

The Development of International Economic and Monetary Cooperation in Europe

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Abstract

Since the end of the World War II, Europe has gone a long way on the path of a new era of socio-economic integration, continually battling and overcoming the political and economic fragmentation of earlier eras and less developed economies.

The various difficulties and interruptions of the process involved, the European integration, since the 1952 European Coal and Steel Community, ranged from an initial small group to a large community comprising most European countries, the gradual removal of market barriers leading to the introduction of a customs union to the single market. Furthermore, the creation of Economic and Monetary Union and the adoption of the common currency have become the culmination of the whole process of economic integration, since the euro is used daily by 338.6 million Europeans in 19 EU member states. The aim of our research article is to closely analyze the development of the economic and monetary integration of Europe, since we believe that the single currency project represents a great success for the European Union as the result of long-term efforts on currency and economy stability, progress and economic growth.

Key words

Economic and Monetary Union, European Integration, Political Fragmentation

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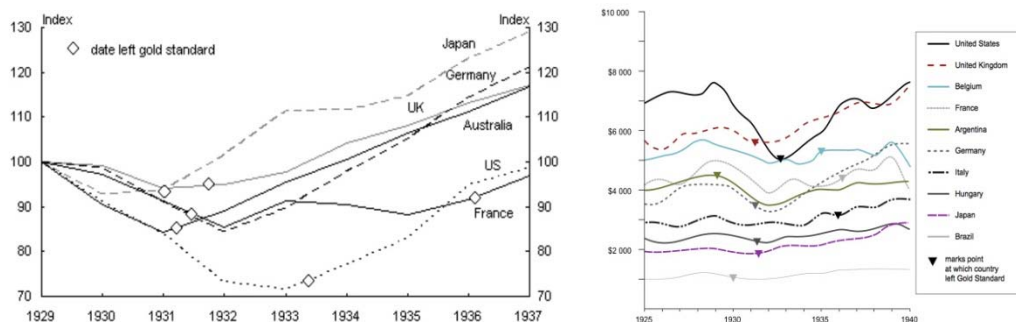
Introduction

The path to the European monetary integration has essentially began after World War II, abandoning the Gold standard. The classic gold standard was based on the gold cover of circulating banknotes and coins and their free convertibility for gold with basically three existing types called bullion, exchange and specie. The central bank of each country defined the gold content of its currency as a fixed parity between the value of all forms of money and the gold monetary unit. Coins or paper banknotes in circulation could then be exchanged for gold at any given moment and in any quantity upon request. That is why each state could only give as much money as it corresponded to its gold reserves. Fixed parity between national currencies and gold also meant a fixed exchange rate of national currencies to each other, de facto gold was the means of payment. However, such a fixed system is difficult to respond to changes in the performance of the economy and the balance of payments. Between the wars, the gold standard worked

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in a modified form - by the mid-1920s, most currencies had a floating exchange rate, then returned to the gold standard. Only the United States and the United Kingdom exchanged dollars, pounds for gold under certain conditions, the other currencies were settled at a fixed exchange rate, maintaining the so-called golden exchange system (Skousen, 2010). Naturally, this system has collapsed as a result of the economic crisis of the early 1930s (The Great Depression), with the following period characterized by instability and economic protectionism².

Scheme 1 Real GDP and Income Per Capita throughout the Great Depression



Source: D. Gruen - C. Clark, 2009

Although the economic crisis has demonstrated flaws in the fixed exchange system, perhaps even more powerful consequences of the experience of the interwar period were only hostile attitudes to floating exchange and foreign exchange markets because of their volatility and being the subject to speculation (although their instability was more likely to be caused by the poor economic situation in the interwar) (Ledbetter, 2017). The World War II destroyed international trade and international financial markets, while the creation of the post-war monetary system foundations and arrangement were laid down at the Bretton Woods Conference by agreements concluded on July 22, 1944, also establishing the International Bank for Reconstruction and Development (thus creating the World Bank³) and the International Monetary Fund.

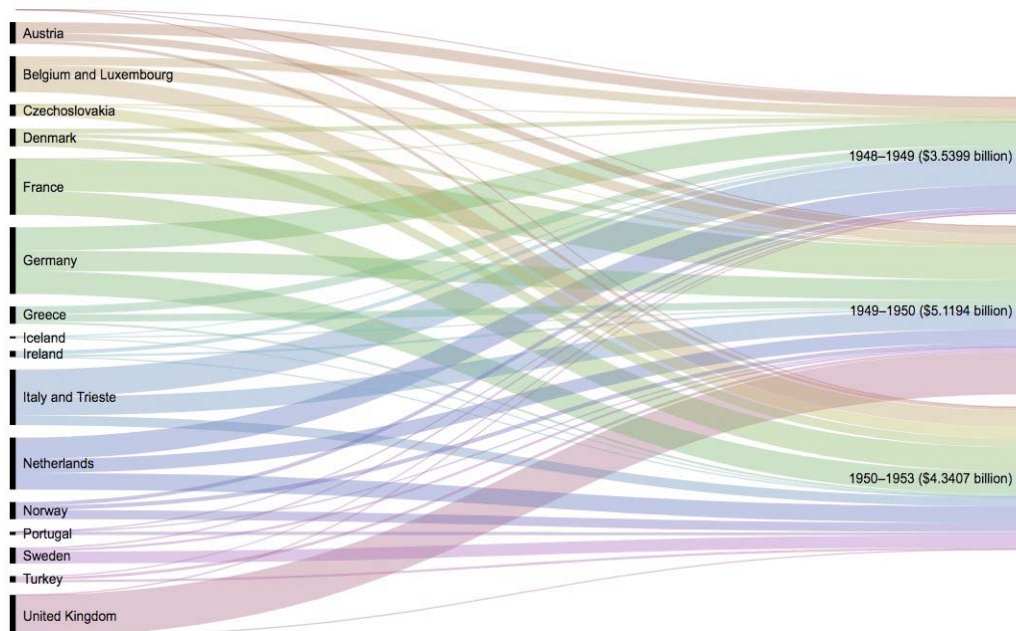
The Bretton Woods Monetary System was the first to be created on the basis of international agreements, based on a system of fixed but customizable rates, it also

² Protectionism was a result of the Great Depression, not a cause, since increasing tariffs didn't play an expansive part in the underlying exchange compression; like the staggering exchange constriction in the 2009 crisis, the decrease in exchange the mid 30s was overwhelmingly the aftereffect of the general monetary implosion. Where protectionism truly made a difference was in keeping a recuperation in exchange when production recovered. Moreover, taxes in Latin America were far higher than anywhere else in the century prior to the Great Depression. This is a shocking actuality given that this locale has been said to have exploited globalization compels superior to most amid the pre-1914 *Belle Époque* and for which the Great Depression has dependably been seen as a critical approach defining moment towards security and de-connecting from the world economy.

³ The Group consists of the International Bank for Reconstruction and Development, International Development Association, International Finance Corporation, Multilateral Investment Guarantee Agency, International Centre for Settlement of Investment Disputes.

contained a certain international authority - the International Monetary Fund (guaranteeing its stability) with the reserve currency the US dollar, the only currency convertible to gold but only to foreign central financial institutions (the other currencies were linked to the dollar). The US was obliged to maintain a strong dollar exchange rate against gold, the other members of the system were required to maintain a fixed exchange rate of their currency against the dollar and keep the given parity with a maximum deviation of $\pm 1\%$ (Helleiner, 2016). The exchange rates were maintained through intervention purchases and foreign exchange sales and all its members had to deposit a certain amount of money in gold and in their own currency at the entrance, from which the Fund then provided the states with loans for the balance of payments⁴.

Scheme 2 The Marshall Plan Aid Distribution Divided Among Per Capita Basis



Source: Author

The European countries joined the Bretton Woods system later - after the war their economies were greatly damaged. On their renewal, the US approved the so-called Marshall Plan (the European Recovery Program), an American initiative to aid Western Europe, providing Europe in the form of gifts and credits for goods and finance for over \$13 billion (approximately €114 billion in current value as of July 2017 according to NBS) between June 3, 1948 - September 16, 1953⁵. Hand in hand, for the administration of

⁴ In the event of a fundamental imbalance in the balance of payments, states could proceed to adjust their exchange rate against the dollar, so the odds were not entirely solid.

⁵ Also influenced by the London Agreement on German External Debts vs. the growing cost of the Korean War vs. the 1950 Congressional elections.

the assistance the European Organization for Economic Cooperation (on 16 April, 1948 and reformed in 1961 as the OECD) was established, whose members became all the states of Western Europe (at the time European currencies were not convertible and free trade between states was also problematic⁶). Under the Rome Agreements concluded on March 25, 1957 by France, Germany, Italy, the Netherlands, Belgium and Luxembourg, the European Economic Community was established (Behrman, 2008). The basic objectives of this regional organization were continuous economic growth, raising the standard of living and closer cooperation between Member States, which have committed themselves to the creation of a common market, an area with free movement of goods, services, persons and capital.

1 Methodology

On May 9, 1950, Robert Schuman presented his vision on the formation of a strong and united Europe, based on peaceful relations. In the 1957 Treaty of Rome there is no single chapter on the concept of a common monetary policy. It contains only general declarations on the maintenance of monetary stability and balance of payments. It was not necessary because all the members of the European Economic Community⁷ were at the same time also members of the Bretton Woods Monetary System, which at that time operated smoothly, and European integration had not yet reached such a level that it would be necessary to implement a single monetary policy (Eichengreen, 2008). In the future, monetary integration was anticipated and the first plans for its introduction were soon launched.

The aim of our research article is therefore to closely analyze the development of the economic and monetary integration of Europe as the result of long-term efforts on currency and economy stability, progress and economic growth. Naturally, a distinct view of the growth process is developing within the evolutionary paradigm and towards the continually improved mathematical formalization of this process. To start with, on simply conceptual grounds, development is considerably closely related to the innovative change, whereas labour productivity furthermore includes the impacts of the probably less particular procedure of capital extending. Besides, because of the absence of industry particular value deflators, ostensible qualities are supported by the impacts of general value swelling. Conversely, socio-economic growth is very closely related to advances in productivity. According to American economist Arnold C. Harberger, this can be demonstrated through aggregate labour productivity growth, where the cumulated shares of

⁶ To eliminate this fragmentation, the European Payments Union was established (from July 1950 to December 1958, after this period it was superseded by the European Monetary Agreement after completing its role) to take over all the mutual claims and liabilities of the Member States and to transfer them to the only amount that the Member State would have to pay or receive on the other hand. This arrangement allowed the elimination of mutual trade barriers and reduced the need for gold and dollars, greatly contributing to the revival of the European trade and restored the convertibility of the European currencies.

⁷ One of the three European Communities (hand in hand with the European Coal and Steel Community and the European Atomic Energy Community, which were in existence since 1958 until 2009. The European Community was founded on July 1, 1967, when the three Communities joint bodies on the basis of the Merger Treaty.

each of i industries in the total value added of manufacturing in the base year by are indicated on the horizontal axis:

$$CS(VA_{i,by}) = \frac{\sum_{c=1}^i VA_{c,by}}{VA_{tm,by}} \quad (1)$$

where CS represents cumulated shares; VA represents value added; tm represents total manufacturing; Δ represents cumulated changes; LP represents labour productivity, while the cumulated commitments of every industry i to the adjustments in aggregate work productivity between the final year fy and the base year by of the perception time frame are demonstrated on the vertical axis:

$$C\Delta(LP_i) = \frac{\sum_{c=1}^i (LP_{c,fy} * \frac{L_{i,fy}}{L_{tm,fy}} - LP_{c,by} \frac{L_{i,by}}{L_{tm,by}})}{LP_{tm,fy} - LP_{tm,by}} \quad (2)$$

Before the cumulated shares can be figured, enterprises must be arranged by the proportion of their offer in efficiency development and their offer in esteem included amid the base year. The subsequent Lorenz-type curve is a visual portrayal of the level of fixation with respect to the commitment of individual ventures to the adjustments in total work efficiency.

1.1 Structural Bonus or Burden: The Relationship between Structural Change and Economic Growth

First of all, enterprises for the most part don't contribute similarly to general development in labor productivity. The measure of variety watched infers that decent variety and heterogeneity at the level of business sectors and ventures are verifiable realities of monetary improvement. Also, structural change itself isn't a uniform procedure. It shows up in groups and is more articulated for a few businesses in specific periods, and less in others. Thirdly, there exists a specific inclination for structural change to be more articulated amid periods of low total development, while smoother advancements are frequently apparent in conjunction with bigger productivity increments by and large. In this manner, the inquiry is to what degree the watched varieties crosswise over ventures netly affect macroeconomic advancements. Do they offset each other, or are there more orderly powers, so that as a total their joined effect has any kind of effect? The basic structural bonus hypothesis, for instance, proposes a positive connection between structural change and financial development, in view of the presumption that amid the procedure of monetary improvement, economies overhaul from exercises with moderately low productivity levels to ventures with a higher esteem included per work input (Szirmai, 2000). This hypothesis is introduced principally in reference to the assembling part. In spite of the fact that the forecast it suggests isn't generally very exact, we can, at any rate with the end goal of the accompanying examination, take it as a desire that the reallocation of work favors ventures with more elevated amounts of work productivity.

On the other hand, the well-known cost disease contention of unequal development introduced by Baumol (1967, 1985) bolsters a hypothesis in light of the structural weight of created economies, essentially identified with administrations. It essentially expresses that in view of the constrained potential to build work productivity through mechanical advance and the cumulation of reciprocal contributions to creation, enterprises, for example, a large portion of the individual, social and open administrations, can't make up for the ascent in wage levels, constrained upon them by the more dynamic businesses with high productivity development. The result is a characteristic and unavoidable ascent in the cost of generation and expanding shares in work and ostensible yield. Subsequently, the particular hypothesis concerning Baumol's cost disease is that work assets bit by bit shift from dynamic businesses with high productivity development towards less dynamic ventures described by bring down rates of productivity development. It infers a negative effect of structural change on the prospects for total development. Shift-share examination gives advantageous methods for researching both the structural bonus hypothesis and the pertinence of Baumol's cost disease. Applying the same methodology, we decompose the aggregate growth of labour productivity into three separate effects:

$$growth(LP_T) = \frac{LP_{T,fy} - LP_{T,by}}{LP_{T,by}} = \frac{\overbrace{\sum_{i=1}^n LP_{i,by} (S_{i,fy} - S_{i,by})}^{I: \text{static shift effect}} + \overbrace{\sum_{i=1}^n (LP_{i,fy} - LP_{i,by}) (S_{i,fy} - S_{i,by})}^{II: \text{dynamic shift effect}} + \overbrace{\sum_{i=1}^n (LP_{i,fy} - LP_{i,by}) S_{i,by}}^{III: \text{withing growth effect}}}{LP_{T,by}} \quad (3)$$

where T represents Σ over industries i ; SL_i represents share of industry i in total employment ($= L_i/L_T$).

The auxiliary part is ascertained as the total of relative changes in the assignment of work crosswise over businesses between the last year and the base year of the period under perception, weighted by the underlying estimation of work efficiency in the base year. This segment is known as the static move impact. It is certain/negative if ventures with higher profitability draw in progressively/less work assets and consequently increment/diminish their offer of aggregate business. With the end goal of this area, we indicate the basic reward theory as far as the beneficial outcome this first segment has on the total development of work efficiency. The structural bonus hypothesis of manufacturing (m represents number of manufacturing industries):

$$\sum_{i=1}^m LP_{i,by} (S_{i,fy} - S_{i,by}) > 0 \quad (4)$$

Besides, dynamic move impacts are caught by the entirety of collaborations of changes in labor shares times changes in labor profitability of businesses. In the event that ventures increment both work profitability and their offer of aggregate business, the joined effect is a positive commitment to general efficiency development. (Obviously, the same applies if businesses are portrayed by a synchronous fall in labor efficiency and work shares). As it were, the collaboration term winds up bigger, the more work assets move towards enterprises with quick profitability development. The connection impact is however negative, if ventures with quickly developing work efficiency can't

keep up their offers in absolute business. The negative impact is bigger, the more enterprises with high profitability development are looked with declining business shares. This association term is by all accounts an advantageous apparatus for catching the fundamental forecast of Baumol's cost ailment, which predicts that business offers will move far from dynamic ventures towards those with bring down work profitability development (the structural burden hypothesis of services):

$$\sum_{i=1}^n (LP_{i,fy} - LP_{i,by})(S_{i,fy} - S_{i,by}) < 0 \quad (5)$$

The third impact relates to development in total work efficiency under the presumption that no basic movements have ever occurred and every industry has kept up an indistinguishable measure of offers in all out work from amid the base year. To maintain a strategic distance from a typical deception, we should however review that the as often as possible saw close equality of inside industry development and total development can't be referred to as proof against expansive varieties in industrial structure. Pointers of relative size for specific sorts of economic exercises are decidedly identified with the level of economic improvement. Through the span of time, nations not just tend to build their GDP per capita, yet in addition encounter methodical increments in the extent of the services area relative to the economy. As it were, wage development and moves in the sectoral composition of output are synchronous highlights of economic advancement, while the positive connection between industrial structure and economic and monetary advancement can't be decreased to the basic relationship in time between salary development when all is said in done and some particular, quickly developing segment.

2 Results and Discussion

2.1 Monetary Cooperation in Europe

Monetary policy, which was fully national and in the competence of individual states at the time of European Communities, should only create the necessary conditions for the functioning of the European market, while its concept was not yet developed by the Treaties of Rome. The absence of monetary policy co-ordination during the initial period of the European Economic Community activities has been linked both to the relatively favorable economic development of the member states and to the fact that countries have not yet reached such a degree of social, economic and political integration that would enforce a single or coordinated monetary policy however, situation changed when a proposal for coordinating the monetary policy of the Member States was submitted in the European Commission's action programme of October 24, 1962 (more widely known as the Marjolin⁸ Memorandum) (McCormick, 2017). The inadequacy of the scope and quality of the monetary cooperation at that time was particularly evident, namely during

⁸ Named after French economist Robert Marjolin, who was directly involved in the formation of the European Economic Community.

the 1968 monetary crisis (the most serious economic crisis since the Great Depression, leading to the situation where no longer was the dollar convertible to gold), to which France responded by the temporary introduction of foreign exchange restrictions, and in the following year the devaluation of the French franc was 11.11% and the revaluation of the West German mark by 9.29% (Darby, 1984). The accelerated rate of inflation has prompted a speculative movement of capital, which eventually caused considerable imbalances, while it turned out that the monetary policy co-ordination mechanism, based only on mutual consultations and the willingness of stakeholders, was definitely insufficient.

2.2 The Origins of European Monetary Integration

The Hague conference in 1969, led by Luxembourg Prime Minister Pierre Werner, a group of experts was commissioned to draw up a plan for the transition of European Community Member States to Economic and Monetary Union. This plan, also known as the Werner Plan⁹, was submitted to the Council of Ministers on October 8, 1970 and became the basis of the concept of the European Monetary Union. The plan was a compromise between two previously prevailing views on the future economic and monetary union: economists, who argued that monetary integration must be preceded by economic convergence and economic policy coordination, and monetarism seeking to fix the exchange rates, where fixed rates would force the Member States to achieve convergence and harmonization of economic policies. The first group, led by German, Netherlands and Italian economists, preferred the coordination of economic policies as a prerequisite for the creation of a monetary union. On the other hand, the second group, led by France, Belgium and Luxembourg placed emphasis on a common monetary policy that should lead to deeper coordination of economic policies (Steinherr, 1994).

Based on Raymond Barre's Report (the first and second Barre Plans¹⁰), which addressed rather the initial phase of monetary union, it contained proposals for closer monetary co-operation in the form of co-ordination of convergence-oriented macroeconomic policies and the creation of mutual lending mechanisms, later, the Schiller Plan (note from the German Finance Ministry and Minister for the Economy, Karl Schiller, on a stage-by-stage European monetary integration from January 22, 1970) was published, which, on the other hand, discussed the final phase of replacing national currencies with a common currency (Badinger, 2015). Economic and Monetary Union should be put in place after a long preparatory period to achieve convergence, a fixed three-phase timetable was set to expire in 1980. According to the report, all obstacles to the movement

⁹ It contained a common concept of the functioning of Economic and Monetary Union, to be set up in three stages over the course of ten years. The plan foresaw the introduction of a complete and irrevocable convertibility of national currencies in exchange rate stability and the immutability of currency parities; a single monetary policy driven by the central monetary institution; centralized decision-making on economic and budgetary policy; a common policy on capital movements and unification of tax systems.

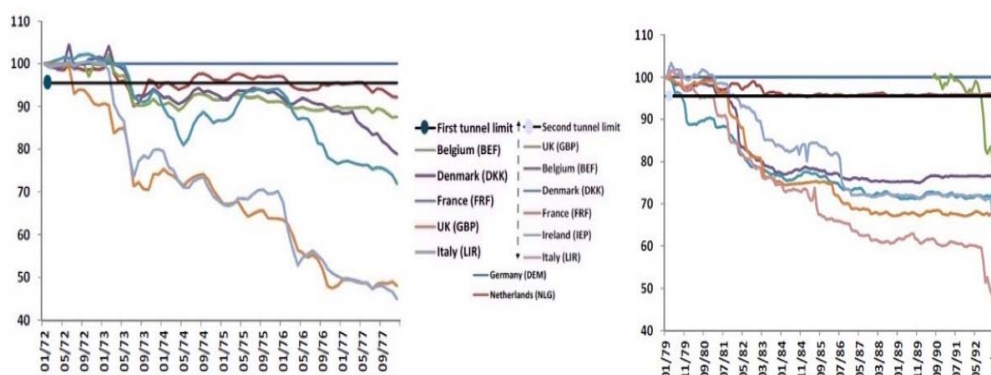
¹⁰ On February 12, 1969, the European Commission, prompted by Vice-President Raymond Barre, submitted to the Council document called "Memorandum on the coordination of economic policies and monetary co-operation within the Community".

of factors of production should be removed, monetary and fiscal policies should be managed by central institutions and regional and structural policy should also be coordinated.

2.3 Bretton Woods Crisis and European Currency Snake

In the early 1970s, the Bretton Woods crisis culminated in a deficit of the balance of payments, budget deficits and inflation in the U.S., yielding much more dollars than their gold reserves, which de facto devalued the U.S. dollar (however its rate was fixed against gold). Central banks have therefore been forced to intervene to keep the U.S. dollar at a certain level, foreign banks have created U.S. dollar reserves, while gold reserves have narrowed in the United States.

Scheme 3 Bretton Woods Crisis Affecting European Community Members



Source: Author

Ultimately, the situation became unsustainable, on August 15, 1971, the U.S. announced the abolition of the dollar's convertibility for gold (nor did the later devaluation of the dollar and the expansion of the fluctuation bands help). Based on the G10 Smithsonian Agreement of December 18, 1971 to stabilize monetary relations, the fluctuation of the exchange rate fluctuation band from $\pm 1\%$ to $\pm 2.25\%$ against the U.S. dollar has taken place (Kumar, 2014). This has contributed to the temporary reassuring of the international financial markets and thus to the creation of favorable conditions for the continuation of economic and monetary union within the European Community.

However, the newly-agreed margin was too broad for Western European countries seeking to deepen economic integration, allowing the exchange rates of national currencies to fluctuate within the range $\pm 4.5\%$. As a result, the central banks of the European Community countries¹¹ lowered the exchange rate oscillating between member states from $\pm 2.25\%$ to $\pm 1.125\%$ on April 24, 1972, while committing to maintain their exchange rates to all non-participating countries within a broader range. Thus, the exchange rates of the European Community member states should move against the dollar

¹¹ Including the future members of Denmark, Ireland, Norway and the United Kingdom.

in the expanded fluctuation band against the dollar, in sort of dollar tunnel of 4.5%, while the exchange rates of the national currencies constituted a "snake", whose width was 2.25%. In addition, the Netherlands, together with Belgium, narrowed the fluctuation band of their currencies to $\pm 0.75\%$ from the base parity, creating a "worm within the snake tunnel" (Herrmann, 2017). On a related note, in 1973 all major currencies set a floating exchange rate against the dollar, which meant the end of the Bretton Woods system (since the dollar snake did not work well, in the economic situation, some currencies could not maintain stability and the snake left) (Szász, 1999).

The currency arrangement did not last long, as the United Kingdom, Ireland, Italy and Denmark (which returned to it in October again) left in February 1973. Due to the continued depreciation of the U.S. dollar, the obligation to keep the oscillatory band to the dollar at $\pm 2.25\%$ was abolished in March 1973. However, it remains the duty to maintain a margin of $\pm 1.125\%$ between the national currencies of the European Community member states. The currency snake stepped out of the tunnel, and the currencies of the member countries could move freely against the dollar. In the same year, the oil crisis broke out and because of the Israeli-Arab war, the Arab countries have embargoed oil exports, as a result, the price of oil has risen fourfold, the prices of other energies have risen, consumption and investment have fallen. Economic growth has stalled, because of the wrong policy of some countries and the result was stagflation.

2.4 Entering the Wider Europe: Economic and Monetary Union

The currency instability triggered by the transition to a system of freely fluctuating exchange rates has had a negative impact on the functioning of the existing integration mechanisms within the European Community. This has led member states to accelerate efforts to achieve monetary integration. Several proposals were published in the second half of the 1970s and succeeded in a plan prepared by German Chancellor Helmut Schmidt and French President Valéry d'Estaing, which was first introduced at the Copenhagen Council on April 7, 1978 at the Summit in Bremen. In July, it was decided to implement this plan and it was adopted at a meeting in Brussels on December 4, 1978. The European Monetary System was due to start functioning on January 1, 1979, eventually beginning with a slight delay on 13 March. It was based on three elements - the European Currency Unit, the Exchange Rate Mechanism, and the credit mechanism.

The European Currency Unit was a weighted basket of European currencies in which each currency had a share corresponding to the average of the country's share of GDP in the European Community, the share of the European Community's internal trade and the share of financial resources in the European Monetary System. As part of the European Currency Unit, the currencies of the states that joined the European Community before the Maastricht Treaty came into being, others were not accepted as the introduction of the common currency was under way. The European Currency Unit was used in central bank payment transactions for interventions to support exchange rate stability and to mitigate balance of payments deficits. Emissions of the official European Currency Unit have been entrusted to the European Monetary Cooperation Fund, the states have deposited 20% of their gold and dollar reserves and, as a counter value, corresponding amount in the European Currency Unit was credited to them. The official

use of the European Currency Unit was limited, but there was also the so-called private European Currency Unit used for a range of financial operations on international markets. The European Exchange Rate Mechanism was similar to the Bretton Woods system based on fixed but customizable exchange rates. Member state currencies were tied together in pairs in a parity grid with a fluctuation margin of ± 2.25 ¹² around the central exchange rate of the European Currency Unit.

Additionally, in the event that the exchange rate fluctuated beyond the margin allowed, the banks of both countries concerned were obliged to step up foreign exchange interventions and stabilize the exchange rate once again. To avoid having to intervene when the rate reaches the critical threshold, the so-called divergence indicators were introduced (75% of the allowed fluctuation margin), the country had to take precautionary measures to stabilize the exchange rates (calculated from the exchange rate to the European Currency Unit) (Spahn, 2010). If foreign exchange interventions were not enough to stabilize the exchange rates, it was possible to adjust the exchange rate parities with the mutual agreement of the member states finance ministers. However, not all members of the European Community and the European Monetary System were members of the European Exchange Rate Mechanism, since participation was not mandatory. The European Monetary Cooperation Fund has provided the member states with different types of loans - very short-term for foreign exchange interventions; short-term balancing of balance of payments deficits and medium-term payments in case of serious balance of payments disequilibria, which could harm the Economic Community as a whole.

The European Monetary System has had a positive impact on the European economy, since the exchange rates stabilized during the 1980s, when their fluctuations shrank by more than half. In particular, the second half of the 1980s was a period of stability, with inflation falling. But in 1992 and 1993, there was a major crisis¹³ of the European Monetary System. As a result, there was a series of devaluation, Italy and the United Kingdom even came out of the European Monetary System and moved to a floating course. The turbulence in the financial markets has deepened the economic recession. Finally, it was decided to extend the fluctuation band to $\pm 15\%$, in order to maintain the European Monetary System at least in some form. The monetary stability achieved through the operation of the European Monetary System has given rise to further steps leading to deepening economic integration within the European Community (Druol, 2012). One of these steps was the adoption of the Single European Act (the first major revision of the 1957 Treaty of Rome) on July 1, 1987, and in which the accession of the European Community member states to the single internal market¹⁴ was contracted.

The Economic and Monetary Union Report in the European Community countries, or the Delors Report, was another important step leading to closer cooperation in the economic and monetary spheres. It was drawn up by a group of experts, principally

¹² In the case of Spain, the United Kingdom, Italy and Portugal, a temporary wider fluctuation margin of $\pm 6\%$.

¹³ After the reunification of Germany, the country was facing inflation, trying to resolve it with a restrictive monetary policy and maintaining high interest rates, but the economy of the other members who had been associated with the German mark was stagnant at that time and was unable to keep its course against the German mark, adding speculative attacks on weakened currencies.

¹⁴ After As a result, the European Single Market was launched on January 1, 1999.

governors of the central banks of the Member States under the leadership of the President of the European Commission, Jacques Delors, and presented¹⁵ to the Council of Ministers on April 12, 1989. The European Council discussed the Delors Report in Madrid on 26-27 July 1989, approving the start of the first stage on July 1, 1990. The further development of integration, not only in the economic field, necessitated a change in the founding treaties.

Scheme 4 Maastricht/Euro Convergence Criteria

What is measured?	How it is measured?	Convergence criteria
Price stability	HICP inflation	Not more than 1.5% above the rate of the three best performing countries
Sound public finances	Government budget deficit	Reference value not more than 3%
Sustainable public finances	Government debt-to-GDP ratio	Reference value not more than 60%
Durability of convergence	Long-term interest rates	Not more than 2% above the rate of the three best performing countries in terms of price stability
Exchange rate stability	Deviation from a central rate	Participation in the European Exchange Rate Mechanism for two years

Source: Author

Therefore, it was decided at the Strasbourg Summit to convene an intergovernmental conference and at the same time enabling a political union. The conference was held at the Rome Summit on December 15, 1990 and was finally completed at the Maastricht Summit on 9-10 December 1991 by the Treaty of the European Union (known as the Maastricht Treaty), which was solemnly signed on February 7, 1992. The Treaty, entered into force on November 1, 1993 (after all 15 member states had ratified it), formally establishing the European Union (Hix, 2011). Furthermore, it divided the

¹⁵ This Report later became a binding document defining the basic organizational principles in the creation of Economic and Monetary Union within the European Community. The Delors Report, in many ways, followed Werner Plan, but it was not only about coordinating monetary policy at the transnational level, but also about introducing a common currency to replace the national currencies. The Report proposed three phases of the Economic and Monetary Union. As part of the first phase (1. 7. 1990 - 31. 12. 1993), the convergence of economic policies and the stability of member states' economies were strengthened, with all countries participating in the European Exchange Rate Mechanism. During the second phase (1. 1. 1994 - 31. 12. 1998), the member states' oscillating currencies were narrowed and the European Central Bank and the European System of Central Banks established. In the third phase (1. 1. 1999 - 1. 1. 2002), sufficient economic convergence was anticipated and the process of fixing exchange rates, replacing national currencies with a common currency (Chang, 2016).

agenda of the European Union into transnational and intergovernmental, while the Economic and Monetary Union has become part of the first transnational pillar.

Conclusions and policy implications

European Economic and Monetary Union have gone through a long development, from signing the Treaty of Rome, which enabled the European Economic Community and have successfully created a customs union, through Maastricht Treaty to Lisbon Treaty, actively reforming many legal structures of the Union. Moreover, during the first stage of the Monetary Union, all intentions in the area of exchange rate stability have not been realized at first, as there has been no involvement of all member states in the European Exchange Rate Mechanism. This was due to the fact that the start of the first phase occurred at a time that was not marked by favorable economic conditions. Increasingly, partially reaching the point, where the European Community members have shown significant differences in economic performance and as it was previously stated the second stage of Economic and Monetary Union would begin on January 1, 1994 however, the deadline was shifted by one year at the request of Spain. In connection with this, the situation stressed the need for a sufficient convergence of the European Community economies before the introduction of the common currency. In the second phase, monetary policy remained the responsibility of the national central banks, which were still responsible for coordinating economic and monetary policies to meet the convergence criteria, namely achieving monetary stability. The European Monetary Institute has also begun to contribute to the development of cooperation between the member states' central banks, while the governing body was the Council, made up of the President, Vice-President and Central Banks' Governors.

After protracted litigation, it was decided that the start of the third stage should be decided by the qualified majority at the latest by January 1, 1997, subject to the condition that most countries would meet the convergence criteria. Otherwise, the third phase would start automatically on January 1, 1999, whether the criteria would be met by any number of states. The whole process was planned as irreversible, no one would be able to withdraw from the treaty later and refuse entry to the Economic and Monetary Union. Exceptions were the United Kingdom and Denmark, which had negotiated an exception as soon as the EU Treaty was signed. The entry into the third stage of the Economic and Monetary Union and the adoption of the common currency required certain conditions to be met to ensure that euro area monetary stability was maintained. States were obliged to adapt their legislation in line with the requirements of the Economic and Monetary Union, for example, to adjust the status of central banks and ensure their independence. Another condition was the achievement of the convergence of the economies, for which purpose the so-called Convergence or Maastricht criteria were established. Price stability, public finance, interest rate developments and currency stability were monitored. We can conclude that after complicated negotiations, it was agreed that building Economic and Monetary Union would be based on a fixed timetable and a requirement to meet the convergence criteria, while the result is extremely successful social, economic and political convergence development performance-wise and compromise between different requirements of members.

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A Search for an Optimum Currency Area

Martin Hudec¹

Abstract

Economic and monetary integration is the result of unifying efforts that have become a major driving force in post-war Europe. Although some of the initial initiatives, the Monetary Union project has many times been on the brink of interest. It can be as the surprise that Europe has managed to implement the common currency so soon and relatively smoothly. Nevertheless, even after its launch, this project has never completely abandoned criticism and discussion of the legitimacy and meaningfulness of its existence. Critical attitudes to the introduction of the common currency in the European Union are based above all on the Optimum Currency Area theories. The theoretical concept of optimal currency areas is currently considered a standard tool for assessing monetary integration efforts in Europe. OCA criteria are used to estimate the readiness of the candidate countries to adopt the euro, while the convergence processes are linked to the decision on the euro adoption timeline. The aim of our research article is, therefore, to closely analyze the issue of monetary policies and optimal currency areas in the context of convergence efforts towards more closely integrated economic and monetary unions.

Key words

Political Integration, Monetary Policy, Transmission Mechanism

JEL Classification: O4, O10, O52

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Introduction

Monetary policy belongs to the core functions (from the point of view of the functioning) of the central bank and is at the same time one of its defining features. Furthermore, it means the central bank's activity associated with the regulation of the amount of money in the economy, which is linked to the use of certain instruments and pursues certain objectives. By regulating the amount of money in the economy, monetary stability is to be achieved, for which it is considered a state where the money supply M_s , corresponding to the amount of money in circulation, equals the demand for money M_d , i.e. the economically necessary amount of money in circulation. Therefore, we can say that the central bank is trying to maintain the economically needed amount of money in circulation. Since there is no way to determine the economically necessary amount of money in circulation and the same problem arises with determining the real amount of money in the economy, the disruption of monetary stability can only be recognized only

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side-effects. In controlling the amount of money, the central bank is centered on a monetary basis, which is made up of the total volume of bank reserves and currency outside the banking sector, and through which it mediates its influence on money supply in the economy.

Monetary policy objectives are usually set by law to the central bank, but almost always is the main one the price level stability. Other objectives that the central bank can monitor in its policy include balance of payments, support for economic growth, exchange rate stability, employment support, interest rate stabilization, and the stability of financial markets. The central bank basically carries out three types of monetary policy - expansive, restrictive and neutral (Meade, 2007). Firstly, if it applies an expansive monetary policy, it seeks to accelerate the growth rate of the amount of money in circulation, assuming the inflation rate is relatively low. It uses reduced interest rates on operations that money circulation-wise, thereby reducing interest rates in the economy, and thus supports the willingness of commercial banks to provide loans and clients to accept them. The willingness of households and companies to spend money increases, the speed of circulation of money is increasing, which ultimately leads to growth in the economy.

This expansive policy is chosen in the event of economic downturn, high unemployment, high interest rates, while the inflationary threat is small. Under the restrictive monetary policy, on the other hand, by increasing the interest rate on operations used by the central bank to regulate the amount of money in circulation, other interest rates in the economy will increase, which will lead to greater reluctance to provide and receive credit. As the price of money increases, households and businesses spend less willingly. Secondly, for a restrictive monetary policy, the central bank will decide in the case of too strong economic growth, which puts pressure on wage growth and consumer prices, low unemployment, and impending inflation. Thirdly, a neutral monetary policy is based on the pursuit of a stable rate of growth in the amount of money in circulation. Central banks can implement their monetary policy under the four-basic regimes² to facilitate their decision-making and make these decisions understandable to the public (Burda, 2015).

1 Methodology

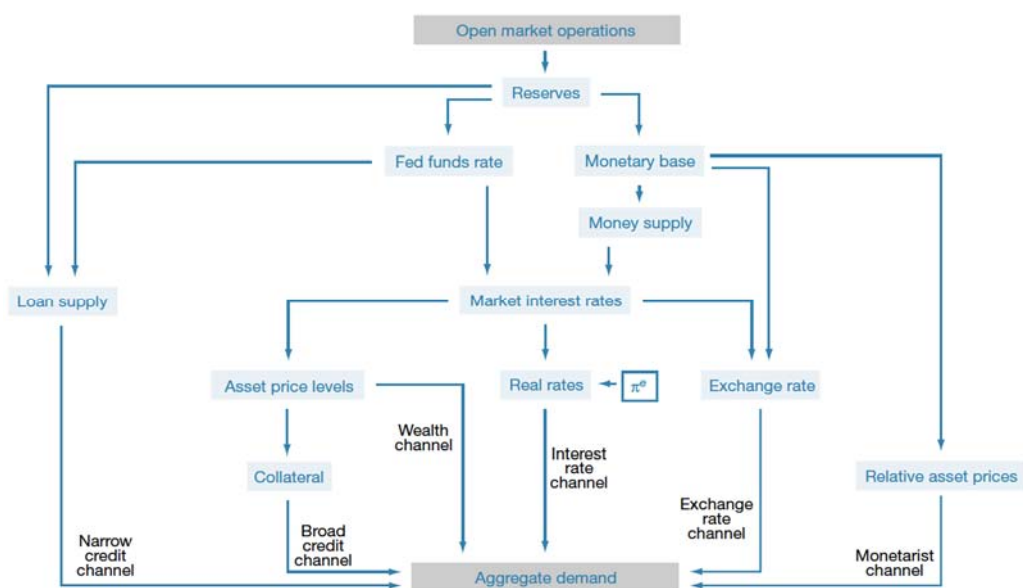
The central bank has several instruments available to implement monetary policy, which can be divided into direct and indirect monetary policy instruments according to the impact on the behavior and operation of the banking system. The main difference between these two groups of instruments lies in the extent of their impact on the banking system. Indirect instruments operate on a broader basis for banking institutions, creating unified conditions for their operation. Direct instruments are mostly the nature of administrative regulations, and their effect on the banking system is selective and addressable, the central bank seeks to influence the credit facilities and liquidity of commercial banks. Basic indirect instruments include open market operations, regulation of

² Implicit nominal anchor regime, monetary targeting, currency targeting, inflation targeting.

minimum reserve requirements and discount instruments and exchange rate interventions as an independent part of the central bank's monetary policy.

The essence of monetary policy lies in using its instruments to achieve the ultimate target of monetary policy - usually price stability. However, with the monetary policy instruments, this ultimate target cannot be achieved directly, but only through the operational criteria, i.e. the market short-term interest rate that central banks can influence by their instruments (Spanjers, 2009). According to well-known or at least forward-looking estimates, the operational criteria apply to intermediate criteria, which once again, according to known or supposed links effect the final objective of monetary policy. This chain of bonds is then referred to as a transmission mechanism, while we distinguish three basic transmission mechanisms - monetary, credit and exchange. The operational and mediating criteria for individual mechanisms are closely illustrated in Scheme 1. Monetary transmission is a complex and interesting topic because there is not one, but many, channels through which monetary policy operates. The process begins with the transmission of open market operations to market interest rates, either through the reserves market or through the supply and demand for money more broadly. From there, a transmission may proceed through any of several channels. The interest rate channel is the primary mechanism at work in conventional macroeconomic models. The basic idea is straightforward: given some degree of price stickiness, an increase in nominal interest rates, for example, translates into an increase in the real rate of interest and the user cost of capital. These changes, in turn, lead to a postponement in consumption or a reduction in investment spending. This is precisely the mechanism embodied in conventional specifications of the investment–saving curve – whether of the Old Keynesian variety, or the forward-looking equations at the heart of the New Keynesian macro models" (Kuttner, 2002).

Scheme 1 The Transmission Mechanism and Instruments of Monetary Policy



Source: Kuttner – Mosser, 2002

The aim of our research article is, therefore, to closely analyze the issue of monetary policies and optimal currency areas in the context of convergence efforts towards more closely integrated economic and monetary unions. Therefore, the real added value of our research article is a synthesis of the theoretical approaches and functional principles of the partial aspects of the monetary union. In relation to our aim, we have constructed the following research questions:

- How do asymmetric shifts affect monetary and non-monetary union countries?
- What kind of economic shocks do we distinguish and how do they relate to the issue of fixed vs. floating exchange rate?
- Which factors affect the convergence processes?
- Which aspects are important when measuring convergence?
- What is the difference between nominal, real and price convergence?
- What are the most important optimal currency area criteria?
- Can high market liberalization also have negative effects?

2 Results and Discussion

2.1 Ever closer to Heaven? The Relevance of Optimum Currency Area

Since concepts of monetary area and monetary union can be found in many optimum currency area theories, it is appropriate to define them. Firstly, the currency area is a fixed exchange rate regime where two or more currencies are fixed in the territory of each other. Secondly, the currency union consider fixed exchange rate regime, which includes the commitment of the member states to share a single common currency (Brunnermeier, 2016). However, most authors use the terms monetary area and monetary union as synonyms. Moreover, the development of optimum currency area theories can be defined as early – traditional and contemporary – alternative. Traditional³ ones, which arise in the 1960s, analyze the absorption of economic shocks and we can mark them as purely macroeconomic, characterized by the fact that they are based on the Keynesian assumptions of short-term wage and price, the interchangeability of inflation and unemployment by the principle of Phillips curve, and the possibility of stimulating economic policy performance. Since the 1970s, a second⁴ approach has emerged, which assumes that no country meets all aspects of the optimum currency area, focusing on analyzing the benefits and costs that arise when setting up a monetary union. In attitude to the microeconomic aspects and the inefficiency of nominal exchange rates in shock absorption, while the criterion of symmetry of shocks comes first. At the end of the 20th

³ Mundell (1961), McKinnon (1963) and Kenen (1969).

⁴ Grubel (1970), Corden (1972), Ishiyama (1975), Tower and Willet (1976).

century, the question is raised about the impact⁵ of monetary integration on the economies of the monetary union countries, having its rebirth⁶ in the birth of the European Monetary Union.

The optimum currency area views can be evaluated from a microeconomic and macroeconomic point of view. Models based on microeconomics views attempt to incorporate market imperfections and rigors into optimum models such as nominal rigidity (wage or price); poorly functioning financial markets; the existence of expectations and their subsequent fulfillment or non-fulfillment; public finances and inflation taxes. The macroeconomic approach evolves in two directions. The first one analyzes the development of real or nominal exchange rates on historical databases. Analysis of real exchange rates⁷ is based by the assumption that changes in the real exchange rate lead to changes in relative prices in the economy and therefore countries with volatile exchange rates are not suitable candidates for entry into the monetary union. However, the shortcoming of this approach is that, based on past data (from the time the country had its own currency), it forms conclusions about the future, which does not fully reflect the reality. The second macroeconomic approach attempts to prove the existence of economic shocks and to estimate their correlation, analyzing their symmetry/asymmetry in the European Community and the United States. In terms of optimum currency area theories, the benefits and risks arising from the country's entry into monetary union can be identified by examining the conditions under which the core economic policy objectives (price stability, full employment, balance of payments balance, and economic growth).

2.2 A Macroeconomic Assessment of Monetary Integration

The concept of optimal currency areas is nowadays considered to be a standard tool for assessing monetary integration efforts, namely in Europe however, late cases represent the Southeast Asian monetary forms, Asian Pacific Currencies, French Franc Zone in Africa, Caribbean Currency Union. On a similar note, there are numerous optimal criteria, which are used to estimate the readiness of the candidate countries to adopt the common currency and the assessment of the current readiness and convergence process is linked to the decision on the time horizon adoption (Kawai, 2015). When a country is deciding to join the Common Monetary Union (also known as Common Monetary Area; Currency Union), it should accept the choice of the right timing of entry to eliminate the risk of disrupting its own macroeconomic stability. The country's economy should at the entry meet the parameters in which the loss of the exchange rate and the

⁵ Krugman's specialization hypothesis and Frankel-Rose hypothesis of the endogeneity of OCA criteria.

⁶ Méltz (1991), Tavlas (1993), Blanchard and Wolfers (2000), Calvo and Reinhart (2002), Alesina and Barro and Teneyro (2002), Barro and Lee (2011), (Pasimeni, 2014), De Grauwe (2017).

⁷ The so-called OCA index, where the value of the index reflects the country's eligibility to become a member of the monetary union. The lower the value of the index, the lower the volatility of the nominal exchange rate in the economy, and thus, it is more appropriate for the country to adopt the common currency (Capie, 2014).

separate monetary policy does not cause serious economic problems, since at that moment, together with monetary and exchange rate policy, it also loses the opportunity to adjust its competitiveness by changing the exchange rate. Decisions on the setting of interest rates will be made by the common central bank (i.e. the European Central Bank) and there is a natural risk that the setting of monetary policy will not fully meet the needs of the country (Baldwin, 2015). In view of the "irreversibility" of the process of engaging in the common monetary union and the abandonment of sovereignty over monetary and exchange rate policy, it is desirable for the countries to understand the potential risks of economic asymmetric shocks whose impact on the single country will be different from the impact on the currency. We talk about so-called asymmetric shocks⁸.

If such shocks occur, the country will be exposed to their effects differently from the common monetary union, and the union's central bank monetary policy on the manifestations of these shocks will not respond adequately to country's as it will be driven by developments in the currency and not in the country. Based on the assessment of the risk of asymmetric shocks and the ability to cope with shocks by their own mechanisms, it is possible to determine the degree of alignment⁹ of the country with the monetary union. Under the term asymmetric shock, we understand a global shock, affecting simultaneously or negatively/positively more countries, but with an asymmetric, therefore unequal (opposite) impact on each of them. An asymmetric shock can also be considered a shock where the impact on both countries is symmetrical but of varying intensity. In addition to asymmetric shocks, countries may be exposed to the idiosyncratic shock – a country-specific unsystematic shock affecting individuals or macro households with little or no correlation with market risk. Likewise, symmetrical shocks with asymmetric impact can also occur, while there may be many reasons for the different reaction of two countries to the same shock. This may be due to a different socio-economic structure, regulation of labor markets, the role of the financial and banking sector, the external debt of the country (Marco, 2014).

Naturally, if countries form a monetary union, they lose the option of using their own monetary and exchange rate policy to restore balance - asymmetric shocks-wise and then, it will be necessary to use other mechanisms to restore the balance (labor mobility and wage flexibility). Moreover, the basic point of the optimum currency area is to determine whether the countries or regions of the monetary union are exposed to symmetrical shocks or whether they have other mechanisms to absorb asymmetric shocks. Countries with their own currency can counterbalance the effects of asymmetric shocks using the exchange rate, autonomous monetary and fiscal policies. The autonomous fiscal policy of monetary union countries is limited by the existence of the stability and growth pact.

⁸ The existence of which is essential for the functioning of currency areas. The asymmetric shock is represented by a change in aggregate supply or demand that does not affect all countries in the monetary union in the same way (i.e. consumer preferences between monetary union countries, resulting in an asymmetric demand shock).

⁹ At a time when it is decided that the degree of alignment is sufficient, it is clearly advantageous for the country to adopt the common central bank's monetary policy and to join the union.

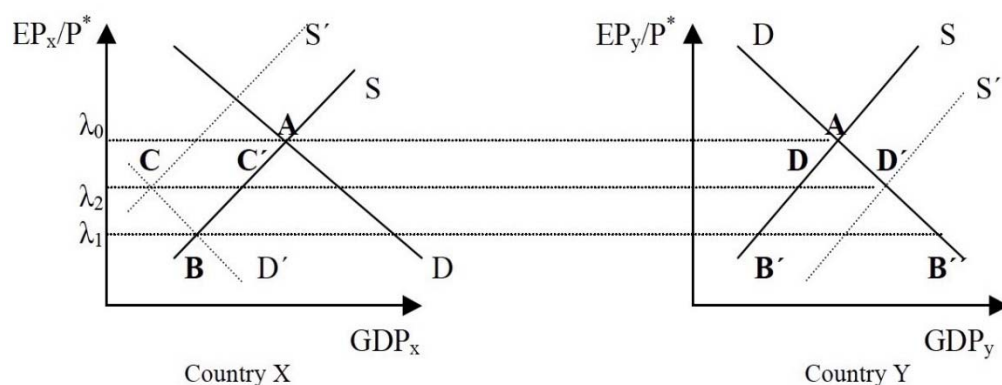
Therefore, it is necessary to understand the criteria (De Grauwe, 2016) for the optimal currency area, which include:

- A risk sharing system i.e. automatic fiscal transfer (to redistribute money to areas/sectors);
- Diversification of production;
- Openness of the economy with capital mobility across the region;
- Political conditions, ability to act uniformly (commonality of destiny) and similar business cycles (i.e. homogeneous preferences);
- Price and wage flexibility across the region;
- Productivity and labor mobility across the region.

Most important, the openness of the economy¹⁰ helps the competitive environment in international trade, which is then able to offset the prices of most commodities. Thus, when the economy is small and very open to foreign trade, it has little ability to influence the prices of its goods on world markets. In such a case, the assignment of the exchange rate does not represent such a loss. The better the country's meet the criteria, the higher the benefits of joining the monetary union can be expected. In addition to the benefits and risks stemming from the immediate fulfillment of the optimum currency area criteria, the country can face other risks and benefits associated with entering the monetary union. When searching for an optimum currency area, we mostly need to look at the cost of a monetary union in which an asymmetric shock occurs. In other words, if one country of the monetary union is hit by a negative demand shock there will be shifting of the demand curve for the production of country X to the left down from D to D' . The vertical axis EP_X/P^* , EP_Y/P^* captures the real exchange rate of the countries of the monetary union against the non-monetary union countries, where P_X and P_Y are prices of domestic goods in the countries of the monetary union, P^* is the price level of the non-monetary union countries, E_0 is the common exchange rate. Point A represents the initial equilibrium of both countries X and Y at the real exchange rate $\lambda_0 = E_0P_X/P^* = E_0P_Y/P^*$.

If the country X was not part of the monetary union and could change its exchange rate freely, regardless of the common central bank, the real exchange rate would depreciate to $\lambda_1 = E_1P_X/P^*$. Since the country Y has no reason to change its nominal and real exchange rate, the value of its real exchange rate λ_0 is optimal. Given that both countries are part of a monetary union, there is a contradiction between their needs. Assuming inflexible wages and prices, both countries share the same real exchange rate $\lambda_2 = E_2P_X/P^* = E_2P_Y/P^*$. Country X is in recession, while country Y is experiencing a boom. In the long run, this is untenable. The new level of the exchange rate does not suit a single country. For one country, the currency is too strong, for another weak. Total output is a combination of surplus supply CC' and surplus demand DD' . Country X cannot sell its production, so its prices should decline until the real exchange rate drops to $\lambda_1 = E_2P'_X/P^*$. Country Y is in the opposite situation. The prices of its production should increase until the real exchange rate rises to the original level of the real exchange rate $\lambda_0 = E_2P'_Y/P^*$ (Lacina, 2007).

¹⁰ A simple share of foreign trade volume on GDP or also covers foreign trade intensity with the integrated countries.

Scheme 2 Effect of an Asymmetric Shock in Monetary Union

Source: Author

2.3 Deciding on the Exchange Rate Regime

Exchange rates are an appropriate tool if countries need to adjust their external exchange rates and domestic wages since prices also adjust slowly. It is also considered as an effective macroeconomic tool that protects the economy from the external shocks. In the system of free-floating exchange rates, change in the nominal exchange rate can help to eliminate the negative effects caused by real shocks without losing out on the output and employment side. Deciding on the exchange rate regime is a complex issue. In selecting the exchange rate regime. The country must take into account its structural characteristics such as the mobility of factors of production, the size and openness of the country, the wage and price flexibility, the arrangement of the financial system, the nature and symmetry of any shocks, the historical credibility of monetary policy. As we have mentioned, by joining the monetary union, the country loses the opportunity to use the exchange rate as a macroeconomic tool, has no possibility to determine the amount of money in circulation and thus to influence the economic developments in the country. Negative effects are thus mitigated by a change in the price level or real GDP.

Additionally, the variability of domestic nominal¹¹ GDP under the flexible exchange rate regime is the result of domestic monetary shocks, fully affecting the domestic market. On the other hand, in the monetary union, national nominal GDP is partly influenced by domestic or foreign currency shocks, depending on the degree of openness of the economy and real shocks (caused by monetary distortions, they create the costs of adjusting the country in the monetary union). The impact of shocks is shared by all countries of the monetary union and the net income is positively influenced by the volatility of domestic monetary shock as the emergence of monetary union reduces the impact of the monetary shock. The volatility of foreign currency shock affects net income negatively, as only the countries of the monetary union influence this shock. By creating a monetary union with a positive correlation between domestic and foreign currency

¹¹ The monetary value of all the finished goods and services produced within a country's borders in a specific time period evaluated at current market prices, whereas the real GDP is inflation-adjusted.

shocks, countries with higher monetary instability will gain stability. Monetary shocks (unexpected changes in the M2 monetary base) are transmitted across countries, which is an advantage for countries with less monetary stability. For other countries, the monetary shock is likely to be a loss (the more open, the higher the loss). The openness of the economy strengthens the cost of adapting to the monetary shock. With a negative correlation between domestic and foreign currency shocks, monetary stability will gain all countries, as foreign currency shocks mitigate domestic monetary shocks.

We can see that the more the countries are open, the more will they gain from becoming members of the monetary union. In the same manner, real demand shocks are relevant only within the context of the monetary union. If they are positively correlated and have the same standard deviation, no adaptation costs are incurred by the country. Otherwise, the exchange rate implies high adjustment costs. In conclusion, if the country is exposed to strong asymmetric shocks, it is better for it to have a floating exchange rate, as it allows a relatively rapid settlement of the external imbalance while the fixed exchange rate hinders it.

2.4 The Cost of Successfully Integrating into the Monetary Union

The successful integration of a country into a monetary union depends on the magnitude of the difference in the real and nominal level of economic variables compared to the average of the countries of the monetary union. The smooth and continuous concurrence of nominal and real convergence with the values of the monetary union, where the price level, along with the country's economic level, will move closer to that of the monetary union. In other words, for a trouble-free integration process the balance between economic and price levels is crucial, since too rapid rise in consumer price levels, inadequately backed by labor productivity growth and wage growth, would threaten¹² the development of living standards as a result of falling real wages and real incomes for the population. The underlying assumption of catching up with the monetary union countries' (when joining the union), in the context of socio-economic levels, is that less developed countries are at a lower technological level and can, therefore, be more economical than those already on the technological frontier. One of the possible ways to achieve faster economic growth is expansionary national economic policies. However, with longer-term expansion, demand-driven inflationary pressures are occurring, and attempting to achieve nominal convergence thus hinders real and structural convergence¹³ (Alexiadis, 2013).

It is important to note that, when it comes to the price convergence, it is often confused with nominal convergence. Testing of price convergence is performed using variables reflecting the price levels of economies, namely individual product prices, or more aggregated data in the form of price indexes. Furthermore, nominal convergence

¹² Wage growth, which would be faster than labor productivity growth, would lead to a reduction in competitiveness and a slowdown in economic growth.

¹³ Convergence in theoretical concepts is related to economic growth theories, which seek to analyze and explain the factors influencing the pace and levels of economic growth in individual countries. Moreover, convergence means that the difference between two values decrease over time and these differences become negligible and converge to zero.

represents the convergence of nominal variables, such as GDP in nominal terms or in nominal wages. Mostly, however, under the nominal convergence means the fulfillment of the Maastricht criteria¹⁴ to ensure the stability of the common currency and are a prerequisite for admission to the Eurozone member countries. Real convergence means approaching the socio-economic level of another country or group of countries. The real convergence occurs when the gap in the socio-economic level of comparable countries is reduced, measuring the productivity of the economy, by the most commonly used gross national income per capita and real gross domestic product per capita. Therefore, it logically means that the gap between rich and poor economies diminishes over time. In the most cases, the indicator GDP per capita in purchasing power parity is commonly used for measuring real convergence, since the advantage of this indicator is that it reflects the purchasing power of the domestic currency, and thus eliminates price differences between the economies, while also reflecting the standard of living of its residents.

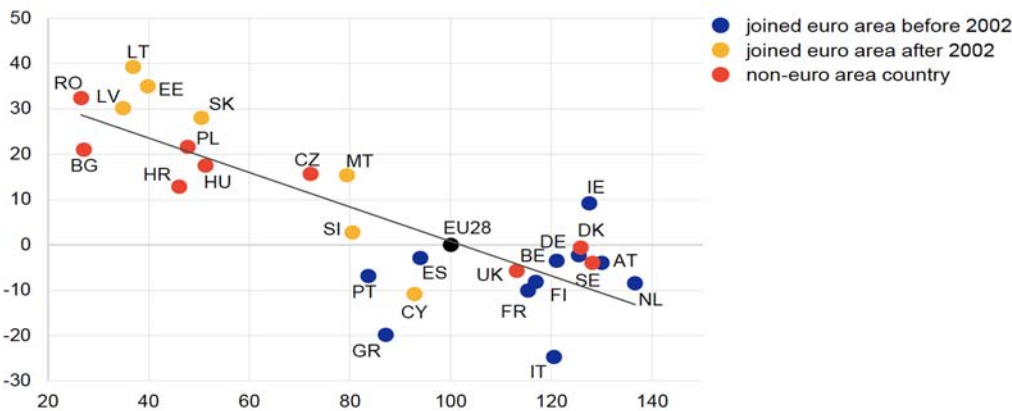
However, when trying to achieve faster economic growth by expansionary national economy policies, fiscal expansion is untenable in the medium-term due to budgetary constraints. Another potential source of long-term acceleration of economic growth and rising economic levels may be the strength of the economy. This is supported by the continuous accumulation of human capital and the continuous development of new technologies that guarantee the economy a faster GDP growth per capita than in other countries. Real convergence based on this mechanism is of a long-term nature. This model of internal growth is based on the idea of generating economic growth by itself, corresponding rather to the environment of large developed economies located on the technological frontier. Another source of growth acceleration means increasing international interaction. Leveling up the country's standard of living is a question of the medium-term horizon. The external source of financing is the accompanying phenomenon of this growth resource, unlike the endogenous growth of the economy associated with internal financing. International interaction can help boost the country's economic level by liberalizing trade or closing a technological gap (Baldwin, 2016). Trade liberalization will expand export and import opportunities, including expanding the possibility of importing previously unavailable technologies. Thanks to technological innovations, foreign demand for domestic goods will increase. This will result in a transition of the economy to a faster growth path in the medium term. In some models, high liberalization can lead to the displacement of domestic goods by imported.

To analyze real convergence from a practical point of view, in the eurozone (as an example of OCA), there is significant evidence that the GDP per capita of lower-income economies has been catching up with that of higher-income economies since the start of monetary union. We will compare GDP per capita (expressed in PPS) across EU countries. (The different accession dates of those countries to both the EU and the euro area) – The first wave of euro area members (the EA-12), more recent members as well as all non-euro area EU Member States, between the years 1999-2016. According to European Central Bank since 1999 some degree of real convergence has taken place in the most

¹⁴ Price stability (consumer price inflation rate); sound public finances (government deficit as % of GDP); sustainable public finances (government debt as % of GDP); durability of convergence (long-term interest rate); exchange rate stability (deviation from a central rate).

recent EU Member States”. As shown in the Scheme 3¹⁵, both non-euro area EU countries (green triangles) and countries that adopted the euro after 2002 (blue circles) usually performed better than the EA-12 countries (red squares) over the period 1999-2016. The **Lithuania, Estonia, Latvia, Romania and Slovakia have achieved the largest degree of convergence among EU countries** so far, followed by other countries in the CEE (Central and Eastern Europe) region” (European Central Bank, 2017).

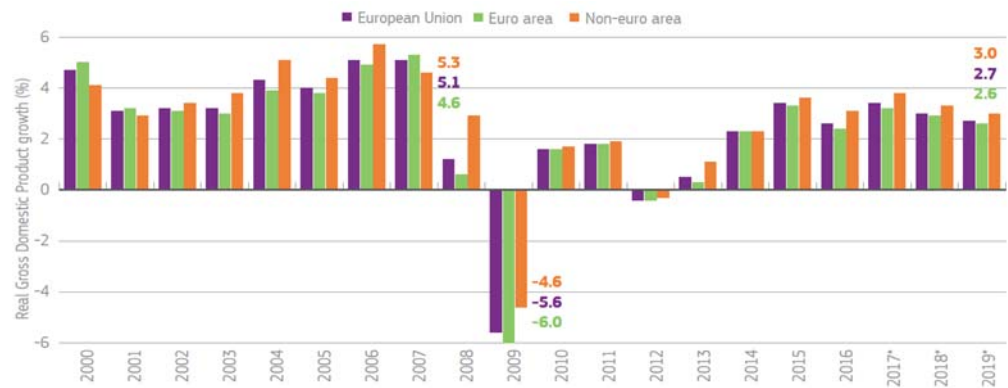
Scheme 3 Development of Real Convergence in the EU between the years 1999-2016



Source: European Central Bank, 2017

Scheme 4 shows the development and forecast of the real gross domestic product growth (in % over last year, average). The EU has seen a sustained return to growth following the economic and financial crisis.

Scheme 4 Development and Forecast of Real Gross Domestic Product in the EU between the years 2000-2019



Source: European Commission, 2017

¹⁵ GDP at current prices per capita in PPS; EU28 = 100; x-axis shows the initial level in 1999; y-axis shows the cumulative change in the level (1999-2016).

This is set to continue in coming years. Higher growth rates in non-euro area Member States compared to the euro area will support further upward convergence and the euro area will account for as much as 85% of the European economy after the United Kingdom's departure from the EU in 2019" (European Commission, 2017).

2.5 Accelerating the Economic Growth

Economic growth is accelerated mainly by closing the technological gap – by improved technical efficiency following trade liberalization between countries/areas, but this mechanism is only available to economies that have not reached certain technological boundaries. The necessary condition for its realization is the mobility of capital, namely the liberalization of the capital market and the existence of private ownership. Economies that have begun to import technology and human skills through foreign direct investment have a relatively higher GDP per capita. For foreign investors, FDI is attractive to the economies of the new monetary union member states, as their marginal revenue is higher than in more developed economies. In addition, if economies are very open this increases the effect of international interaction and for those economies that do not have enough domestic resources to close the technology gap, foreign direct investment is more advantageous than a mere increase in debt because it allows risk sharing and the transfer of both technology and human skills (capital). The role of foreign direct investment in closing a technological gap also has a direct effect on nominal convergence. The availability of resources needed for real convergence depends on the criteria which foreign investors consider relevant to their investments, especially the relative labor cost. Other key factors include the country's credibility, human qualification and infrastructure.

On the other hand, the most discussed causes of price convergence include differences in labor productivity (as well as other important causes of price convergence include improving the quality of goods and services, deregulation of prices, cutting down existing constraints and inflowing foreign investment). Labor productivity in countries with lower economic levels is behind labor productivity of developed countries, particularly due to the lower capital production and lack of know-how. Labor productivity in less developed countries is growing faster due to the higher marginal product of additional capital and an increase in human skills. The relationship that raises labor productivity growth and the rise in price levels is called the Balassa-Samuelson effect¹⁶ and it has two implications in the context of monetary union/optimum currency area convergence.

Firstly, it explains how much higher productivity can increase the price level in one country compared to the other so that the fixed exchange rate does not damage the

¹⁶ Based on the division of the economy into the tradable and non-tradable goods sectors. If labor productivity increases in the economy, wages in the tradable and non-tradable sectors also grow. Prices in the tradable goods sector, however, are growing more slowly, as wage growth is associated with a more pronounced increase in labor productivity. Also, in the non-tradable goods sector, comparable wage growth will be required, but due to the nature of goods in this sector, such productivity growth is not achieved. In addition, wage costs are generally higher in this sector. In view of this discrepancy, there is a rise in prices mainly in the non-tradable sector. As a result, the price level is rising throughout the economy.

country's competitiveness. This is especially important for countries sharing a single currency. Assuming the perfect mechanism of equalizing the prices of tradable goods between countries and the same proportion of tradable goods on the market, for each two countries A and B, the common currency can express a relationship for the existence of an inflation differential as $p_{cA} - p_{cB} = (1 - \alpha)(q_A - q_B)$, where p_{cA} and p_{cB} are changes in the consumer price index in the country, α is the share of tradable goods and q_A , q_B the rate of labor productivity growth in countries A and B.

It is therefore obvious that higher labor productivity growth in one country of the monetary union will also lead to the higher growth of price levels. This also means that the differing rates of rising in price levels in individual countries of the monetary union are not a problem if they occur in line with the increase in labor productivity. However, if the rise in price levels is too rapid in relation to the increase in labor productivity, this situation will lead to the loss of competitiveness of the country with higher inflation (if it is unable to offset the resulting inflation differentials through the depreciation of the currency). The persistence of such a situation in the economy will lead to imbalances in the current account of the balance of payments, which can then also be a source of instability of the common currency in addressing the problem of its financing. Secondly, the Balassa-Samuelson effect is relevant primarily to floating-rate economies, trying to keep the inflation rate at the desired level. This factor has influence especially during the exchange rate economic and monetary union mechanism participation. If labor productivity growth does not lead to a rise in price levels, a nominal appreciation of the exchange rate will occur within the $\Delta E^i = \alpha \pi^{NT} \cdot (PP^T - PP^{NT})$, where π^{NT} is the share of non-tradable goods on the price index and the $(PP^T - PP^{NT})$ is the difference between the growth rate of labor productivity in the tradable and non-tradable goods sectors (Barro, 2004).

Conclusions and policy implications

The gradual deregulation of trade barriers and the growing international division of labor coupled with stable exchange rates can be described as factors contributing to economic development. In an environment in which individual economies are increasingly interconnected and the influence of the external economic environment increases, more and more economic entities are interested in stable conditions in dealing with foreign countries. The countries in the position of the importer are dependent on the prices of the expected deliveries and countries in the exporter's position are under the influence of global demand, while the exchange rate is the crucial variable in these relations¹⁷. In this context, the currency area represents an area in which countries commit to accepting fixed exchange rates without the possibility of devaluation or revaluation, renouncing their national currencies and responsibility for implementing monetary policy -they undertake to coordinate economic policy jointly. If certain conditions are met, such as the general integration of economies and the mobility of factors of

¹⁷ If prices fall, the prices of imported goods are rising, while prices of exported goods are declining. If a country wants to avoid higher inflation than a competing country, it needs to keep the exchange rate stable, meaning that there is a tendency to create a currency area.

production, monetary integration is considered the best possible solution. The optimum currency area theories are the forefront of many integration discussions of whether Western Europe is an optimal currency area.

The optimum area of the monetary union corresponds to the balance of benefits and costs. The emergence of the European Monetary Union was a new impetus when examining the question of what the optimal currency area is. On the other hand, we should not forget about the emergence of strong currencies facing currency crises. Finding answers to the question of which area is optimal has brought many different views, i.e. the optimal area can be considered the one whose goal is full employment, stable price levels, and external balance. Furthermore, it can describe links between regions or countries that seek to increase the well-being of their citizens above the welfare level achieved by using their own currency. Likewise, we can argue that the essence of the problem of answering the question of what is optimal is the impossibility of finding an empirical rule that identifies the optimal currency area, i.e. the impossibility of defining the net benefit that the country derives from membership in the currency area, however, the optimal can be viewed as the sustainability of the external and internal macroeconomic equilibrium, deepening integration of capital and financial markets.

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Comparison of the Visegrad group and Baltic countries in terms of multi-criteria competitiveness indicators ¹

Viera Ružeková² – Elena Kašťáková³

Abstract

Expanding globalization of the world economy has put a strong pressure on individual entities that operate in it. International competitiveness has become a major driving force of economic and social differentiation of the countries. Individual states and their public administrations have to create an effective business environment. This paper reflects these developments and, with the help of relevant multi-criteria (GCI, WCI, DBI) and single-criteria indexes of competitiveness, tries to assess the current state of competitiveness of two regions in Central and Eastern Europe – the Visegrad Four and Baltic Group states, which had a similar starting position on their path to building a market economy and integration into the EU structures.

Key words

Competitiveness, comparative advantages, quantification of competitiveness, indicators of competitiveness GCI, WCI, DB, KAM, KEI, V4 countries, Baltic states

JEL Classification: F14, F19, F23, F29

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Introduction

The current world economy is undergoing turbulent changes. Under the influence of these changes, competitiveness is getting to the forefront of scientific research as well as economic literature. It can be pointed out that since the times of Adam Smith and David Ricardo, the renaissance of this term began in the last decades. Throughout the 1980s, the significance of the competitiveness moved from the enterprise level to the national or transnational level. Changing conditions of the world economy associated with extensive liberalization of markets, and the ubiquitous globalization have brought a need to modify the term "competitiveness".

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The immediate consequence of these changes is a fundamental change in the nature of competition. Recently, it has shifted from unilateral relations and regional isolation into the global context. The massive "internetization" of the world society and global economy has contributed considerably to this fact. Modern technologies penetrating into all spheres of the business environment bring an infinite number of possibilities, opportunities and challenges. (Baláž *et al.*, 2015). The current issue of competitiveness has outreached the boundaries of the foreign trade problems so far. The phenomenon of intensifying and accelerating the innovations in technology has become not only a driving force of globalization but also the cause of economic and social differentiation of countries.

In terms of outlined trends this article try to assess the competitiveness of two relatively young regions of Central and Eastern Europe. These regions had a similar starting position on their path to building a market economy and integration into the EU structures. These are the countries of the Visegrad Four (Poland, the Czech Republic, the Slovak Republic and Hungary) and the Baltic states (Estonia, Latvia and Lithuania). These countries had been under a strong influence of the Soviet Union, with centrally planned economies, for several decades until the early 1990s. This fact affected not only their political, but also their economic direction. The disintegration of the Council for Mutual Economic Assistance (CMEA) and subsequent reorientation of these countries from centrally planned economies to market ones required a significant intervention in the business environment. It included a wide variety of changes in different factors and disciplines. The political changes generated some extensive economic changes. The main objective of these countries was to join the EU single market. They succeeded in meeting this objective in 2004. However, this fact did not mean the end of their journey. The globalization is putting a strong pressure on increasing the competitiveness of individual economies, especially those having quite small domestic markets and being strongly dependent on external demand. This means that if such economies want to increase their prosperity, they must be competitive and successfully involved in the international division of labour, which is unquestionable axiom for countries of the V4 and Baltic Group.

1 Methodology

The aim of this article is to examine and compare the current state of competitiveness of the Visegrad Four and Baltic Group countries through the selected multi-criteria and single-criteria indicators. These include the Global Competitiveness Index, the World Competitiveness Index, Doing Business Index and a single-criteria index known as Revealed Comparative Advantage. To achieve the objective, a number of theoretical methods were used including the general methods (abstraction, analysis, synthesis, deduction and induction), the empirical methods (GCI, WCI, DBI) and comparison of the obtained results. Some special methods were also used to streamline the data on foreign trade, especially mathematical methods, descriptive analysis and graphical presentation.

The World Economic Forum (WEF) annually publishes the Global Competitiveness Report which compiles a rank of countries on the basis of aggregated results in 12 assessed pillars which provide a coherent picture of competitiveness of the selected

national economies. WEF uses the Global Competitive Index (GCI), which assesses the ability of countries to provide their citizens with a high standard of living, respectively it indicates how effectively the country is able to use its available economic resources. (World Economic Forum, 2017)

The Institute for Management Development (IMD below) publishes an annual "World Competitiveness Yearbook", which assesses the World Competitiveness Index (WCI). It analyses the performance of selected countries, whereby it looks at the relationship between the national environment (where the state plays a key role) and the process of creation of competitive environment through four main factors. (IMD, 2017)

The World Bank (WB) monitors and assesses the quality of business environment in each country through its own analysis known as "Index of Doing Business" (DB below). WB objectively measures business regulations and their entry into force in the selected economies, being assessed at different stages of a life cycle, from the establishment of the company to the closure of the business. (World Bank, 2017).

One of the fundamental single-criteria methods used to assess the competitive advantage is the index of Revealed Comparative Advantage (RCA below) a concept originally developed by B. Balassa. (Balassa, 1989) It expresses the share of exports of the commodity groups in total exports of the country and the share of this commodity group in total world exports. As defined by Balassa:

$$RCA = \frac{X_{ij}/X_j}{X_{iw}/X_w}$$

with X_{ij} being the export of the country j of commodity group i , X_j being the total export of country j , X_{iw} being the total world export of commodity group i , and X_w being the total world export. If the value of RCA is higher than 1, the country, which is being assessed, achieves a revealed comparative advantage in the export of the given commodity, which means that the given country specialises in its export. If the value of RCA is 1, the country does not dispose of neither comparative advantage nor disadvantage in exporting the given commodity. If the value of RCA is lower than 1, the country disposes of comparative disadvantage in exporting the given commodity.

Along with the RCA we also monitor some other single-criteria indicators of competitiveness in order to support our conclusions. These are GDP per capita, Average export performance, R&D expenditures, Education expenditures, Hourly labour costs and Tax burdens.

2 Results and discussion

Economic theory had had an explicit view at the importance of competitiveness and its impact on international business. The gradual ideological division of individual theoretical approaches was caused by differentiation of the achieved levels of competitiveness quantification of companies and states. Until the late 1980s, many economists thought that competitiveness was a phenomenon that could be justified only at company levels. They were particularly arguing by reduction of the state's role in the globalization

process of the world economy (Porter, 1990; Reich, 1990; Krugman, 1994). Such opinions, however, were increasingly becoming the subject of criticism. Some economists argued that such measurement of competitiveness absents an alternative reference framework that would make it possible to confront the competitiveness of companies with a competitive macroeconomic performance at the economic or national level (Hatzichronoglou, 1996). The competitiveness of companies generally does not correspond to the competitiveness of national economies (Baláž *et al.*, 2015). A mismatch between the corporate and national economic views at competitiveness stemmed from the fact that companies can be well-competitive not only via technological and product innovation, but also due to low labour cost, low input factors, savings in environmental costs, depreciated currency or price dumping at the expense of domestic customers, etc. However, these factors appear to be counterproductive at the national economy level.

At the international level, competitiveness of states can be perceived through their attractiveness for foreign direct investments. This phenomenon, the so called "The new doctrine of competitiveness", is explained by economists through the "inversion of the roles of the state and the enterprise". Not businesses, but states, respectively governments are under the pressures that force them to compete for acquisition or retention of significant investment. Under the influence of these processes, as well as due to the internationalization of economic activities, the traditional understanding of competitiveness of the state has changed." (Hošoff - Hvozdíková, 2009) As a result, governments adapt their business environments towards a new view on measurement of competitiveness, because the quality of the business environment involves many factors, ranging from economic and political environment to infrastructure issues, technology or specific needs in particular sectors.

The competitiveness of national economies is assessed by several global institutions, foundations, research institutes or banks. On the basis of annual multi-criteria evaluation processes and in-depth analyses, they create rankings of the countries. Generally, single- or more-factorial indicators for assessment of competitiveness of states can be used. The most considerable ones are introduced in basic overview in Table 1.

Table 1 Indicators for evaluation of competitiveness of economy

Multifactorial indicators	Single-factorial indicators
Global Competitiveness Index (GCI)	Knowledge Economy Index (KEI)
World Competitiveness Index (WCI)	R&D Expenditures
Doing Business Index (DBI)	Share on national export (commodity structure of export)
	Share on national import
	Revealed Comparative Advantages (RCA index)
	Development of the value of net exports
	Export per capita
	Terms of Trade (TOT)
	Unit Labour Costs (ULC)

Note: Processed by the authors

In our research, we will focus on the assessment of the competitiveness with the help of selected multi-factorial and single-factorial indicators, with standard and unified - set criteria of international institutions. A common feature of these indexes (GCI, WCI and DBI) is that they compare dozens of significant world economies, and reflect to a large number of disparate measures. However, they differ by the used methodology as well as by the way of summarizing the results for individual indicators. Thereby, they present to a certain extent differentiated conclusions. The competitiveness of countries can be also assessed by single-factor criteria. Within this group, the most considerable are the Revealed Comparative Advantage, Openness of Economy, R&D Expenditures and labour costs.

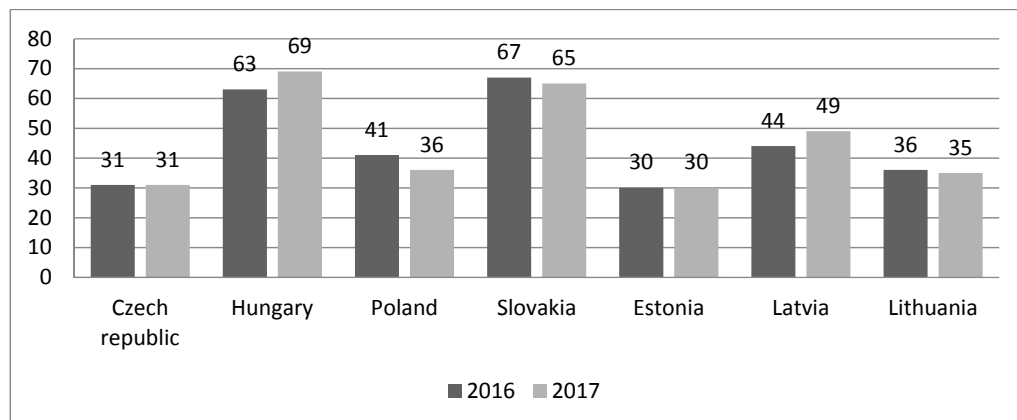
2.1 The assessment of the competitiveness of the Visegrad and Baltic groups and discussion

The economic development and direction of the V4, as well as the Baltic group countries, have been shaped and influenced by many common historical ties for a long time. With the exception of Poland, the countries from both groups rank among the smaller ones. The extent of their involvement in international economic structures is therefore particularly important for them. They are forced to compensate their lower economic strength with higher degree of production specialization. While the countries of the Baltic group are historically linked to more advanced Scandinavian economies, the V4 countries are oriented mainly to Germany and other markets of Western Europe.

2.2 The Global Competitiveness Index

The Global Competitiveness Report 2016 – 2017 (GCI) assesses the competitiveness landscape of 138 economies. The rating scale ranges from 1 (the worst) to 7 (the best). GCI indicates how effectively the countries are able to use their available economic resources. The GCI pillars are, according to model of M. Porter (1990), categorized into three areas regarding the achieved economic level of the economies that are being assessed. (World Economic Forum, 2017). The first area (Sub-index A) is determined by the basic requirements which are essential for economies. The pillars in the second area (Sub-index B) are vital for economies based on efficiency and assess the performance of national economies. The third area (Sub-index C) is characteristic for knowledge-based economies and analyses business sophistication and innovation. (Bondareva - Tomčík, 2013).

Among the monitored countries, Estonia ranked best in the 2016 – 2017 edition. It was in 30th place in the rankings (score 4.8) while Hungary was the worst (69th place, score 4.22). All monitored countries placed in the first half of the overall rankings. A view at the comparison of the assessed countries by GCI shows that the Baltic countries perform significantly better than countries of the V4. For a more detailed comparison of the V4 and Baltic countries performance, we analyze them by the above-defined three sub-indexes of the GCI model. Each sub-index is divided into individual pillars. The following figures show the positions of the examined countries.

Figure 1 Global Competitiveness Index in years 2016 and 2017

Note: Processed by the authors according to the World Economic Forum data

In the V4 region, the Czech Republic performed best when it reached 31st place. Compared to 2016, Slovakia and Poland have improved their positions, Hungary, on the contrary, has fallen by 6 places. According to GCI, corruption, government bureaucracy, tax rules, tax rates and volatility of the taken measures (in the case of Hungary) are among the biggest barriers to business in these countries. The least problematic areas include inflation rate, low risk of government instability and good health of the population.

Estonia, which ranked the same place (30th place) as in 2016, is the leader among the Baltic countries while Lithuania was 35th and Latvia 49th. The level of tax burden, inadequately educated labour force, insufficient ability to innovate, but also bureaucracy are among the worst assessed areas according to the GCI. On the contrary, the foreign exchange regulations, low crime, low risks of government instability and a good health of population are among the best areas.

The analysis of individual sub-indexes shows the reasons why the Baltic countries achieve better overall position in the GCI. The main determinants of their success are well-functioning institutions, infrastructure, education and support of innovation. The V4 countries face several problems. Apart from the market size indicator, which cannot be influenced, it is worth a remark that in the case of Slovakia and Hungary, the indicators of the first pillar – functionality and efficiency of public and private institutions as well as other corresponding indicators, such as efficiency in state expenditure, the justice system and the waste of public resources are relatively poorly represented. These factors are a direct result of activities and flexibility of governmental institutions. In terms of measuring the knowledge economy, the sub-index of innovation also slightly falls behind the most advanced economies of the world. Estonia, Latvia and the Czech Republic have the best rankings among the analysed countries. This index plays an important role in the economic growth, increase of export performance and overall competitiveness.

2.3 The World Competitiveness Index

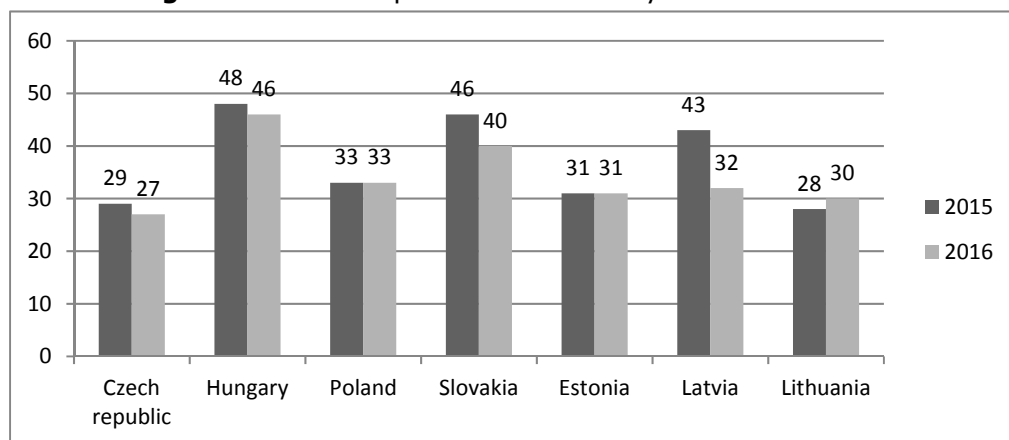
The Institute for Management Development (IMD below) in Switzerland publishes an annual "World Competitiveness Yearbook", which assesses the World Competitiveness Index (WCI below). In 2016, it analyses the performance of 61 countries, whereby it analyzes the relationship between the national environment (where the state plays a key role) and the process of creation of competitive environment through four main factors. Each of these four factors (economic performance, government efficiency, business efficiency and infrastructure) is subdivided into five sub-factors, each emphasizing a different aspect of competitiveness. (Garelli, 2011). IMD uses different types of data for measuring the quantitative (statistical) and qualitative (survey research) questions. The interpretation of WCI is the same as at the GCI and means that the higher the index value is, the higher the country's competitiveness is. (Gordíaková, 2011).

The rankings of both groups in 2016 are not very favourable (see Figure 2). Five of the observed countries are in the second half of the overall ranking. Justification of this case requires a closer analysis of information, which is provided by individual WCI factors - economic performance, government efficiency, business and infrastructure.

In the second evaluated factor, government efficiency, the worst results were achieved by Hungary and Slovakia, because of the negative attitude to government subsidies, tax evasion, transparency, inefficient judiciary and clientelism. On the contrary, the government regulations in Estonia do not constitute a barrier to doing business, and it turns out that this area is one of the significant competitive advantages of its economy.

The third factor, business efficiency, has the largest restraints in Hungary while Lithuania, the Czech Republic, and Poland ranked best.

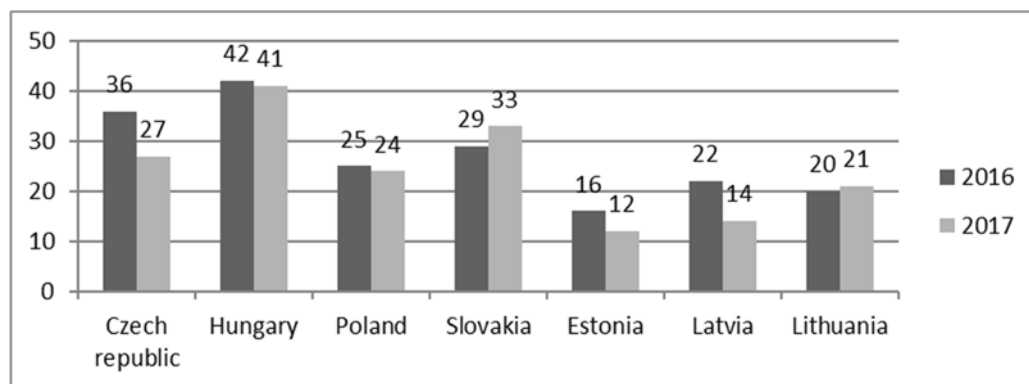
The last factor is "Infrastructure", which indicates whether technological, scientific and human resources meet the needs of business and can create new conditions of competitiveness. The Czech Republic and Lithuania reached the best results, while the Slovak Republic was the worst. Slovakia has responded insufficiently to a huge demand for technically skilled labour resulting from the impact of the inflow of FDI in the automotive and electronics industry. In the case of Slovakia, it is interesting that since it joined the EU in 2004 until 2008, the country were fitted around 30th place in the assessment by WCI. However, after the government had been changed in 2010, the country fell by 16 places which reflected the fact that governance have a direct impact on international competitiveness of the country.

Figure 2 World Competitiveness Index in years 2015 and 2016

Note: Processed by the authors according the IMD data

2.4 Doing Business Index

The World Bank (WB) monitors and assesses the quality of business environment in each country through its own analysis known as "Index of Doing Business" (DBI). WB objectively measures business regulations and their entry into force in 190 economies (2017) at different stages of the company's life cycle, from its establishment to the closure of the business. (World Bank, 2017) The higher the score achieved in the DB index is, the better, simpler and more transparent regulatory environment for businesses and protecting property rights the economy has. It provides important information about development in the individual components of competitiveness in terms of attractiveness of the country for foreign investments. DBI monitors and evaluates 11 areas: conditions for starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, labour market regulation. The rankings of the V4 countries and the Baltic States in 2017 are indicated in Figure 3.

Figure 3 Doing Business Index in years 2016 and 2017

Note: Processed by the authors according the World Bank data

Similarly, as in the case of GCI and WCI, even in the DBI is the overall status of the Baltic countries better than the V4 countries. In 2017 edition of the DBI, the best place (12th place) was achieved by Estonia, followed by Latvia (14th) and Lithuania (21st). The best place among the V4 countries was reached by Poland (24th place). The Czech Republic also reached a favourable outcome with its 27th place. Slovakia reached a bit worse 33rd place and Hungary was on 41st place.

In the light of the above results, it can be concluded that in the WB assessment, the Baltic countries perform much better than the V4 countries. The best evaluated areas include simplicity of property registration, starting a business, construction permits and enforcement of contracts. On the contrary, the worst areas are getting electricity, protection of minority investors and resolving insolvency. Within the V4 region, Poland ranked best (25th) mainly due to the recent reforms aimed at simplification and improvement of the business environment. On the contrary, Hungary ranked worst (42nd).

In a view of submitted multi-criteria assessments, we select the most problematic areas for the V4 countries in the near future.

Table 2 Overview of the most problematic areas of the V4 countries according selected multi-criteria indicators

Czech republic	Hungary
Labour market efficiency	Getting electricity
Government efficiency	Government efficiency
Enforcement of contracts	Institutions efficiency
Construction permits	Business efficiency
Ease of starting a business	Business sophistication
Poland	Slovakia
Starting a business	Institutions efficiency
Labour market efficiency	Infrastructure
Infrastructure	Labour market efficiency
Government efficiency	Construction permits
Technological readiness	Government efficiency

Note: Processed by the authors

In the Baltic group we consider as the most problematic areas the following ones.

Table 3 Overview of the most problematic areas of the Baltic countries according selected multi-criteria indicators

Estonia	Latvia	Lithuania
Market size	Market size	Market size
Infrastructure	Infrastructure	Resolving insolvency
Technological readiness	Institutions efficiency	Financial market development
Economic performance	Economic performance	Economic performance
Business efficiency	Business efficiency	Getting electricity

Note: Processed by the authors

Although the multi-factorial competitiveness assessments are often presented as objective indicators of competitiveness in the literature, however, we often encounter their criticism, because a large part of the assessed factors are based on the respondents' subjective opinions. In addition, they often result from weak theoretical background and weak statistical methods.

On the other hand, it is understandable, that the authors try to capture the latest developments in the economic theory and management. This means, however, that such a review lacks continuity in the statistical ranges and therefore it could be risky to use these ratings as a strong benchmark. (Walter, 2005)

2.5 Comparison according selected single-factorial criteria

Following the objective of more comprehensive assessment and comparison of competitiveness of the selected countries, we decided to look at their ability to enforce themselves in the international business environment. The following table provides an overview of five major export commodities of each country in 2015. The RCA index refers to the ability of countries to succeed in international markets (see Table 4).

Table 4 shows an interesting view of the export commodity structure of the assessed countries. The most important export commodity group, Group 78 - Road vehicles, is the same in all V4 countries. The exports of Group 77 - Electrical machinery and 76 - Telecommunication apparatus are also dominant. The commodity structure of the Baltic States exports is quite different. Their exports are dominated by Group 76 - Telecommunication apparatus (Estonia), Group 24 - Cork and wood (Latvia) and Group 33 - Petroleum and petroleum products (Lithuania). While the V4 countries are strongly focused on the automotive and electrical industry, the export of the Baltic countries is more diversified. This represents a more sustainable approach for the future.

The assessed countries have reached the revealed comparative advantage (RCA) in export of given commodity for almost all export commodities. However, the V4 countries perform slightly better. The Czech Republic and Hungary report a RCA in all of the most important export commodities. Slovakia and Poland have a comparative disadvantage only in the commodity group 77 - Electrical machinery. The relatively weak position is held by Estonia, which has a comparative disadvantage in three commodity groups. On the other side, it has a strong comparative advantage in commodity group 24 - Cork and wood (13.02). Latvia reports a relatively high comparative disadvantage in commodity group 78 - Road vehicles. On the contrary, in commodity group 24 - Cork and wood it has a very high value of RCA. Lithuania has reached the best result in Group 58 - Fertilizers while it has comparative disadvantages in commodity groups 77 - Electrical machinery and 74 - Other industrial machinery.

Table 4 RCA index of top 5 export commodity groups of V4 and the Baltic group in 2015

Slovakia		Czech republic		Poland		Hungary	
[78] Road vehicles	3.48	[78] Road vehicles	2.53	[78] Road vehicles	1.38	[78] Road vehicles	2.26
[76] Telecom. apparatus	2.91	[77] Electrical machinery	1.14	[77] Electrical machinery	0.88	[77] Electrical machinery	1.40
[77] Electrical machinery	0.72	[75] Office machines	2.13	[82] Furniture	4.99	[71] Power generating machinery	4.08
[74] Other industrial machinery	1.45	[74] Other industrial machinery	1.76	[76] Telecom. apparatus	1.06	[76] Telecom. apparatus	1.4
[67] Iron and steel	1.94	[89] Miscellaneous manufactured articles	1.51	[89] Miscellaneous manufactured articles	1.28	[54] Medicinal products	1,47
Estonia		Latvia		Lithuania			
[76] Telecom. apparatus	2.29	[24] Cork and wood	26.99	[33] Petroleum, petroleum products	1.75		
[33] Petroleum, petroleum products	0.99	[76] Telecom. apparatus	1.85	[82] Furniture and parts	5.95		
[77] Electrical machinery	0.91	[63] Cork and wood manufact.	14.54	[56] Fertilizers	10.57		
[24] Cork and wood	13.02	[04] Cereals and preparations	4.9	[77] Electrical machinery	0.42		
[78] Road vehicles	0.58	[78] Road vehicles	0.58	[74] Other industrial machinery	0.91		

Note: Processed by the authors

Besides the RCA index, our study to compare competitiveness of the V4 countries and Baltic Group is also supported by other single-factor indicators given in Table 5.

It is worthwhile to have a look at R&D expenditures (% of GDP). As can be seen in Table 5, the Baltic countries spend more % of GDP on education, while the V4 countries spend more on R&D.

Table 5 Comparison of the V4 and Baltic countries according selected single-factorial criteria

	ČR	HU	PL	SK	EE	LT	LV
GDP per capita	1 st 25 200 €	5 th 19 700 €	4 th 19 800 €	2 nd 22 300 €	3 rd 21 600 €	3 rd 21 600 €	6 th 18 600 €
Average export performance in 2007-2015	3 rd 71%	2 nd 75%	7 th 36%	1 st 79%	4 th 59%	5 th 58%	6 th 40%
Average openness of economy in 2007 - 2015	3 rd 136%	2 nd 146%	7 th 75%	1 st 157%	4 th 127%	5 th 125%	6 th 92%
R&D expenditures (% of GDP)	1 st 1.95%	3 rd 1.38%	6 th 1.0%	4 th 1.18%	2 nd 1.50%	5 th 1.04%	7 th 0.63%
Education expenditures (% of GDP)	5 th 5.2%	5 th 5.2%	4 th 5.3%	6 th 4.1%	2 nd 5.6%	3 rd 5.4%	1 st 5.9%
Hourly labour costs	5 th 9,9 €	3 rd 7.5 €	4 th 8.6 €	6 th 10.0 €	7 th 10.3 €	1 st 6.8 €	2 nd 7.1 €
Tax burden (2016)	2 nd 19%	2 nd 19%	2 nd 19%	4 th 22%	3 rd 20%	1 st 15%	1 st 15%

Note: Processed by the authors according the Eurostat data

Decisions of investors about capital allocation are highly influenced by the height of labour costs and tax burdens. While the average hourly costs in the EU reached 25 EUR in 2015, the average costs in the V4 countries reached 9 EUR and in the Baltic countries 8.1 EUR. The lowest average corporate tax rates are in Lithuania and Latvia (15%). Although Slovakia has reduced the corporate tax rate from 22% to 21% since the beginning of 2017, it still has the 3rd highest rate within the EU. Although taxes represent income to the state budget and higher hourly labour costs contribute to raising the standard of living, both factors can negatively affect the competitiveness of the economy and FDI inflows.

The competitiveness of individual economies, apart from the above-mentioned factors, is also affected by the level of provided investment incentives. Most frequently, these incentives concern tax concessions and contributions to job creation. Estonia is the only country that does not provide investment incentives. It does not distinguish between domestic and foreign capital.

The foreign direct investment is an irreplaceable source of economic growth, job creation and raising the standard of living in the monitored countries. If these countries want to catch up with the advanced Western European countries, they must focus on attracting investors to areas with higher added value and less developed regions.

Conclusion

Competitiveness of a country is a complex phenomenon that involves both macro-economic and microeconomic areas. Its development is significantly affected by other factors - standing between these two economic categories. From a historical point of view, experts had focused on the export performance of the economy when evaluating the competitiveness. The reason is obvious. Scientific, technical and technological knowledge is a key determinant of the production of products with higher value added (at least temporarily) and simultaneously carries the sustained comparative advantage. Also it's necessary to point out, and in recent years with the increasing emphasis, that the creation of these comparative advantages is closely related to governance activities, which have a direct impact on FDI inflows.

The research presents the analysis of achieved level of competitiveness of the V4 countries and Baltic countries. Through the analysis of achievements in the GCI, WCI and DBI, which were processed by international organizations, we have come to the following conclusions:

Firstly it is clear that the Baltic countries perform significantly better than the V4 states in the assessment of competitiveness by the GCI index. In the V4 countries, the lack of functionality and efficiency of government, as well as private institutions, the labour market and business sophistication indicator can be regarded as the most negative aspects. In terms of measuring the innovation sub-index, almost each of them lags behind the most developed economies except for the Czech Republic, Estonia and Latvia, which means a huge risk for maintaining competitiveness within the EU countries in the future.

Secondly, the development of competitiveness of the V4 and Baltic countries on the basis of WCI index (although it is largely different from GCI index by methodology and data processing), reiterates the more favourable position of the Baltic group compared to the V4. The Czech Republic was the only exception. Hungary and Slovakia reached weaker results again, especially in the factors of Economic performance and Government Efficiency, which may be the result of not entirely appropriate government interventions.

Thirdly, the comparison of the business environment assessment according to the DBI confirms the results achieved by the first two investigated indexes and they point to better results of the Baltic countries, compared with V4 countries. The Baltic countries achieved much better results in areas such as Starting a business, Construction permits, Registering property, Protecting minority investors, Paying taxes. Both groups achieved the highest competitiveness in areas such as Registration of Property, Getting Credit and Trading across Borders.

Fourthly, the comparison of the assessed countries according the single-criteria index of Revealed Comparative Advantage shows that the V4 countries perform better if we aim only at the performance in the international business. This confirms the conclusion of the DBI in the area of Trading Across Borders, where the V4 countries achieved much better results than the Baltic states.

Fifthly, the comparison of the V4 and Baltic countries according to the selected single-factorial criteria shows that the Baltic countries spend a higher percentage of GDP

on education, but the V4 countries spend more on R&D. It can be concluded that the analysis of the single-criteria indicators is supported by the results of multi-criteria indicators.

As we mentioned, the economies without a sufficient raw material base may obtain high comparative advantages mainly through the knowledge economy. Thus, another part of the study intends to determine the relationship to the so-called competitiveness knowledge economy.

Based on the study results, we can say that in spite of the fact that the Baltic countries are ranked higher than the V4 countries in the international competitiveness indexes, a larger volume of FDI goes to the V4 countries. Even though the Baltic states offer a more favourable business environment, their small internal market and availability of labour resulting from it is a limiting factor.

We concluded that the consequences resulting from measuring and assessing the competitiveness of individual economies (and not only of those analysed here) will always be differentiated, due to a wide range of factors. However, it is necessary to analyse them continuously and on their basis, make assumptions that are important for their further development and growth. In this case, we can conclude that the factors, which will have a significant impact on the level of competitiveness of the V4 and Baltic states in the future, will be related to a systematic and effective of governance, which has a direct impact on the effective organization of economic processes, and building a knowledge-based economy, linked to a science and technology lead, industry experience, increasing labour productivity and export performance.

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Scheming to defraud in an insolvency proceeding: a specific case of economic criminal acts

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Abstract

The article presents the theoretical foundations of the criminal act of scheming to defraud in an insolvency proceeding. A criminal act according to the § 226 Act No. 40/2009 Coll. (Criminal Code) is often a part of organized crime. Crime is made easier by the difficult proceedings of solving the debtor's bankruptcy in the Czech Republic. The article includes a case interpretation in which the judge committed a crime. She caused severe harm to several participants of the insolvency proceeding and secured that the debtor's shareholder benefited.

Key words

Insolvency proceeding– Scheming to defraud – economic crime – organized crime

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Introduction

This article is aimed at the criminal act of scheming to defraud in an insolvency proceeding. Insolvency proceedings focus on the situation when a debtor's bankruptcy is already happening or when such bankruptcy is imminent. These proceedings are often very complicated, which provides opportunity for various types of illegal practices, the so-called bankruptcy offences. Misappropriating insolvency law can even lead to organized crime³ (it is often directly spoken of organized crime), which increases the mistrust of society towards economic activities in general, it demotivates individuals from participating in entrepreneurial activity, etc. (comp. Smolík, 2014: 72-74). The topic of scheming to defraud in an insolvency proceeding has not been discussed enough even though the Supreme Administrative Court as well as the Constitutional Court both discussed it in several adjudications.

The goal of this article is to introduce the theoretical aspects of the issue of scheming to defraud in an insolvency proceeding in the context of insolvency and criminal laws

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³ Organized crime can be perceived as 1) a very specific form of economic activity characterized by the use of threats, physical force, violence, debt recovery, intimidation, corruption; 2) a supplier of illicit goods and services (comp. Cejp, 1999, 2004).

and to discuss the selected case interpretation. This text primarily serves as an introduction into the selected issue. We can however state that scheming to defraud in an insolvency proceeding is a very current topic that is also complicated due to the difficulty of uncovering such specific crime.

1 Insolvency Proceedings

Insolvency proceedings are a special type of civil proceedings whose goal is to discuss the bankruptcy and its proceedings according to the insolvency law (Zoulík, 2009). In legislative, an insolvency proceeding is discussed in the so-called insolvency law (Act No. 182/2006 Coll.) that has been in force since January 1st 2008 and replaced the previous amendment of the Act No. 328/1991 Coll. about bankruptcy and settlement. The insolvency proceedings by themselves are defined by the Law No. 99/1965 Coll., Civil Procedure, as amended.

Insolvency proceedings are court proceedings before an insolvency court whose focus is the debtor's⁴ bankruptcy or imminent bankruptcy and the method of solving it. Insolvency proceedings are a special type of civil proceedings that include elements of trial proceedings as well as execution proceedings. Conditions needed for the proceedings to take place are investigated during the proceedings and is followed by implementing the needed measures (Beranová, Macas 2017: 6).

Insolvency proceedings consist of several stages whose course differs according to the concrete circumstances of the cases. The first stage is to commence the insolvency proceedings by submitting an insolvency petition by the debtor or the creditor. If the bankruptcy is imminent then the insolvency petition can only be submitted by the debtor. The debtor needs to verify if the defined criteria are met. He/she has to fill out the form "Návrh na povolení oddlužení" [Petition for a Permission of Debt Forgiveness] that includes the Insolvency petition and required attachments. The insolvency proceedings start on the day when the appropriate court materially receives the insolvency petition. This court then announces the commencement of the proceedings by a public notice that is made public no later than two hours after receiving the petition. From the instant the effects connected to the commencement of the insolvency proceedings take place, the debtor is obliged to refrain from handling the estate and the property that can be the part of it if there should be any substantial modifications in its composition, its usage, the property ascertainment, or its nonnegligible reduction. The debtor is only allowed to fulfill pecuniary obligations incurred before the commencement of the insolvency proceedings within the scope and according to the rules set by the insolvency law. Before

⁴ A debtor in an insolvency proceeding can be an entrepreneurial subject (legal or natural person pursuing business) as well as a subject who is not an entrepreneur (f.e. a consumer). It must however always be a legal personality; it is not possible to conduct insolvency proceedings for assets that are not legal personalities (Beranová, Macas 2017: 9).

the decision about the insolvency petition, the insolvency court⁵ can impose on the insolvency's petitioner to pay an advance of the insolvency proceedings costs within a set period of time (Hášová, Moravec, 2013).

The next stage is the ruling about a debtor's bankruptcy that is issued by the insolvency court if via an attest or evidence proceedings it is discovered that the debtor is indeed in bankruptcy or that his/her bankruptcy is imminent. The bankruptcy ruling is delivered separately to the debtor, the insolvency trustee, the preliminary trustee, the insolvency petitioner, and persons who partook in the proceedings. The so-called invitation to creditors is a part of the bankruptcy ruling who have not yet submitted their debts; the debtor (if he/she has not yet done so) is also obligated to assemble and submit to the insolvency trustee a list of his/her assets and obligations including his/her debtors and creditors within a set period of time. The debtor is assigned an insolvency trustee⁶; dates of the review meeting and the creditor meeting are also defined. The bankruptcy can be solved by bankruptcy, reorganization, or debt forgiveness (Richter, 2017).

The third stage is the ruling on how to solve the bankruptcy according to the previously stated methods. It is followed by the stages of implementing the selected method of solving the debtor's bankruptcy and finalizing the insolvency proceedings (Ministry of Justice of the Czech Republic, 2017). Currently, it is possible to access a number of information on-line and to follow concrete cases almost simultaneously to the developments of their bankruptcy proceedings (Smrčka, 2013).

In the first half of 2017, in total 14,846 insolvency petitions were submitted; enterprises submitted 1,141 petitions; consumers submitted 13,705 petitions. The overall number of insolvency petitions decreased by 4.92% in comparison to the first half of 2016. Most insolvencies were submitted in Prague; the least in the Vysočina Region. The majority of insolvency petitions submitted by legal persons ends with declaring bankruptcy, which is typically solved by bankruptcy and less frequently by reorganization (Creditreform, 2017).

Bankruptcy is a certain way of solving bankruptcy in which the estate value is determined and realized. It is typical for bankruptcy that the proceeds of realization of the estate are to be used for substantial proportional distribution of assets amongst the creditors. The debts of creditors that could not be satisfied during bankruptcy are not extinguished unless the law determines otherwise. Therefore, the primary objective of bankruptcy is not to preserve the debtor's business but to (in the majority of cases) at least partially put the debtor's property relations with his/her creditors in order. Bankruptcy can be declared for assets of natural and legal persons, and can concern entrepreneurs as well as non-entrepreneurial subjects. Bankruptcy cannot be declared for

⁵ An insolvency court is defined as a court that conducts insolvency proceedings. An insolvency court either makes a statutory decision by delivering a judgment or by supervising the activities of other process subjects. The form of the court judgment is the resolution (Beranová, Macas 2017: 8).

⁶ Insolvency trustees and other trustees, meaning the preliminary trustee, the separated insolvency trustee, the special insolvency trustee, and the deputy to the bankruptcy trustee, are according to legal theory seen as special, or rather other subjects of insolvency proceedings because the insolvency law uses the term "other proceeding subjects" only in the name of the part of the fifth chapter of the second part of the first and therefore only associates this term with prosecutors and the liquidator of the debtor. The Constitutional Court states that the insolvency trustee can be seen (due to his/her status) as a public official *sui generis* (for more detail see Beranová, Macas 2017: 11).

assets of subjects for whom insolvency proceedings cannot be issued (Hásová a kol., 2014).

The situation of natural persons – the consumers – has been stabilized for two years as of now. Natural persons can solve bankruptcy by debt forgiveness which includes either the realization of the debtor's assets – this is less frequent (in 2016, there were f.e. 258 cases) – or by fulfilling a repayment schedule as a part of which the debtor has to pay back at least 30% of his/her debts to the creditors within five years. In 2016, a repayment schedule was set for 10,725 debtors (Creditreform, 2017).

1.1 Scheming to defraud in an insolvency proceeding

In connection with insolvency proceedings, various possible crimes exist that occur if the debtor does not provide an exact overview of his/her assets or if he/she conceals some of his/her debts towards his/her business partners or employees, etc. A part of such criminal activity is called scheming to defraud in an insolvency proceeding.

Scheming to defraud in an insolvency proceeding is classified as a part of economic crime aimed against the economic system and its function (cf. Novotný, Zapletal et al. 2004: 94, Zoubková et al., 2011: 82). Economic crimes can be seen as crimes of people who are active in economic life (cf. Novotný, Zapletal et al. 2004: 263). It is a broadly understood area of crime connected to multi-faceted attacks on economy and finance that was named white collar crime by the American criminologist Edwin H. Sutherland in 1924⁷ (Gřivna a kol. 2014: 277, cf. Šmíd, Kupka 2012: 60, Sutherland 1924). The fundamental attribute of such crime is misusing the assigned or assumed trust. From the economic perspective, it is the deliberate misinterpretation of law, manipulating facts, embezzlement, bribery, etc. (Šmíd, Kupka 2012: 61). Researchers generally agree on three basic factors that form this concept: 1) the concept occurs in work or employment contexts; 2) the concept is motivated by economic profit or work success; 3) the concept is not characterized by direct, intentional violence. These prerequisites define the following generally accepted definition: "*White collar crime are illegal or unethical activities of individuals or organizations that misuse the responsibility/trust received from the public. These activities are usually committed during the time of legitimate business activity by individuals or organizations with high or respected social status in order to generate personal or organizational gain*" (Šmíd, Kupka 2012: 61-62).

Kupka (2017: 38) defines white collar crime as "*a crime committed by a respected person with a high social status during the exercise of his profession*".

Social status (education, income, etc.) is an important element that affects not only the type of crimes committed, but also affects the possibilities of protecting individuals against crime (comp. Krulichová, 2017: 18-19).

⁷ The opposite of white collar crimes is the blue collars criminality, which is related to the common crime of the general public, committed by people from lower socio-economic classes. The crime of blue collars is recorded in crime statistics (Zoubková et al., 2011: 82, comp. Kaiser, 1994: 5)

Criminal activity in connection with insolvency proceedings can therefore be understood as "white collar crime" since it is typical that such crimes are committed by individuals who misuse their position – f.e. in public administration or the justice system – and misuse the access to restricted information that are advantageous for their criminal activity (such as knowing the real value of a concrete company, its financial operations, etc.) (comp. Tomášek 2010: 145). According to renowned studies, the perpetrators of economic crimes are often people with a higher social status and higher education (comp. Novotný, Zapletal et al. 2004: 263).

Economic criminal activity differs from the remaining types of crime primarily by the fact that the patterns of its activities are practically identical to the patterns of legal economic life; economic crime uses almost identical economic tools and approaches as well (Gřivna a kol. 2017: 277). The case of insolvency proceedings is a common approach as well, which however offers many opportunities to commit crime (cf. Novotný, Zapletal et al. 2004: 97).

Criminal law by itself is not capable of prevent phenomena causing economic crime. The law only acts as a supportive but irreplaceable protection tool of legitimate economic relations. The extent of criminal sanction is limited by the principle of the supportive role of criminal repression which means that criminal repression is only applied when other means (primarily of economic nature) are insufficient or ineffective (Válková, Kuchta a kol., 2012).

However, it is clear that the § 226 of the valid Criminal Code, meaning scheming to defraud in an insolvency proceeding, is a serious crime that significantly disrupts economic code while often being a systematic activity (Gřivna, Scheinost, Zoubková a kol. 2014: 279).

§ 226 Act No. 40/2009 Coll. (Criminal Code) defines scheming to defraud in an insolvency proceeding as a body of crime in which the creditor in connection with the vote of creditors in an insolvency proceeding accepts or is promised assets or other benefits in breach of the rules and principles of the insolvency proceedings. The offender can be punished by deprivation of liberty of a maximum of one year or the prohibition of activity. The same punishment is also applicable in cases when the offender offers, provides, or promises assets or other benefits to creditors in connection with the vote of creditors in breach of the rules and principles of insolvency proceedings.

A more severe punishment – deprivation of liberty of a maximum of two years or the prohibition of activity - is defined in the Art. 3 § 226 which applies to anyone who in the role of an insolvency trustee, a member or the creditor committee, or the creditor deputy in the insolvency proceedings accepts or is promised for oneself or others assets or other benefits that would harm the creditors and that he/she does not have the right to.

Art. 4 § 226 defines a punishment between six months and three years if the committed act defined in the articles 1, 2, or 3 causes severe harm, if the offender gains by committing the act for oneself or others significant benefits, or if such crime is committed by an official.

Art. 5 § 226 states that the offender will be punished by the deprivation of liberty of a minimum of two and maximum of six years if a) the crime defined in articles 1, 2,

or 3 causes large scale damages, or b) he/she gains a large scale benefit from the crime for oneself or others.

The length of the term of imprisonment in § 226 depends on the scale of the damages. Severe damage is understood as the sum of at least 500,000 CZK. Significant benefit is also understood as the sum of at least 500,000 CZK. Large-scale damage is understood as the sum of at least 5,000,000 CZK and the same amount is needed for large-scale benefits (Petříková 2012).

§ 226 Act No. 40/2009 Coll. (Criminal Code) unequivocally belongs to the bodies of crime that can be summarized as economic crime. They are acts that damage a broad group of people (creditors, debtors, employees, partners, etc.), threaten social and economic stability of the country, cause the loss of trust in the economic system by itself, generally cause high damages, and in a number of cases goes beyond the territory of only one country (Válková, Kuchta et. al., 2012).

Another characteristic of scheming to defraud in an insolvency proceeding is the fact that it is a relatively sophisticated, long-term, and planned activity as well as organized or group crime. Experts also state that crime of such manner has a high level of being latent (see Ľvina, Scheinost, Zoubková a kol. 2014: 280-281, comp. Kaiser, 1994: 152-157, Zoubková a kol. 2014: 83).

Scheming to defraud in an insolvency proceeding apply to the relations between debtors and creditors in connection with the debtor's bankruptcy and solving of his/her situation. If we imagine scheming to defraud in an insolvency proceeding, it is principally manipulating (often in the form of bribes) the members of the creditor committee or the insolvency trustee directly.

It is clear that insolvency law and criminal law complement each other in the case of implementing insolvency proceedings when during bankruptcy criminal activity is committed according to the § 225 until § 227 Criminal Code (for details see Criminal Code, Act No. 40/2009 Coll.). From the perspective of the insolvency law, it is criminal activity that is committed during the implementation of insolvency according to § § 210-216 (see Insolvency law, Act No. 182/2006 Coll.).

According to insolvency law and criminal law, § 226 focuses on securing that the insolvency proceedings proceed justly, meaning that at the end all creditors of the debtor are satisfied and that the assets or their value are not decreased in the process of insolvency. Proper settlement of creditors needs to be secured who have the same (and as high as possible) chance of settlement. § 226 therefore oversees the equality of rights of all creditors where the benefits of one of the creditors are limited, f.e. in the votes of creditors in the insolvency proceedings.

This article also discusses the possibilities if someone wanted to influence the individual creditors (such as providing a financial sum for a certain vote in the case of an insolvency proceeding, f.e. if there is the so-called creditor committee that is formed in cases where there are more than 50 different creditors, see § 58 insolvency law) or if such behavior is realized with more than one creditor. Other – it should be noted that it is more severe – criminal activities in this area are influencing the insolvency trustee who is seen as an official.

The body of crime according to § 226 Criminal Code is therefore not the direct attack on the debtor's assets but unfair acts that fully impede or complicate proper implementation of property relations of the debtor in bankruptcy with persons that the debtor's bankruptcy affects (Petříková, 2012). In reality, it is usually the influencing of the insolvency proceedings in the form of bribes or other benefits (asset benefit following from the course of the insolvency proceedings).

1.2 Scheming to defraud in an insolvency proceeding, case interpretation

The insolvency trustee can commit scheming to defraud in an insolvency proceeding, meaning that he/she can significantly influence the course of the insolvency proceedings. The insolvency trustee is a single judge according to the § 12 Art. 1 Insolvency law (Act No. 182/2006 Coll., Act on Insolvency and Its Resolution).

These are actually more than one crime because the insolvency trustee by him-/herself is a very specific offender because he/she is a guarantor of the actual insolvency proceeding. As previously stated, the insolvency trustee is directly stated in § 260 and if convicted the punishment can be up until two years, which is twice as high as the maximum punishment for creditors who committed the same crime.

As a part of the insolvency trustee's responsibilities, a number of other crimes come to mind. These are primarily crimes included in the fifth and sixth chapter of the Criminal Code and which can lead not only to the deprivation of liberty but to the suspension of the permission to serve as an insolvency trustee as well, and after the court's final decision that finds the insolvency trustee to be guilty of committing a crime even to the termination of such permission by the Ministry of Justice of the Czech Republic (for more details see Such, 2013).

An insolvency trustee should always proceed expertly and fairly, thusly ensuring primarily the satisfaction of individual creditors. Sadly in the Czech environment, situations take place where insolvency trustees commit crimes that can be qualified as damaging creditors, benefiting creditors, breaching their duties in an insolvency proceeding, or commit the previously described scheming to defraud in an insolvency proceeding.

In the case we deal with, these are so-called professional crimes (comp. Kupka, 2017: 38). In fall 2016 in the Czech Republic, a case of the insolvency proceedings concerning the company Via Chem Group was frequently mentioned in the media, in which the judge from České Budějovice - Marie Červinková - committed a crime. Also due to the fact that the access to more complex information (f.e. in the form of the case materials) is limited, this case study will be based on publically accessible information.

The judge is suspected of causing severe harm to several participants of the insolvency proceedings and also providing a benefit to the debtor's shareholder. Due to the fact that the case concerned a judge of the Czech Republic directly, the president of the Czech Republic had to allow her prosecution.

The crime therefore directly affected the performance of judicial activities in which the judge acted in breach of the duties defined by the insolvency law. The case was then transferred from České Budějovice to Hradec Králové because it was imminent that

the anti-corruption police in České Budějovice would not take action. The law also dictated the temporary exemption from judicial duties – falling under the authority of the Ministry of Justice of the Czech Republic. The minister of justice then stated that this would not have been necessary because the judge ended her duties at the end of 2016 due to reaching the age of 70 (Česká justice 2016).

Among other crimes (money laundering, accepting a bribe, etc.), the judge also committed the crime according to the § 226 Act No. 40/2009 Coll. (Criminal Code), meaning the scheming to defraud in an insolvency proceeding. Comprehensively, the criminal activity included a broader group of people and therefore showing signs of organized crime. This fact alone is relatively severe not only from the perspective of the crime activities of this group but also from the perspective of negatively influencing the trust of the public in the rule of law in the Czech Republic. The damages in this case were in tens of millions of CZK. The judge severely breached the ethical codex and also primarily “intended to cause damages or other severe damages to others, or to provide herself or others an illegal benefit by performing her authority in a way that breached other legal rules” and thusly committing the crime of scheming to defraud in an insolvency proceeding (see Český rozhlas 2016).

This proceeding is currently still continuing. Approximately fifteen persons are accused of criminal activity. The latest information state that the judge’s actions cause damages of 8,000 CZK (Česká justice 2017). This case should be observed further because it clearly demonstrates the struggles caused by proving criminal activity of such character.

2 Results and Discussion

As stated above, insolvency trustees have a relatively significant power from the perspective of the process of insolvency proceedings by themselves. This is also why the insolvency trustee is strictly limited by the law in his/her decision-making in order to prevent errors and criminal activity in connection with the insolvency proceedings. The fundamental principle that was also stated above is securing that the insolvency proceedings are conducted according to the rules and that a swift, economic, and acceptable satisfaction of all creditors is reached. This is also why the role of the insolvency trustee is absolutely crucial. That is also the reason why it is appropriate that the § 226 Act No. 40/2009 Coll. exists.

Economic crime often differs from other types of crime primarily by the fact that its patterns are principally identical to the patterns of legal economic activities and that almost the same economic tools and approaches are used (Gřivna a kol. 2017: 277). Even in the case of insolvency law, it is a common approach that however offers a number of opportunities to commit crime. The situation is similar in other Visegrad countries as well (Crhová, Fišerová, Paseková, 2016).

The informational value of statistical data and their analysis is lower for economic crime than for other types of crime. Statistical data primarily relativize the following facts: a) the statistical methodology; b) legislative changes; c) incompatibility in the yearly time sequence; d) being latent (Gřivna et. al. 2017: 281). In the case of scheming to

defraud in an insolvency proceeding, it is necessary to mention primarily the high level of latency; generally, economic crime (as a whole) is characterized by a high level of clearance (up to 90% of investigated cases) (Gřivna a kol. 2017: 282).

In the case of scheming to defraud in an insolvency proceeding can also be stated from the sociological point of view that it is to a certain degree "a corruption symbiosis of the elites" in many cases strengthening and combining the interests of political, economic, and bureaucratic elites that "have each others backs" in an mafia conspiracy (Sekot 2006: 109). That is also why the high level of latency and complicated proving are typical for this specific and sophisticated crime activity.

Further specification was made in 2017, when an amendment to Act No. 182/2006 Coll., On Bankruptcy and Methods of its Resolution, was adopted. Amendment of Act No. 64/2017 Coll., which defines, for example, the integrity of a legal person providing services in the area of debt relief, etc. defines a bona fide person as the person who has been legally convicted of an intentional crime or a negligent law offense in connection with the execution of debt relief services.

Conclusion

Scheming to defraud in an insolvency proceeding is considered a crime activity that is generally labeled as the so-called insolvency offences. It is a relatively sophisticated crime activity that is only uncovered with difficulty with high latency. Scheming to defraud in an insolvency proceeding can be seen as a highly negative social phenomenon that endangers the trust of citizens in the rule of law or in business activities.

For the above mentioned criminal activity is characterized a high degree of latency associated with the fact that those committing these crimes are educated and law-qualified persons. Detectability is difficult due to the fact that this type of crime is considered a specific form of organized crime.

The topic of scheming to defraud in an insolvency proceeding shows elements of insolvency law, criminal law, as well as criminology. The above stated information tried to introduce this topic primarily from the perspective of criminal activities of insolvency trustees who often deals with creditors worth millions of CZK, which also provides questions about their neutrality and fairness towards all creditors in an insolvency proceeding.

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Possibilities and limits of adopting successful managerial approaches: from “Best Practice” to “Best Fit”

Jan Urban¹

Abstract

Approaches, processes, and management methods that allegedly helped enterprises to achieve great results are often described as “Best Practice.” These approaches are usually recommended to other enterprises, often without a detailed analysis of the causes of their alleged success, as well as without assessment if they are suitable in other conditions. The article focuses on critical review of the conditions of using best practice when managing enterprises and shows its limits. It comes to the conclusion that “best practice” recommendations are rarely based on rigorous empirical methods of research and therefore are generally unreliable. There is, in addition, no widely held understanding of what is meant by the use of the term. Based on these findings and conclusions, the article promotes a more suitable approach of “Best Fit” which, unlike the methods of best practice based on processes, is based on common goals of successful managerial methods and their adaptation to the conditions and strategies of other enterprises. The approach is demonstrated by methods of human resources management.

Key words

Enterprise management, Best Practice, Best Fit, Human Resources Management

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Introduction

The fundament of the “best practice” concept is the thought that enterprises that want to be successful should assume or copy the methods and approaches of those who (allegedly) thrived thanks to these methods (Komus, 2011). Such a recommendation, however, often does not work (Hoy, 2014, Vermeulen, 2013, Vermeulen, 2010, Collins, 2013). The reason is that only a few managerial approaches have such universal character that would make them suitable or the best everywhere.

One such example are enterprises of the same sector that became successful thanks to completely different personnel policies, such as enterprises that have a long-term strategy of training their important employees themselves in comparison to enterprises that have a long-term (and successful) strategy of attracting capable employees from the competition. There is absolutely no reason to take their approaches out of context of their broader strategies or to proclaim one or the other as “best practice.”

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Historically, one of the first analyses of this issue can be found in the article by Wareham and Gerrits (1999). Further analyses in this regard were conducted by Pudelko and Mendenhall (2009), stressing the contingent nature of best practices in national competitiveness as well as by Druery et al., (2013). The effectiveness of the best practices approach in human resource management was critically analyzed by Bezzina et al. (2017).

The objective of the article, which is based on historical experience with the concept of best practice as well as on experience with some specific managerial methods, falling into this category, is to point out the limit of the concept of "best practice." Instead of this method, the approach called "best fit" is introduced that is based on not adopting approaches but goals of successful methods, while their concrete tools or approaches are adapted to the enterprise's needs. The approach is demonstrated on the example of methods from the area of human resources management.

1 Methodology

The paper reviews articles that identify and discuss best practices, in order to determine how "best practices" are distinguished from other practices, and whether these determinations are made on the basis of consistent and reliable evidence. The review also takes into account definitions of the term to discover if a common definition is used amongst authors.

The underlying approach of this review was the analysis of assertions made, regarding best practices, as to whether they really rest on detailed empirical studies or rather on opinion, individual experience and anecdotal information. The long-term experience with methods claimed to be best practice focusing on their strong and weak points is analyzed by reviewing literature mentioning both successful and unsuccessful business performance of companies that followed „best practice“ methods.

On the basis of the critical review of the best practice methods and its results in practice we introduce an alternative to this method that replaces its „process“ focus with stress on goals of successful managerial methods.

2 The concept of “best practice” and its deficiencies

The core of the concept of "best practice" is the idea that an enterprise that wants to be successful should adopt or copy methods and approaches of those who were (allegedly) successful based on these methods. The method is a specialty of consulting companies offering prefabricated approaches or models used for "setting up" certain enterprise processes. This often happens without assessing if these methods or processes are suitable somewhere else as well. Despite the frequency with which the term is used, there is often little discussion about what is meant by the term and how one can reliably identify a best practice.

Adopting or copying methods used by other enterprises is also fueled by the fact that persons who had introduced certain methods in their enterprises tend to praise them and to overvalue their benefits. Zbaracki (1998) noticed this years ago in connection with the TQM method and discovered a paradox situation: persons who were managing the enterprises who used this method rated the method as much better than the method's developers.

2.1 The Icarus paradox

The issue connected to the concept of best practice is that successful enterprises that developed it are often in its core unique; the usability of their "best practice" depends on a variety of conditions. Such are the specifics of their sectors, their size and strategies, as well as the country in which they operate or its culture. Finding an enterprise that is active in the same sector, has approximately the same size, and in its core does not differ culturally or strategically is oftentimes not only difficult but perhaps even impossible. As Khan (2012) states, "contextual intelligence" is important understand the differences of the "context" of individual enterprises from the perspective of their suitability to adopt a certain managerial method.

"Successful enterprises" that serve as an example for others do not however necessarily need to be successful at all times. At the point in time when their "best practice" is adopted they may have already peaked.

The well-known publication "In Search of Excellence" (Peters, 2006) that made the method of best practice famous is an example of this. The majority of enterprises whose practices the publication had presented were by far not the most successful enterprises a few years after the book's publication.

The same experience (although from another perspective) is provided by the long-term observation of the stock market performance of enterprises. Out of the one hundred enterprises that the American magazine Forbes had listed in 1966 as the one hundred most successful American corporations, more than sixty did not exist in 2006. Only 19 managed to remain on the most successful list of one hundred enterprises (Vermeulen, 2013).

The declining of success of some enterprises relying on "best practice" can however also have some systematic causes. It is the phenomenon called the Icarus paradox or the trap of success (Vermeulen, 2013). It is based on the premise that an enterprise using "best practice" and after a period of obvious success encounters severe issues based on the same tools and strategies that helped generate its previous success.

he reason behind this paradox is the conviction that successful methods it is based on will function the same without any changes in the future. Confidence, self-satisfaction, and underestimating the competition also play a role. Enterprises sometimes also underestimate the role that chance had – they overestimate the influence of certain managerial decisions.

Relying too much on previously successful methods leads enterprises that are affected by this paradox to overlook or underestimate changes that happen in their vicinity. They only try to perfect the competitive advantage that they created; an advantage that proves to be insufficient in the future.

2.2 Common “Best practice” methods that do not work every time and everywhere

There are many methods categorized as “best practice” that have become known and adopted. The majority of these methods sooner or later proved not to work everywhere. Some of the most famous are:

- **The Six Sigma method.** The method was made famous by the enterprise Motorola in the 1980s as a tool for finding and eliminating deficiencies of enterprises. A number of consulting companies that adopted it helped to make the method well-known. The goal of the method is not flawed; the issue is with the way the method strives to fulfill it.

Its tools are complicated and oftentimes exist rather for their own sake: they are based on selected managers being awarded various colorful belts for their experiences. They become hierarchically organized experts walking through the enterprise looking for problems or deficiencies in the work of others. There are follow-up meetings where their recommendations are discussed.

A number of companies used this method. Many of them, however, came to the conclusion that they wasted a lot of time (caused by measuring a number of indicators and long meetings about which of the recommendations is plausible) without any results; their results sometimes even became worse (Nayab, 2011). The same study that was aimed at examining the impacts of this method even came to the conclusion that enterprises that strictly followed the method experienced a decline of their share price on the stock market (Nayab, 2011).

- **Matrix management.** This management and organization method has a lot of followers as well and also **originates** in the 1980s. Most commonly, it works under the premise that employees with a certain specialization form divisions under joint expert management but are also at the same members of teams lead by project managers. One employee can therefore have – depending on how many project teams he/she is in – two or more bosses.

The method is logical to a certain degree and makes managing of enterprises - whose activity primarily consists of temporary projects – easier. Its success however depends on to which extent the enterprise can suppress competences conflicts that arise during its implementation between the heads of the projects who try to push their needs through. If the enterprise is not successful in doing so then these conflicts consume a considerable amount of work time. If the method is strictly followed it can lead to an excessive number of managers in

the enterprise (or even to the situation where project managers become members of other specialized organizational divisions that focus on managing projects).

- **Management by objectives.** The method is based on setting up clear long-term performance objectives of individual employees known as their key performance indicators. At first sight, the method seems to have no issues. A number of enterprises facing uncertain tasks (or tasks that do not match their higher performance objectives) and their intangible evaluation significantly make use of this method.

The method should be simple. It becomes a problem when it devolves from a simple defining of personal objectives to a complicated administrative exercise consuming more time than the actual tasks. Its implementation can also be more complicated in enterprises that are forced to often change their objectives due to unexpected events.

“Forced rating” when evaluating employees. The method was made well-known by Jack Welch, the former CEO of General Electric (GE) who insisted on using it in his enterprise. The method has many variations and is based on the management not being able to evaluate their employees freely. They have to comply with specific percentages of “above-average” or “below-average” evaluations. In its marginal form at GE it led to the firing of the lowest ten percent of employees each year.

The method can be beneficial in conditions where employee evaluation is only performed formally and in situations where the management is scared to evaluate their employees differently – distinguishing between efficient and weaker employees. The issue of this method is that it results in higher competitiveness between employees and can therefore support rivalry that hinders cooperation. In some cases it can lead to skilled employees leaving the enterprise who were not evaluated well enough. Even GE, the company that introduced it, ceased to use the method after J. Welch left (Cappelli, 2016).

- **Management by walking around (MBWA).** It is a management style in which managers spend a significant amount of their time by visiting workplaces and interviewing employees; it is often accompanied by an “open door” policy of the managers. The goal is to familiarize themselves with the issues of individual workplaces or even to immediately solve them while there. The method is based on the idea that a manager cannot rely on his/her employees coming to him/her with their problems directly, which is why he/she should visit them directly.

Hewlett Packard popularized MBWA; Tom Peters and his book “A Passion for Excellence (Peters and Austin, 1985)” also helped to disseminate the method. The method proved to be beneficial for enterprises who are going through changes (or who plan changes) and whose employees feel uncertain. It primarily applies when this method was already used before as a management tool. A prerequisite for its use is that managers really listen to what their employees are telling them and that they are then able to immediately at least

partially help them. If this is not the case, employees perceive the method rather as an unwanted distraction from their work or even as unnecessary control or a mistrust in their abilities.

2.3 Fear of renouncing the “collective solution”

A specific type of using “best practice” is the tendency of some companies to use methods that are known for not achieving convincing results. It is caused by the fact that others – oftentimes the competitors in their sectors – use them and the enterprises are scared to let these methods go. Shifting responsibilities by the management who tries to prepare for the case when the company does not perform well can also contribute to this situation.

The pharmaceutical industry and its practice of selling medicaments via sales representatives visiting practices and health care facilities is one such example (Vermeulen, 2010). This practice is very costly, primarily because it features a number of financially demanding “motivational tools” trying to persuade health care facilities to prescribe certain medications.

A direct consequence of this form of sales is that the costs of marketing of pharmaceutical enterprises are three times as high as their costs of research and development (the industry tries to blame the high prices of medication on this area). The issue of the method is however its low efficiency reflecting in the spent costs for one prescribed medication.

Pharmaceutical enterprises have known of this fact for a long time. It is however a generally widespread “best” practice which they are scared of leaving fearing that it could damage their position in comparison to their competitors.

3 Processes versus goals

The primary weakness of the method of “best practice” is that the enterprises focus on certain processes or approaches. The success of management methods does rather depend on which goals they pursue (Bretschneider, Marc-Aurele, Jr and Wu, 2005). Their concrete form – meaning the approaches or tools – can however differ in individual enterprises (Hiltrop, 1999).

3.1 Goals and methods of human resources management

An example demonstrating the differences between goals and approaches of successful management methods are the methods of human resources management. As Lawler and Bouldreau (2012) show, some of the successful methods (regardless of their concrete form or enterprise type) are primarily methods that

- **support the selection, stability, and use of talented employees.** These are also tools that support their further expert development and primarily their employment where they can benefit the enterprise the most;
- **strengthen the efficiency of employees and their groups.** Their mutual indicator is usually the support of personal responsibility and a clear as well as simple relation between performance and awards of the employee. These are however also methods that support the balance between personal or sometimes group goals of the employees and the goals or strategies of the enterprise;
- **make possible to regularly and reciprocal communication of the enterprise or its management with the employees,** meaning informing the employees about the enterprise's development but also gathering of opinions and inspiration from the employees.

Methods that fulfill such universally beneficial goals should simultaneously meet the enterprise's conditions. The "best fit" method takes these different conditions into consideration: it is based on the prerequisite that the adopted practice should be adapted primarily to the enterprise's strategy, its main competitive advantages that are the base of its success, its development stage, size, culture, etc. The more the methods are adapted to these factors, the more successful the methods usually are.

Common goals with different methods are one such example and increase personal performance of persons and their groups. They can be demonstrated by different approaches to defining and differentiating of starting salaries, measuring and evaluating the performance of employees, or tools for increasing their productivity corresponding to the different strategy of the enterprise.

This is for example the case with enterprises whose competitiveness is based primarily on being able to produce fast product innovations and introducing them on the market. One of the crucial prerequisite for their success is to attract top-ranking talent and further developing them. Striving to gain and keep these employees should therefore have higher priority than trying to lower their costs even in times when the enterprise is trying to lower its costs. The starting and basic salaries of employees (including the ones working in same workplaces) can significantly differ based on their abilities and contributions to introducing new products.

To a certain extent, enterprises whose competitiveness is based primarily on lowering and controlling operating costs, efficiency of production processes and their standardization have entirely opposite prerequisites. Defining starting and basic salaries should be solved by the demand for internal equality of rewards. Team work tends to be the most important feature of these enterprises, not individual contributions of individual employees; group performance should be more important than the performance of individuals. The differences of basic and starting salaries lack economic justification and could lead to threatening team cooperation.

Enterprises that base their competitiveness on their relations to customers (e.g. understanding their needs and quickly solve their individual needs) understand the support of mutual cooperation between employees (within their groups and across the en-

terprise) as their main managerial priority. When managing and evaluating the performance of employees, it is therefore necessary to apply methods that support such co-operation, such as an indicator of group productivity (Lawler, Bouldreau, 2012).

3.2 Other conditions for the “best fit” methods

When evaluating the suitability of a certain management method, the enterprises – apart of their specific needs – should take other conditions into consideration as well; primarily “best practice” focuses on other conditions as well, primarily based on

- **what information the given method was defined as appropriate or the “best”;**
- **in which conditions and under which circumstances can the method be understood as the best;**
- **who promotes the given method and what are his/her interests or goals.** The question can for example be if the practice is not only promoted because it provides an alibi for certain people in case of failure;
- **how probable it is that the method can actually be implemented within the enterprise’s conditions,** based on its abilities and needed resources.

The stated criteria can prevent accepting methods that are not suitable for the enterprise or the ones that are not sufficiently adapted to its conditions (Bretschneider, Marc-Aurele and Wu, 2005).

Conclusion

The basis of the concept of “best practice” is the idea that enterprises that strive to be successful should adopt or copy methods and approaches of the enterprises that based on the methods (allegedly) achieved success. This simple approach does however often not work. Only a small number of management approaches has such universal character that would make them applicable or even the best in all enterprises. It is caused by the fact that the usability of “best practice” depends on a number of factors, primarily sector specifics that the enterprises operate in, their size and strategies, and even the country that they originate in or its culture.

Historical experience also shows that “successful” enterprises that are presented as an example to others do not necessarily stay successful forever. In times when their “best practice” is being copied, they have often peaked. This is reflected in the Icarus paradox or the trap of success that are based on the premise that an enterprise using the “best practice” experiences severe problems after periods of significant success based on the same tools and strategies that helped generate the success.

The main weakness of the method of "best practice" is the focus on certain approaches instead on goals. The "best fit" method is a more appropriate method than the method of "best practice" since it does not adopt approaches but goals of successful methods and it adapts the successful methods to the needs of the individual enterprises – primarily their strategies or main factors that generate their competitiveness. Verifying why the certain method was labeled as appropriate or "best," under which circumstances it can be viewed as the best, who promotes it and what are his/her interest, and to what extent it can be expected that the method can be actually implemented within the conditions of the enterprise based on its possibilities and needed resources are all part of this approach.

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