuje, že integrační proces je spojen s prohlubováním mezinárodních obchodních vztahů a doprovázen postupnou vyšší sladěností hospodářských cyklů ekonomik. Negativní dopady světové hospodářské krize však byly zaznamenány jak v oblasti vzájemného mezinárodního obchodu evropských zemí, tak ve vzájemně synchronizaci hospodářských cyklů. Světová ekonomická krize má jednoznačně negativní dopad na proces evropské ekonomické a měnové integrace, přínosy ekonomické integrace klesají a ekonomické náklady integrace se zvyšují.

ENDOGENITÄTSHYPOTHESE DER WIRTSCHAFTS- UND WÄHRUNGSINTEGRATION UNTER DEM EINFLUSS DER GLOBALEN WIRTSCHAFTSKRIZE


HIPOTEZA ENDOGENICZNOŚCI INTEGRACJI GOSPODARCZEJ I WALutowej POD WpływEM ŚWIATOWEGO KRYZYSU GOSPODARCZEGO

Hipotéza endogeniczności procesu integracji gospodarczej zakłada, iż w przypadku jakościowych lub ilościowych zmian w procesie integracji oczekiwane korzyści pojawią się po pewnym czasie. Optymistyczna hipotéza endogeniczności procesu integracji udowadnia, iż proces integracyjny związany jest z pogłębianiem międzynarodowych stosunków handlowych, i towarzyszy mu stopniowo większa spójność cyklów gospodarczych integrujących się gospodarek. Negatywne skutki światowego kryzysu gospodarczego odnotowano zarówno w dziedzinie handlu międzynarodowego państw europejskich, jak i we wzajemnej synchronizacji przebiegu ich cykli gospodarczych. Światowy kryzys gospodarczy ma jednoznacznie negatywny wpływ na proces europejskiej integracji gospodarczej i walutowej, ekonomiczne koszty funkcjonowania europejskiego ugrupowania integracyjnego gwałtownie się zwiększa i ekonomiczne korzyści integracji zmniejszają się.